DENVER MUSEUM OF NATURE & SCIENCE

Passport to Health Year 2 Evaluation Report

Outcome Evaluation

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By:

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Executive Summary

In spring 2009, the Denver Museum of Nature & Science (Museum) contracted with JVA Consulting, LLC (JVA) to conduct a comprehensive process and outcome evaluation of the Passport to Health Program (P2H). The Museum designed P2H, a three-year program funded by the Colorado Health Foundation (the Foundation), to improve health outcomes for fifth-grade students as well as their families and teachers throughout the Denver metro area.

Passport to Health has seven components, designed to complement each other and help the Museum achieve its stated program goals. The seven components include:

- **Teacher professional development** designed to improve teachers' ability to teach health science
- **Fitness Physiology**, a class hosted by each school to introduce students to body systems and provide them with the background knowledge needed for the on-site class at the Museum
- **ExerScience,** the on-site Museum class that helps students explore their own body, how it works and its capabilities
- **Family Fit Fest,** which is an event hosted at the school that seeks to show families that environment, genetics and choices help shape health
- **Family Health Day,** which is hosted at the Museum and seeks to teach families that physical activity and nutrition choices determine health and success
- **Student Journal** was developed to provide teachers with the tools they need for implementation of P2H and for the integration of health science content into lessons
- **Family membership,** which seeks to expose families to the Museum

Methodology

This evaluation report provides the findings and analysis of the 2009–2010 outcome evaluation. JVA conducted a mixed-methods evaluation to assess progress toward achieving program outcomes. The data collection methods that were employed include: student pre- and post-surveys, student focus groups, teacher pre- and post-surveys, teacher interviews, student Journal observations, Journal user survey, parent post-surveys, parent interviews, and focus families. Detailed methodology can be found in the body of this report and in Appendices I–V.

In order to structure this evaluation, JVA hoped to answer the following four questions:

- *Did the program increase health science content instruction and knowledge?*
- *Did the program increase recognition of the value of physical activity, healthy foods and healthy lifestyles?*
- *Did the program encourage students to advocate for healthy changes at home and help families make those changes?*
- *Did the program increase teachers' use of Museum resources?*

While responses to each question can be found in the body of this report, triangulation of data collection methods revealed the following overall findings and recommendations:

Did the program increase health science content instruction and knowledge?

Students

To answer this question for student outcomes, the evaluation assessed the following indicators: students' attitudes toward learning science, students' ability to correctly identify and know the purpose of the circulatory, respiratory and muscular-skeletal systems, and students' ability to demonstrate understanding of the connection between systems. Data collection revealed the following:

As illustrated by student focus groups, student surveys and teacher interviews, not only did students enjoy science more this year because of its experiential approach, students also better understood how science connects with their lives and how they could use science to understand more about themselves. Further, student surveys, student focus groups, teacher surveys and teacher interviews revealed that students who participated in P2H were better able to identify and understand the purpose of body systems than their peers, and that participants were more interested in the human body as a result of P2H.

Teachers

To measure this outcome for teachers, the evaluation assessed the following indicators: teachers' attitudes toward teaching health science, teachers' ability to integrate health science concepts into their classroom, and teachers' confidence in their ability to teach health science. Data collection revealed the following:

As illustrated by teacher surveys and interviews, P2H provided teachers with new, engaging activities to motivate their students to learn health science. The evaluation also revealed that as a result of P2H, teachers felt more comfortable teaching health science than they had in previous years.

While teachers may have been more comfortable teaching health science content, teacher surveys, teacher interviews and the Journal user survey presented somewhat conflicting information regarding teachers' abilities to integrate health science into their classrooms. Surveys and interviews indicated that teachers were more likely to integrate nutrition than physical fitness into science lessons and according to teachers' reported use of Journal activities, they were less likely to use math- and literacy-focused activities than those directly related to P2H.

By revisiting baseline assessment data, and through teacher surveys and interviews, the evaluation helped reveal that schools increased their commitment to health science programs/initiatives and teachers increased the number of hours spent teaching health science. Further, teacher interviews demonstrated that principals, teachers and school personnel had positive attitudes toward P2H and were, overall, supportive of the program.

Did the program increase recognition of the value of physical activity, healthy foods and healthy lifestyles?

Students

To measure this student outcome, the evaluation assessed the following indicators: students' understanding of the connection between physical activity and body systems, students' value

and interest in recreational and organized physical activity, and students' attitude toward physical activities. Data collection revealed the following:

Teacher surveys revealed that students who participated in P2H were better able to identify the connections between body systems and physical activity than other students their age.

Student surveys, student focus groups, Family Health Day interviews and family surveys illustrated that students increased the amount of physical activity they engaged in and have a better understanding of the value of physical activity as a result of P2H.

Finally, student focus groups and Family Health Day interviews revealed that students were able to identify healthy food options and they were talking to their parents and families about healthy food and healthy lifestyle choices.

Teachers

To measure this teacher outcome, the following indicators were assessed: teachers' understanding of the connection between physical activity and body systems, teachers' awareness of physical activities students generally participate in, teachers' awareness of the physical activities available to students, and teachers' encouragement of physical activities inside and outside the classroom. Data collection revealed the following:

Teacher surveys demonstrated that as a result of P2H, teachers learned more about recreation opportunities available to students, have a better idea of what physical activities students participate in, and are encouraging students to participate in physical activity more than before. Surveys also revealed that teachers don't think their students are taking full advantage of opportunities available to them.

Families

To measure this family outcome, the following indicators were assessed: families' attitudes toward nutrition and physical activity, parents' understanding of nutrition and physical activity and how they link to health, and the number of times parents engage in conversations with their children about healthy lifestyles. Data collection revealed the following:

As illustrated by family surveys and Family Health Day interviews, families made important lifestyle changes as a result of involvement with P2H, and report having a better understanding of the value of physical activity and nutrition on health.

Further, parent surveys and Family Health Day interviews demonstrated that not only are families making changes, but also are more open and communicative with their children about health and healthy choices.

Did the program encourage students to advocate for healthy changes at home and help families make those changes?

Students

To measure this student outcome, the following indicators were assessed: students' ability to identify healthy food options, students' requests for new, healthy food options, students' encouragement and discussion of physical activity and healthy lifestyles at home, and resources students bring to their families. Data collection revealed the following:

According to student surveys and student focus groups, students were able to identify healthy foods, and also able to ask and respond to critical thinking questions about food choices. While

students were able to identify healthy foods and evaluation results illustrated that they were talking to their families about P2H and what they learned, student focus groups, teacher interviews, parent surveys and Family Health Day interviews revealed that students are not necessarily advocating for healthier food choices at home.

Families

To measure this family outcome, the following indicators were assessed: family members' participation in P2H activities, changes in the type of food parents purchase and serve, changes in the type of recreation and organized activities parents encourage, new physical activities tried/encourage, health club and recreation center memberships/awareness, park visits/awareness, and attitudes toward physical activity and nutrition. Data collection revealed the following conclusions:

Based on the tracking of output data collected by the Museum, family participation in all P2H activities was lower than anticipated and than hoped. Despite low participation in P2H events, according to Family Health Day interviews and family and student surveys, families are noticing positive changes as a result of P2H, are eating more vegetables and are engaging in more physical activity together.

Further, family surveys and Family Health Day interviews revealed that while knowledge of local parks and recreation centers increased slightly, the great majority of P2H families already knew of these places. In addition, patronage of parks and recreation centers did increase this year when compared with last year.

Did the program increase teachers' use of Museum resources?

Teachers

To measure this teacher outcome, the following indicators were assessed: teachers' knowledge of the Museum's available resources, teachers' use of P2H resources and teachers' use of non-P2H Museum resources. Data collection revealed the following:

Based on Museum tracking programs, teacher interviews and teacher surveys, it is clear that a lack of time, coupled with limited training on and understanding of resources prevented P2H teachers from fully accessing and utilizing Museum resources.

Recommendations

Based on the findings and conclusions of this report, JVA presents the following recommendations or suggested areas for growth:

- **The Focus Families component** was the least successful evaluation component. If the Museum wants to continue to implement this component, it will require significant modifications. *The Museum should reconsider recruitment and retention techniques for Focus Families.*
- **The student Journal** has the potential to be an effective and useful tool that could greatly increase the ease with which teachers integrate P2H into their classrooms; however, the evaluation revealed that teachers are not using the Journal to its fullest extent. *The Museum could consider creating an* Instructor's Guide *that would*

accompany the student Journal, providing additional guidance and activity suggestions for teachers.

- Numerous teachers mentioned it was difficult for them to find ways to **integrate P2H into required curriculum**. *The Museum could consider providing teachers with additional training so they are able to better integrate P2H into school curriculum.*
- Teachers and families expressed **confusion about P2H components** and what was included as part of the program. In order to increase understanding of components and to clarify participant expectations, *the Museum could consider creating and distributing more information to teachers and families regarding P2H and Museum resources.*

Background

In spring 2009, the Denver Museum of Nature & Science (Museum) opened a new health science exhibit, *Expedition Health*, which stems from the Museum's new Health Science Initiative and replaces the *Hall of Life* exhibit that was an integral part of the Museum for many years. To add a key education component to complement this exhibit, the Colorado Health Foundation (the Foundation) provided a generous grant to fund the development and implementation of the Passport to Health program (P2H). P2H is a three-year program designed by the Museum to help improve health outcomes for fifth-grade students as well as their families and teachers at low-income schools in the Denver metro area.

P2H has several components, each designed to complement and support the overall program outcomes of improving child and family health and increasing commitments to healthy lifestyles:

Table 1: Components of the Passport to Health Program

Program Component	Description	Intended Audience	Purpose	Outputs
Teacher Professional Development • *Teacher workshop* • *Online guides and other support*	A workshop to introduce teachers to P2H and the online guides, and provide training on health science content and incorporating P2H into the classroom	Teachers	Improve teachers' ability to teach health science • Achieve buy-in • Improve content knowledge • Provide class resources	P2H online guide is completed and available online by summer 2009 The online guide is utilized by each P2H core team teacher A workshop and follow-up Webinar are held each year At least 60 teachers (two from each P2H school) participate in a workshop and/or Webinar
Fitness Physiology (Classroom pre–visit)	45-minute class delivered at the school to each P2H class before visiting the Museum	Students Teachers*	Introduce students to body systems so they have the background knowledge needed for the on-site class	2,300 students per year participate
ExerScience (Class held at Museum)	1.5 hours, station-based, hands-on lab class and *Expedition Health* visit	Students Teachers*	Help students explore their own body, the way it works and its capabilities	2,300 students per year participate Adult family members chaperone museum visit
Family Fit Fest (at school)	A night "carnival" structured event at the individual school	Students and families Teachers*	Show families that environment, genetics, and choices all shape health	Family Health Nights at all 30 P2H schools; draw 2,000 participants annually
Family Health Day (at the Museum)	Daylong field trip where families and students visit the Museum	Students and families Teachers*	Teach families that physical activity and nutrition choices determine health and success	Five Family Health Days at the Museum will draw 2,500 participants annually
Student	A notebook to	Students	To provide teachers with tools for	At least 75% of students use the P2H Journal and other

Program Component	Description	Intended Audience	Purpose	Outputs
Journal	complement P2H	Teachers	implementing health science in lessons, including the integration of health science into math and literacy lessons	engagement tools
Family Membership Program	All P2H students' families get a one-year Museum membership	Students and families	Expose families to the Museum	Memberships offered to all P2H families are redeemed by 80% of families annually

**Not the intended audience but recieves indirect treatment by participating*

In total, P2H was implemented in 27 schools, in four districts in the Denver metro area. More specifically, participating schools included:

- Three Adams 12 Five Star Schools
- Eight Aurora Public Schools (APS)
- 13 Denver Public Schools (DPS)
- Three Jefferson County Public Schools (Jeffco)

Within these schools, P2H partnered with 98 teachers to providing programming in 74 fifth-grade classrooms. Further, final counts from the Museum demonstrate that:

- 1,807 students participated in the *Fitness Physiology* classroom visit
- 2,033 teachers, chaperones and students attended *ExerScience* at the Museum
- 1,697 families, students and teachers participated in *Family Fit Fests* held at schools
- 1,069 family members, students and teachers attended the *Family Health Days* hosted at the Museum.

Intended outcomes

Through the P2H program, the Museum hopes to achieve the following outcomes:

Table 2: Intended Outcomes of Passport to Health

Students Will	Parents Will	Teachers Will	Schools Will
1: Increase their health science content knowledge 2: Recognize the value of physical activity and its contributions to a healthy lifestyle 3: Advocate for healthy options and behaviors within their family units	1: Show better understanding of the importance of a healthy lifestyle for the whole family 2: Report making changes that support the whole family eating better and moving more	1: Increase their health science content knowledge 2: Better understand the implications of the benefits from student involvement in physical activities 3: Increase use of the Museum's resources with their students	1: Increase health science education in classroom instruction

Over the course of the 2009–2010 implementation year, each of these nine outcomes was measured using multiple and mixed methods. To best assess progress being made toward each of these outcomes, this report hopes to answer the following four evaluation questions:

- *Did the program increase health science content instruction and knowledge?*
- *Did the program increase recognition of the value of physical activity, healthy foods and healthy lifestyles?*
- *Did the program encourage students to advocate for healthy changes at home and help families make those changes?*
- *Did the program increase teachers' use of Museum resources?*

Link to Colorado Health Foundation outcomes

The P2H program was designed, in part, to support and complement the goals and objectives of the Colorado Health Foundation (the Foundation). The mission of the Foundation is *to improve the health and health care of Coloradans by increasing access to quality health care and encouraging healthy lifestyle choices*. To meet this mission, the Foundation funds programs that have the potential to show measurable results in meeting specific objectives related to healthy living, health coverage and health care. P2H uses the Coordinated School Health Program model to provide Colorado families in the Denver metro area with an educational program that aims to help improve healthy living outcomes. Specifically, P2H has the potential to provide measurable progress toward the following healthy living objectives:

1. Decreasing Colorado's obesity rate through increased physical activity, servings of fruits and vegetables, and access to both recreational exercise and fruits and vegetables for children and adults.
2. Increase the number of parents who are educated about child development, nutrition and preventative health care.

P2H is one of many programs that are interacting with and have the potential to affect the lives of students, families, teachers and schools in the Denver metro area. As childhood obesity and child and family health continue to move into the forefront of public and private work, having programs like P2H that align with district and state curricula and which involved families on many levels, will be increasingly important. P2H has the potential to continue to positively impact the Foundations' outcomes and mission.

Program evaluation

In spring 2009, the Museum contracted with JVA Consulting, LLC (JVA), a Colorado-based research and consulting firm with extensive experience in evaluation of educational programs, to conduct a comprehensive evaluation of P2H. The evaluation had two key components:

- A process evaluation to examine the program design and implementation
- An outcome evaluation to measure the extent to which the program is meeting its overall objectives

JVA is utilizing multiple methods to collect both quantitative and qualitative data that will provide the Museum, the Foundation and other stakeholders with important insight into the progress of the program and its outcomes. The evaluation and its ongoing findings will enable the Museum to track ongoing program accomplishments, and to make informed decisions to refine and enhance the program.

This evaluation report provides a summation of the 2009–2010 P2H program implementation year and progress made towards achieving program outcomes. The purpose of this report is to describe the findings of the outcome evaluation, to begin to determine the extent to which the program is reaching its desired aims and to explore feedback from students, teachers and parents.

Following the report, readers will find a series of Appendices that provide in-depth and detailed analysis and interpretation of each data collection method. The overall report, however, serves as a synthesis of all data collection methods, attempts to paint a holistic picture of the implementation year, and triangulates data to demonstrate findings from all relevant participants. For additional information or more detailed methodologies, please refer to Appendices I–V.

External forces and analysis challenges

While this report seeks to answer the four questions listed above, it is important to recognize some external forces and challenges that may have affected the evaluation findings. As reflected in the baseline report submitted in February 2010, many of the P2H program schools are also participating in state- or district-run health, health science or nutrition programs. Considering high levels of participation in programs that complement and reinforce P2H, it is challenging to differentiate between outcomes attributable to P2H and those that may be due to engagement in multiple health, health science or nutrition programs.

In addition to these external forces, P2H hopes to impact students, families, teachers and schools in profound ways, mostly emphasizing long-term changes in actions and conditions. Because these outcomes are long-term, evaluation after one-year of programming may not reflect the changes. Because long-term outcomes cannot be assessed at this stage in the evaluation, this report focuses on more immediate and intermediate outcomes, with the expectation that if these short- and medium-term outcomes are achieved, the achievement of long-term outcomes is inevitable.

Further, because P2H is attempting to integrate fully into a pre-determined district or state-curriculum, teachers and program staff have faced implementation challenges. Numerous teachers mentioned that it was difficult to find ways to incorporate P2H programming into current curriculum either because of their lack of familiarity and comfort with the P2H program or because they felt the curriculum did not align well enough with district curriculum. As a result, it is likely that classrooms received varying levels of programming, depending on the ability of each teacher to successfully integrate P2H program components. Finding ways to better integrate P2H with district and state standards will continue to be a challenge for the P2H program team, especially if the state of Colorado moves in the direction of adopting the Common Core Standards. If changes in state standards to occur, it will be important for the Museum to reconsider how to align all school-based programs, including P2H, with these new standards.

Finally, because P2H specifically targeted schools with high percentages of students who were eligible to receive free- or reduced-price lunch, P2H families may have fewer resources with which to make lifestyle changes. Despite potential attitudinal changes, it is likely that P2H families may face more significant barriers when trying to implement change than families with greater resources. Aligned with the Foundations' healthy living objectives, P2H could continue to seek ways to increase families' awareness of healthy lifestyle choices. Providing information about healthy food options and opportunities for physical activity in the areas surrounding partner schools could help to alleviate some of the barriers faced by P2H families.

Methodology

JVA conducted a mixed-methods evaluation, combining quantitative and qualitative data collection and analysis. While more detailed methodological information can be found in Appendices I–V, the following nine primary components of the outcomes evaluation are described below:

- Student pre- and post-surveys
- Student focus groups
- Teacher pre- and post-surveys
- Teacher individual interviews
- Journal observations
- Journal user survey
- Parent/family interviews
- Parent/family post-surveys
- Focus families interviews/logs

Students

Pre- and post-surveys

JVA conducted pre- and post-surveys with P2H students to better understand their attitudes toward learning science, their knowledge of health science content, their ability to recognize the value of physical activity and eating healthy, and the extent to which they discuss healthy eating and physical activity with their families. JVA collected 764 pre-surveys from students in 19 participating schools when schools did Fitness Physiology, primarily in fall 2009. JVA hoped to conduct pre-surveys in all P2H partner schools, however, due to the timing of the survey administration and the extensive approval process for the external research request in two of the districts, approvals were not received in time to reach all of the schools in those districts. Post-surveys were collected from 863 students in 24 schools participating in the P2H program in spring 2010 once schools had completed all program components including Family Fit Fest and Family Health Day.

Pre- and post-surveys were matched by student in order to analyze their responses before and after the P2H intervention. Both pre- and post-surveys were assigned a unique identifier for each student consisting of the student's self-identified date of birth, the JVA assigned school code and the JVA assigned teacher code. After matching pre- and post-surveys using the student identification system, there were 457 matched pre- and post-surveys.

Focus groups

Six focus groups were conducted in spring 2010 with students who had participated in the P2H program, to learn their perceptions of the program and how it influenced their decisions to eat healthy and participate in physical activity. The six schools were: Gilpin (DPS), Park Hill (DPS), Paris (APS), Montview (APS), Rocky Mountain Elementary (Adams 12), and Westgate (Jeffco). Schools were chosen at random and JVA used two schools from both DPS and APS because these two districts had higher levels of participation in P2H than Jefferson or Adams. Student participants were also chosen at random. All of the students for whom JVA received parental

informed consent were put into an envelope and names were chosen from each participating classroom, for a total of six to nine participants per school focus group.

Teachers

Pre- and post-surveys

JVA administered pre-surveys to teachers at the teacher workshop held on June 4, 2009, prior to the start of the program and collected a total of 57 pre-surveys. JVA also administered a post-survey to teachers in spring of 2010, once all program components had been completed, and collected a total of 53 post-surveys. The survey was designed to gather pre- and post-data from the same individuals with the intent of conducting statistical analysis to determine the extent and significance of change in behavior and knowledge. Unfortunately, however, there was an insufficient number of respondents who answered both the pre- and the post-surveys to conduct this analysis. Therefore, when presenting findings for questions that appear on both the pre- and post-surveys, it is important to keep in mind the results are a snapshot of two distinct groups of individuals at two different points in time.

Individual interviews

In order to provide more detailed feedback and recommendations to the Museum, JVA conducted individual telephone interviews with 13 P2H teachers from four districts in May and June 2010.

Journals

Journal observations

To better understand and evaluate the use and effectiveness of the P2H student Journal and to determine whether or not it increased health science content instruction and knowledge, JVA utilized two evaluative tools: an observation form and a Journal user survey administered with P2H teachers. The Journal observation form was designed to allow JVA associates to evaluate the number of activities used in student Journals and the degree to which each activity was completed. Journal observations were conducted in the spring of 2010, at the same time that student and teacher post-surveys were administered. While JVA intended to administer the Journal observation form in all classrooms in all P2H schools, due to timing and logistics, many teachers had already encouraged their students to take their Journals home, resulting in Journal observations taking place in only nine schools (33%). A total of 74 observations were conducted.

Journal user survey

The second tool, the Journal user survey, was administered with teachers along with the teacher and student post-surveys at the end of the program year. This survey allowed teachers to indicate which activities they used with their students and encouraged teachers to provide the Museum with general feedback about the Journal and its effectiveness. Rather than ask questions about all 21 of the Journal activities, the Journal user survey asked only about that activities that were not facilitated by Museum staff or educators. In total, there were 15 activities listed on the user survey and a copy of the Journal was available to teachers who wanted or needed to cross-reference. While Journal user surveys were provided to all P2H teachers, 42 completed the survey for a response rate of 44%.

Parents and families

Interviews

In order to evaluate whether the program increased families' recognition of the value of healthy lifestyles and whether students advocated for healthy changes at home, JVA utilized two evaluation methods. First, JVA associates attended four Family Health Days at the Museum and conducted 97 interviews with parents and families (which included extended relatives living at home) of P2H participants. The interview asked respondents to reflect on changes they witnessed in their children or families as a result of P2H. Questions focused on changes in physical activity, nutrition and food and whether or not their child was bringing information about P2H home with them to share with their families. Three schools were not able to participate in Family Health Days because of scheduling problems. Families from 75% of participating schools (*n* = 18) participated in interviews, which were conducted in English and Spanish.

Post-surveys

Second, post-surveys were sent home to the families of P2H participants in the spring of 2010; 404 of these surveys were returned. The survey asked questions similar to those asked in the interview and also included questions about whether or not families visited the Museum, local parks and/or recreation centers during the year. Surveys were conducted in English and Spanish and responses were collected from 85% of schools (*n* = 23).

Focus Families

Interviews and logs

JVA measured and evaluated the effect of the P2H program on families in part through the Focus Families component. JVA worked with family liaisons at P2H schools to identify six families to participate in Focus Families, which included an initial assessment of their family health and fitness habits, as well as monthly phone interviews with a JVA associate to track and evaluate changes. While JVA was initially working with six Focus Families, there was only one family remaining in the Focus Families component at the conclusion of the 2009–2010 program year. Despite JVA's intense outreach efforts, which included meeting with families at school, meeting with families at home, and talking with families by telephone, the high mobility in partner districts and the difficulties with communication, which included disconnected telephone numbers and incorrect email address, made sustained communication with families difficult.

Study limitations

These methods were selected to obtain broad information about the implementation of P2H. It is important to note, however, that there are limitations to each. While this section will present general limitations faced during the evaluation, detailed information about the limitations associated with each data collection method can be found in Appendices I–V.

In general, the primary limitations encountered during the evaluation included timing and language/literacy.

Student pre-surveys were most affected by timing issues. As noted above, due to the timing of the survey administration and the extensive approval process for the external research request in two of the districts, approvals were not received in time to reach all of the schools in those districts. While both districts approved of all components and tools, the slow start meant that several schools were not able to participate in pre-surveys.

Second, language and literacy may have impacted the evaluation for students. P2H participant schools have moderate to high numbers of students who are English Language Learners (ELL)

and students who do not read at grade level. The student surveys were piloted among groups of students with similar demographic make-ups in order to reduce confusion and surveys were available in both English and Spanish. Additionally, when necessary, survey administrators read the survey aloud to students who needed literacy support. While these efforts increased response rates and accuracy, there may still have been response bias or error as a result.

Analysis and Findings

The full analysis of each data collection method for the various populations is presented in the appendices. Here, that data and information is summarized and triangulated to determine overall findings of the program. Results are summarized by each of the four research questions and the indicators to help understand whether the outcomes were achieved are listed for each population group.

Did the program increase health science content instruction and knowledge?

Students

To better understand whether students' knowledge of health science was increased, the following indicators were assessed:

- *Students' attitudes toward learning science*
- *Students' ability to correctly identify and know the purpose of the circulatory, respiratory and muscular-skeletal systems*
- *Students' ability to demonstrate understanding of the connection between systems*

Students' attitudes toward learning science

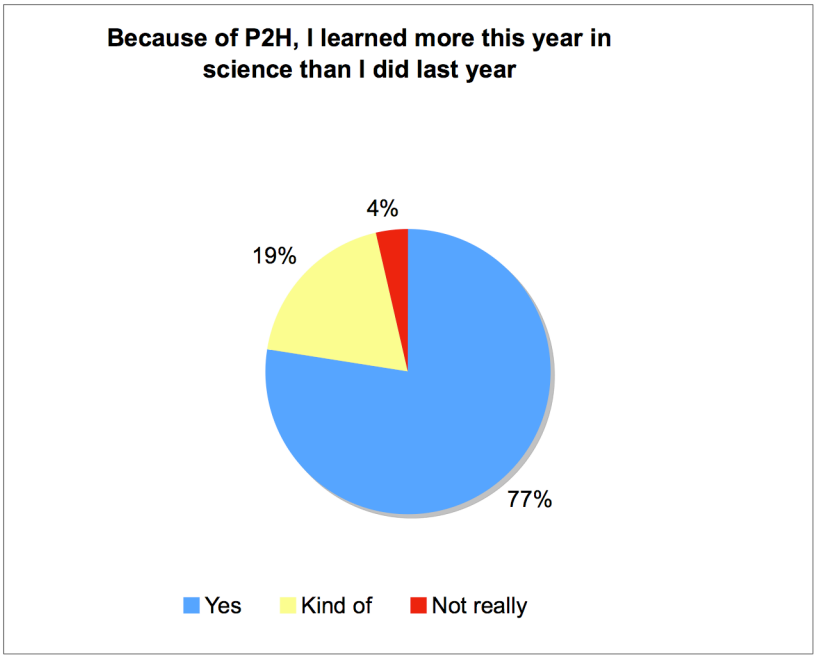
As illustrated by findings from student focus groups, student surveys and teacher interviews, not only did students enjoy science more this year because of its experiential approach, students also better understood how science connects with their lives and how they could use science to understand more about themselves.

Through student surveys, student focus groups and teacher interviews, we are able to understand whether there was an attitudinal shift in students participating in P2H. For example, in focus groups, students were asked if participation in P2H had affected the way they thought about science. While responses were quite varied, **overall students participating in P2H found science to be more interesting and engaging during the 2009–2010 school year than in past years.** The following findings emerged from the focus groups:

- Students appreciated the experiential nature of P2H
- Students found science to be more fun this year
- Students said P2H gave them a better understanding of the way science relates to other things in their lives and other subjects in school

The student surveys also provided information to help understand student attitudes. On the post-survey students were asked whether, as a result of P2H, they learned more in science this year than they did last year. As illustrated by Figure 1, 77% of students indicated that because of P2H, they learned more this year in science than they did last year.

Figure 1: Role of Passport to Health in Learning Science



Additionally, on pre- and post-surveys, students were asked if they thought that science helped them understand more about themselves. On a three-point scale where 1 = Not really, 2 = Kind of and 3 = Yes, analysis revealed a statistically significant increase in student perceptions from the pre-survey where the mean score was 2.57 to the post-survey, where the mean was 2.70.[1]

Finally, teachers were asked through interviews whether P2H affected the way their students approached science. Overall, 75% of interview respondents indicated that their students were more interested in science, the human body or being healthy and that P2H had helped students think about science in a different way.

Students' ability to correctly identify body systems and understand the connections between them

The student surveys, student focus groups, teacher surveys and teacher interviews revealed that students who participated in P2H were better able to identify and understand the purpose of body systems than their peers, and that participants were more interested in the human body as a result of P2H.

[1] Where there were matched pre- and post-surveys, paired-sample t-tests were conducted, which are used to compare the mean scores of the same groups of people at two points in time. These tests are used to determine if the differences between the pre- and post-survey are statistically significant, and that with an alpha of .05, you can be 95% confident that the difference is not due to chance. Finally, with these tests, a p-value shows whether there is a statistically significant difference and the effect size suggests how meaningful that difference is. For more detailed information about this statistic and methodology, see Appendix I, Passport to Health Year 2 Student Report.

The students' ability to identify the purpose of body systems and the connections between them was measured through multiple methods, which included the student pre- and post-surveys, the student focus groups, the teacher post-survey, and the teacher interviews. Through data collected from both students and teachers, it is clear that students increased their ability to understand the body systems and the connections between them.

To better understand the students' level of knowledge, they were asked a series of questions about the body systems on the pre- and post-surveys..

The percentage of students who correctly answered questions about the body and body systems increased from the pre- to post-survey. As illustrated by Table 3, which details the percentage of matched pre- and post-survey respondents who correctly answered each question, a higher percentage of post-survey respondents answered correctly.

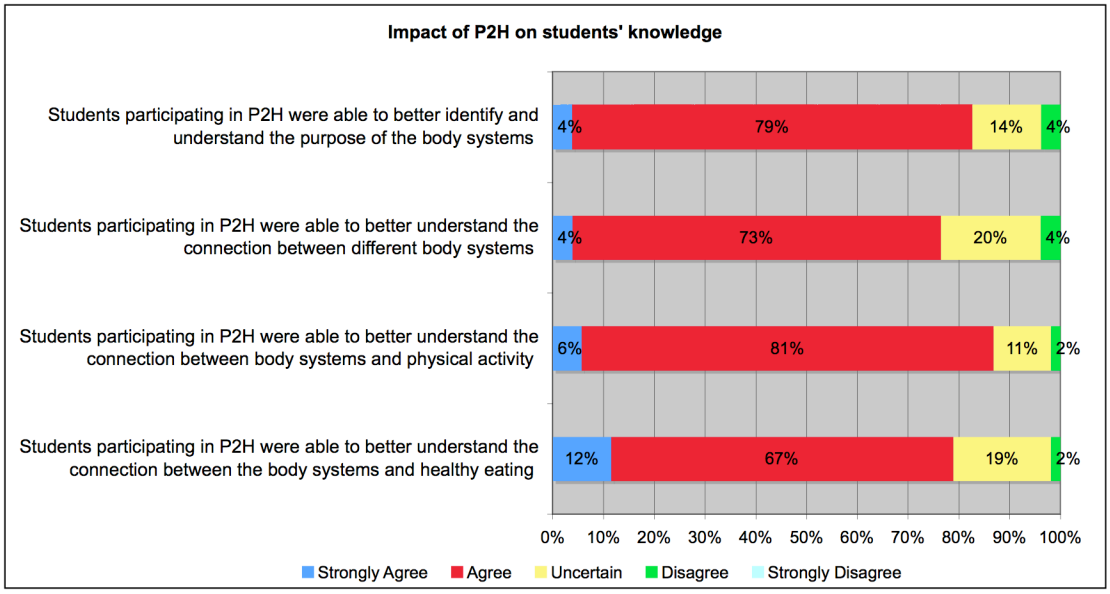
Table 3: Students' Knowledge of Body Systems

Question	Pre-survey % correct	Post-survey % correct
Look at this picture, which shows some of the organs that can be found inside the human body. What is the main job of the organ with the arrow pointing to it?	74.1%	77.7%
In your body, what two organs work together to make sure that oxygen gets to all the other organs of your body?	74.8%	78.7%
Physical activity has an impact on which of the following body systems?	46.4%	53.4%

Additionally, student focus group participants were asked what was the most interesting or important thing they learned in P2H. **Numerous students said that learning how the body works, how systems interact, how bones and muscles work and what happens to our body as we age were the most interesting things they learned.**

The data gathered from teachers help support the information from students. First, 77% of teacher interview respondents said that as a result of P2H their students were better able to identify body systems, which according to interviewees was especially true when the P2H curriculum was integrated and taught along with other science curriculum. Second, as illustrated by Figure 2, a very high percentage of teachers agreed or strongly agreed with each statement about the level of knowledge of students who participated in P2H this year compared with similar groups of students the teachers had taught this content to. For example, 87% of teachers agreed or strongly agreed that students who participated in P2H were able to better understand the connection between body systems and physical activity than other groups of students their age.

Figure 2: Impact of Passport to Health on Student Knowledge



Teachers

To better determine whether or not teachers increased their health science content knowledge, and their health science instruction, the evaluation assessed the following indicators:

- *Teachers' attitudes toward teaching health science*
- *Teachers' ability to integrate health science concepts into their classroom*
- *Teachers' confidence in their ability to teach health science*

Teachers' attitudes toward teaching health science and their level of confidence

As illustrated by teacher surveys and interviews, P2H provided teachers with new, engaging activities to motivate their students to learn health science. The evaluation also revealed that as a result of P2H, teachers felt more comfortable teaching health science than they had in previous years.

As with the students, surveys and interviews help determine whether or not teachers experienced an attitudinal shift regarding health science. As illustrated by Table 4, when asked on the post-survey to rate their level of agreement with a number of statements about teaching science on a scale of 1–5, where 1 = Strongly disagree and 5 = Strongly agree, a high percentage of post-survey respondents agreed or strongly disagreed with the statements. For example, 82% of respondents agreed or strongly agreed that they feel excited about teaching health science lessons as well as that they enjoy teaching health science content.

Table 4: Teachers' Attitudes Toward Science

Question	% Agree or strongly agree
I feel excited about teaching health science lessons.	82%
I enjoy teaching health science content.	82%
I feel energized after teaching new health science content.	63%
Even when I am busy, I always try to make time to teach health science content.	45%

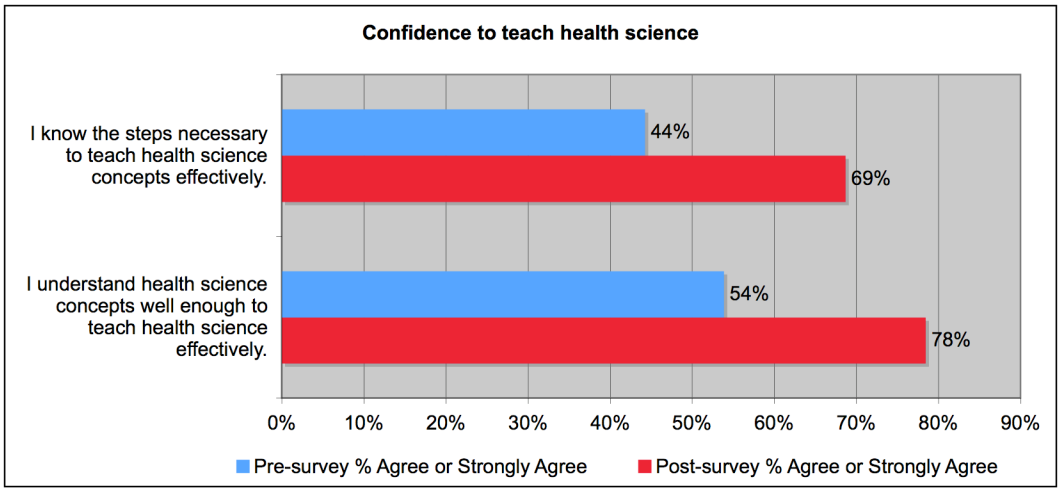
Using an adapted version of the SETAKIST survey,[2] JVA asked questions on the pre- and post-surveys about teachers' science-related teaching, knowledge and confidence. Both pre- and post-surveys had high numbers of respondents who agreed or strongly agreed that they welcome questions from their students when teaching health science (98% of both pre- and post-survey respondents) and that after they have taught a health science concept once, they feel confident teaching it again (90% and 92% pre- and post-survey respondents, respectively).

Additionally, according to post-survey respondents, 69% agreed or strongly agreed that as a result of P2H they were more comfortable teaching health science content this year than in past years and interview respondents also provided positive feedback about whether P2H gave them more confidence in their health science teaching abilities. Three interviewees said **P2H provided them with different approaches to teach science and to explain complex processes, including friendly activities that were easy for students to understand.**

Not only did teachers experience an increase in their confidence in their abilities, increases in health science content knowledge helped to make their science classes more effective. While teacher pre- and post-surveys cannot be compared as a measure of growth because they represent two distinct groups of individuals, it is interesting to note that there were a higher percentage of post-survey respondents who knew the steps necessary to teach health science concepts effectively and who understood health science concepts well enough to teach it effectively, as illustrated in Figure 3 below.

[2] Questions taken from the SETAKIST survey published in: Roberts, Kyle and Henson, Robin K., "Self-Efficacy Teaching and Knowledge Instrument for Science Teachers (SETAKIST): A Proposal for New Efficacy Instrument." Presented at the Annual Meeting of the Mid-South Educational Research Association (28th, Bowling Green, KY, November 17-19, 2000).

Figure 3: Teachers' Confidence in Teaching Health Science



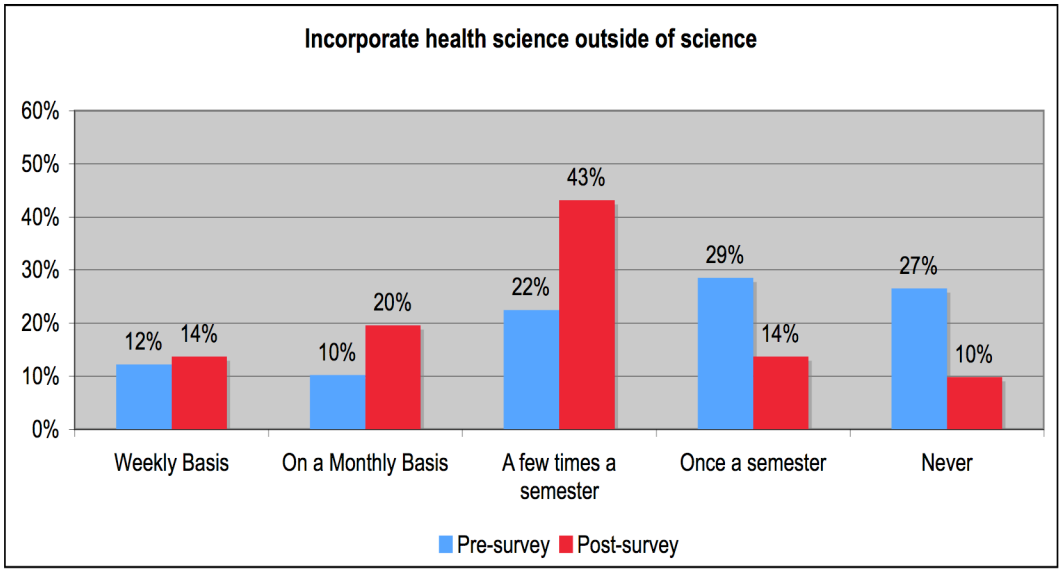
Teachers' ability to integrate health science concepts into their classroom

Teacher surveys, teacher interviews and the Journal user survey presented somewhat conflicting information regarding teachers' abilities to integrate health science into their classrooms. Surveys and interviews indicated that teachers were more likely to integrate nutrition than physical fitness into science lessons and Journal user surveys indicated that teachers were less likely to utilize math- and literacy-focused activities than those directly related to P2H.

Integration of health science content was assessed in two ways: first, by exploring how often teachers integrated physical fitness and nutrition into science lessons, and second by exploring how often teachers integrated health science concepts into non-science lessons. With regards to integrating fitness and nutrition into science lessons, pre- and post-surveys revealed that respondents were more likely to incorporate *nutrition* than *physical fitness.* While 54% of pre-survey respondents often or sometimes incorporated nutrition into science lessons, only 41% often or sometimes incorporated physical fitness. Similarly, 68% of post-survey respondents often or sometimes incorporated nutrition compared to 56% of post-survey respondents who often or sometimes incorporated physical fitness.

While integration of P2H concepts into science lessons was one program goal, P2H also hoped to encourage and support teachers in the integration of health science content into non-science lessons, especially math and literacy. The pre- and post-survey asked teachers how often they incorporated health science concepts into lessons outside of science during the previous and current school year. While these two groups cannot be compared side-by-side, it is interesting to note that post-survey respondents were much more likely to incorporate health science into non-science lessons than pre-survey respondents. Figure 4 illustrates that 33% of post-survey respondents incorporated health science into non-science lessons on a weekly or monthly basis, while 24% incorporated it never or only once per semester. In comparison, 22% of pre-survey respondents incorporated health science into non-science classes on a weekly or monthly basis, while 56% incorporated it never or about once per semester.

Figure 4: Percentage and Frequency of Respondents Who Incorporated Health Science Concepts Into Lessons Outside of Science



Although 33% of post-survey respondents agreed or strongly agreed that as a result of P2H they incorporated health science concepts into lessons outside of science, 42% disagreed or strongly disagreed with that statement. Further, according to teachers' reported use of specific Journal activities, teachers were far less likely to utilize Journal activities highlighting math or literacy than to use the activities directly related to P2H or other health science curriculum. In fact, only 10% of teachers used the *Goal Letter* activity, a literacy activity, compared with 83% who used the activity from the pedometer challenge called *How Many Steps?*

Interestingly, among interviewees, half said they were able to integrate health science into non-science lessons and half said they were not. Although only half were able to integrate curriculum, numerous interviewees said the P2H curriculum integrated well with human body and nutrition lessons and that it provided good materials including visual aides, videos and pedometers.

Schools

In addition to increasing health science content knowledge of students and teachers, and increasing health science instruction among participating teachers, P2H hoped to increase the overall instruction of health science in participating schools. The evaluation used the following indicators to assess outcomes for schools:

- *Health science resources available to students*
- *Time spent on health science instruction and integration of health sciences in math and literacy lessons*
- *Attitude toward teaching science*
- *Attitude toward P2H by school teachers, principal and personnel*

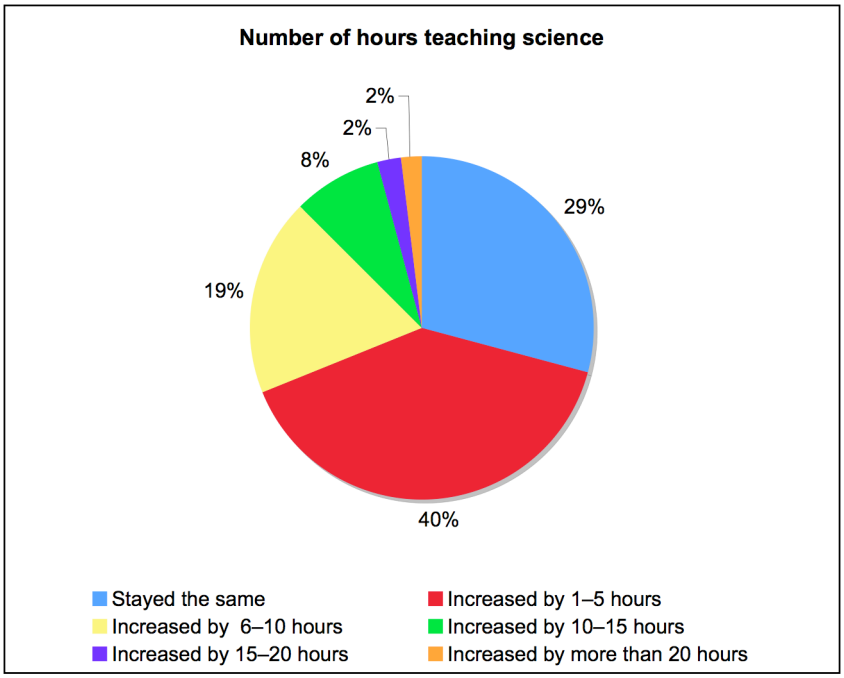
Health science resources available and time spent on health science instruction

By revisiting baseline assessment data, and through teacher surveys and interviews, the evaluation revealed that schools increased their commitment to health science programs/initiatives and teachers increased the number of hours spent teaching health science.

As was introduced and explored in the February 2010 Baseline Assessment Report, 61% of teacher survey respondents (*n* = 14) said their schools had health science initiatives in addition to P2H during the 2009–2010 school year. In contrast, when asked about the history of health science initiatives in their schools, only 35% (*n* = 8) of respondents said their schools had hosted such programs before. This demonstrated a 26% increase in schools' participation in health science programs from the 2008–2009 to the 2009–2010 school year, illustrating a positive shift toward healthy living programming in schools in the Denver metro area.

Further, not only are school-wide commitments to health science initiatives increasing, but according to teacher post-surveys, 71% of respondents indicated that the number of hours they spent teaching science curriculum also increased during the 2009–2010 school year, with 40% indicating an increase of one to five hours, as illustrated by Figure 5.

Figure 5: Change in Number of Hours Teaching Science



Attitude toward P2H by teachers, principal and school personnel

Teacher interviews demonstrated that principals, teachers and school personnel had positive attitudes toward P2H and were, overall, supportive of the program.

Because P2H cannot be sustained through the support of the Museum alone, it is important to measure school-level commitment to the program. In teacher interviews at the end of the year, respondents were asked about the overall school opinion of P2H. **According to interview respondents, 73% said their principals and school leadership were supportive of P2H programming.** Principals demonstrated this support by helping to coordinate, plan or schedule events, or by attending P2H events at the school. An additional 18% of respondents said their principals were encouraging of P2H programming, but were not engaged or helpful with planning or implementing the program. Finally, 9% said their principals were not involved at all or were not supportive of the program.

Did the program increase recognition of the value of physical activity, healthy foods and healthy lifestyles?

Students

To better understand if P2H increased students' recognition of the value of physical activity, healthy foods and health lifestyles, the evaluation assessed the following indicators:

- *Students' understanding of the connection between physical activity and their body's systems*
- *Students' value and interest in recreational and organized physical activity*
- *Students' attitude toward physical activities*

Understanding of the connection between physical activity and body systems

Teacher surveys revealed that students who participated in P2H were better able to identify the connections between body systems and physical activity than other students their age.

To determine if P2H affected the ability of students to draw connections between physical activity and body systems, teachers were asked to compare P2H students to similar groups of students who did not participate in P2H programming. Overall, **87% of teacher post-survey respondents agreed or strongly agreed that compared with other groups of students their age, P2H participants were better able to understand the connection between body systems and *physical activity***. Additionally, 79% of teacher post-survey respondents agreed or strongly agreed that P2H students were better able to understand the connection between body systems and *healthy eating.*

Students' attitude toward, and value and interest in recreational and organized physical activity

Student surveys, student focus groups, Family Health Day interviews and family surveys illustrated that students increased the amount of physical activity they engaged in and have a better understanding of the value of physical activity as a result of P2H.

The evaluation measured how often students were engaging in physical activity, and the value they placed on this activity. According to student pre- and post-survey data, there was a statistically significant increase in the number of times students engaged in something that made their heart beat faster and made them breathe hard in the last week. When analyzing only those pre- and post-surveys that can be matched for this question (n = 441), the mean for the pre-surveys was 5.47 times and the mean for the post-surveys was 5.72 times. While the difference between the two is small, and on both pre- and post-surveys students indicated they engaged in physical activity between five and six times, the analysis did indicate a statistically significant increase in activity. Further, when all post-surveys are included in the analysis (n = 836), almost 50% of respondents indicated that they were active seven or more times in the previous week.

The evaluation also attempted to determine if the increase in physical activity was attributable to P2H and pre- and post-survey respondents were thus asked a series of questions to help clarify this. Seventy percent of respondents indicated they are doing more physical activities as a

result of P2H. Further, 44% said they have joined a new sport or recreation team, club or class as a result of P2H. Supporting these findings, focus group participants were asked if they had changed how physically active they were since P2H started. Most students responded that they were doing more physical activity as a result of P2H because they now have a better understanding of what happens to your body when you are not active.

While it is clear that students engaged in more physical activity, the evaluation also aimed to determine *why* this was the case. If P2H was responsible for encouraging increased levels of physical activity, what were students learning that was creating this change? As noted in the extended methodology in Appendix I, half of the students responded to a set of questions on pre- and post-survey A and the other half on pre- and post-survey B. Those who responded to survey B were asked to indicate their level of agreement with three statements about physical activity where 1 = Not really, 2 = Kind of, and 3 = Yes. As Table 5 illustrates, the mean response increased for all four questions, and when students were asked if *Doing physical activities helps keep me healthy* and whether the student felt safe playing outdoors in their neighborhood, analysis revealed statistically significant increases. An increased understanding of the role of physical activity in being healthy, coupled with increased feelings of safety in their neighborhoods could be factors contributing to an increase in physical activity among students.

Table 5: Students' Thoughts About Physical Activity

Question or statement from pre- and post-survey	Pre-survey (*n* = 197)		Post-survey (*n* = 197)	
	Mean	SD	Mean	SD
It is important to do physical activities.	2.91	0.32	2.94	0.26
**Doing physical activities helps keep me healthy.	2.91	0.37	2.96	0.19
I like doing physical activities.	2.83	0.39	2.84	0.38
**I feel safe playing outdoors in my neighborhood.	2.51	0.67	2.63	0.57

**Difference between means is statistically significantly when using an alpha level of .05.

Interviews and surveys conducted with parents and families support the findings from the student surveys and focus groups. According to Family Health Day interview participants, 73% of respondents agreed that their child was more active as a result of P2H and 78% of parent post-survey respondents agreed or strongly agreed that their family had increased the amount of physical activity they did because of P2H.

Teachers

The Museum hoped that through participation in P2H, teachers would gain a better understanding of the implications of the benefits from student involvement in physical activity. To measure this, the evaluation assessed the following indicators:

- *Teachers' understanding of the connection between physical activity and body systems*
- *Teachers' awareness of physical activities students generally participate it*
- *Teachers' awareness of the physical activities available to students*
- *Teachers' encouragement of physical activities inside and outside the classroom*

Awareness of physical activities available to students that students generally participate in and encouragement of participation in physical activities

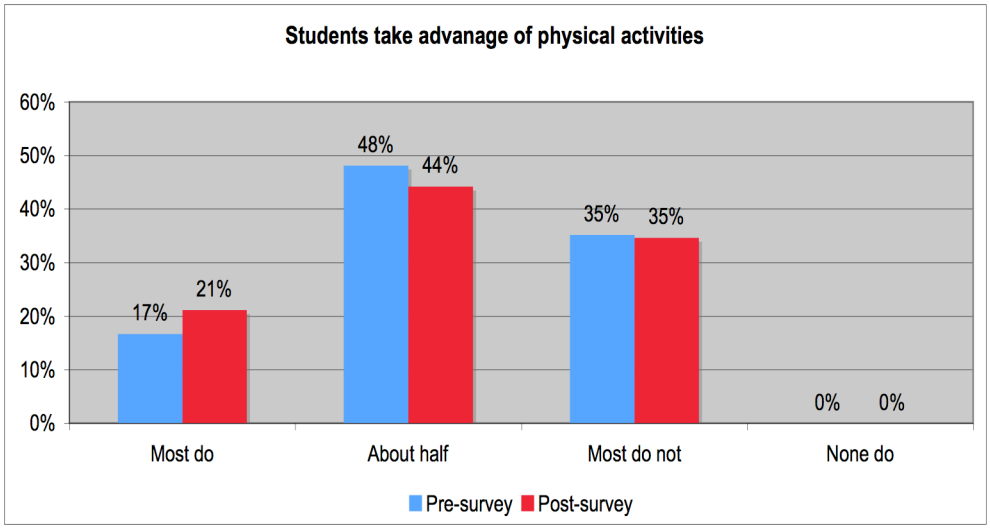
Teacher surveys demonstrated that as a result of P2H, teachers learned more about recreational opportunities available to students, have a better idea of what physical activities students participate in and are encouraging students to participate in physical activity more than before. Surveys also revealed that teachers don't think their students are taking full advantage of opportunities available to them.

By examining the pre- and post-surveys, a better understanding of the level of awareness of teachers with regards to the physical activity levels of their students can be gained. For example, teachers were asked to rate their knowledge of the physical activities and resources available to students outside of school on a scale of 1 to 5, where 1 = Non-existent and 5 = Extensive. The average rating on the pre-survey was 3.0. The average rating among teachers on the post-survey was 3.31. Both groups of teachers felt their level of knowledge of physical activities and resources available to students outside of school was mid-way between non-existent and extensive.

Further, according to teacher post-surveys, 44% of respondents agreed or strongly agreed that as a result of P2H they learned more about the physical activities and recreational opportunities *available* to their students. Additionally, 60% of post-survey respondents agreed or strongly agreed that as a result of P2H they learned more about the physical activities their students *participate* in.

Finally, pre- and post-survey results provided information about whether or not teachers felt their students were taking full advantage of physical activities, parks and recreation centers available to them outside of school. Figure 6 illustrates that teachers participating in the pre-survey and those participating in the post-survey believed that about half of their students were taking full advantage of resources outside of school. Interestingly, an additional 35% of both groups of respondents thought most of their students were not taking advantage of these resources. Finally, and while pre- and post-survey data cannot be compared for changes among groups, it is interesting to note that a slightly larger percentage of *post-survey* respondents said they thought most of their students did take advantage of resources outside of school.

Figure 6: Percentage of Students Who Take Advantage of Physical Activities OUTSIDE of School



In addition to providing insight into the levels of awareness of teachers, the post-survey also asked teachers how likely they were to encourage participation in physical activity. This measure speaks to teachers' understanding of the importance of physical activity. According to the post-survey, 62% of respondents agreed or strongly agreed that as a result of P2H they were more likely to encourage students to participate in physical activity *at school* and 56% agreed or strongly agreed they were more likely to encourage physical activity *outside of school.*

Families

To begin to determine if families have shown better understanding of the importance of a healthy lifestyle for the whole family, the evaluation assessed the following indicators:

- *Families' attitudes toward nutrition and physical activity*
- *Parents' understanding of nutrition and physical activity and how they link to health*
- *Number of times parents engage in conversations with their children about healthy lifestyles*

Attitudes toward nutrition and physical activity

As illustrated by family surveys and Family Health Day interviews, families made important lifestyle changes as a result of involvement with P2H and report having a better understanding of the value of physical activity and nutrition on health.

P2H approached family involvement in two ways:

- Through direct participation in activities such as Family Fit Fest and Family Health Day
- Indirectly through conversations and interaction with their children

Overall, P2H families reported making significant lifestyle changes as a result of P2H. For example, 77% of family post-survey respondents agreed or

"Participating in Passport to Health is reinforcing our choices and is educating our kids about nutrition and exercise."

--Passport to Health parent

strongly agreed that they are paying more attention to nutrition labels as a result of P2H. Based on the changes being implemented in families, it seems likely that their attitudes toward nutrition and physical activity have changed over the course of participation in P2H programming. In fact, 80% of Family Health Day interview respondents said they have noticed positive changes in their child or family as a result of P2H.

Engaging in conversations with their children about healthy lifestyles

Parent surveys and Family Health Day interviews demonstrated that not only are families making changes, they are also more open and communicative with their children about health and healthy choices.

According to parent post-surveys, 86% of respondents agreed or strongly agreed that because of P2H their family was talking more about healthy food and physical activity and how they relate to health. In addition, 85% of Family Health Day interviewees agreed that because of P2H their child has talked about science, health and/or physical activity at home. Based on feedback from Family Health Day interview respondents, Table 6 illustrates the themes or topics most commonly discussed at home.

"Since being exposed to P2H, my daughter is much more open to talking about how to look at food more closely to see what is healthy and what is not."

–Passport to Health parent

Table 6: What P2H Topics Are Families Discussing?

	% of FHD interview respondents who agree
The human body	36%
The human heart	33%
Nutrition, eating healthy and healthy foods	28%
Exercise and the importance of physical activity	20%

Did the program encourage students to advocate for healthy changes at home and help families make those changes?

Students

Through participation in P2H, the Museum hoped to empower students to advocate for healthy options and behaviors within their family units. To measure this, the evaluation assessed the following indicators:

- *Students' ability to identify health food options*
- *Students' requests for new, healthy foods at home*
- *Students' encouragement and discussion of physical activity and healthy lifestyles at home*
- *Resources students bring to family*

Ability to identify healthy foods

According to findings from student surveys and student focus groups, students were able to identify healthy foods, and were also able to ask and respond to critical thinking questions about food choices.

Student focus groups can help to make clear whether students were able to identify healthy foods. When they were asked to list and discuss their ideas of "healthy foods," the majority of focus group participants listed only fruits and vegetables. When they were asked, however, to list foods that were not fruits or vegetables, students provided examples such as: whole grain bread/pasta, beans, meat, yogurt, cheese, fish, peanut butter, enchiladas and tofu. Further, students were curious about certain foods, for example, students wondered if meat was considered healthy? When these questions were posed, other focus group participants offered responses such as "some meat is healthy, but it depends on how fatty it is and how it is cooked," or "meat can be healthy, but it's better to bake it than to fry it." These student responses demonstrated that some P2H participants were able to think critically about healthy food choices.

The evaluation also helped clarify students' opinions of healthy food and helped to determine if they were advocating for changes at home. Students who participated in pre- and post-survey A were asked a series of questions about healthy foods and healthy food choices. Respondents were asked to rate their level of agreement with three statements, on a scale where 1 = Not really, 2 = Kind of, and 3 = Yes. When pre- and post-surveys asked students whether they liked eating healthy foods, analysis revealed statistical significance, however, not in the anticipated direction. While the mean response on pre-surveys was 2.63, the mean response on post-surveys was 2.46.

This is a fine example of unanticipated outcomes that can emerge from a program. For instance, as a result of P2H, it is possible that because students have an increased understanding of what healthy foods are, they were equipped with more information to decide whether they like to eat them.

Encouragement and discussion of physical activity and healthy lifestyles at home, ability to advocate for healthy foods, and resources students brought to families

While students were able to identify healthy foods and evaluation results illustrated that they were talking to their families about P2H and what they learned, student focus groups, teacher interviews, parent surveys and Family Health Day interviews revealed that students are not necessarily advocating for healthier food choices at home.

There are numerous indicators that illustrate the fact that students are communicating P2H information to their families. For example, 85% of Family Health Day interviewees said their child had talked about P2H at home. Further, when focus group participants were asked if they were sharing information with their families, the majority of the students said yes. Interestingly, however, when asked what information they shared with their families, responses were somewhat different than what parent interview respondents reported talking about with their children about (see Table 6). In order of frequency, students said they talked to their families about:

"My daughter said something really important. She talked about how hard our heart has to work when we are overweight. I think P2H has opened the doors to learning and has got us to think about our health. We have changed, we are watching what we are eating and we're losing weight!"

–Passport to Health parent

- The importance of exercise/sports
- Healthy food/nutrition
- How to be healthier overall
- The human body
- Why it's important to read nutrition labels
- That P2H is fun/cool/interesting.

Regardless of the discrepancies when it came to describing what they were talking about, there were no differences between student and family data regarding whether or not students were talking about the program and what they learned. Parents said their children were excited to talk about P2H and share what they had learned and **numerous students said some of the highlights of the program for them were talking with their families, showing them around the Museum and helping them understand the purpose of P2H.**

To determine how students were using the information they learned, focus group participants were asked whether they were advocating for food and/or diet changes at home. Surprisingly, only a small portion of respondents said they were, and these students said they were asking their parents for:

- More fruits and vegetables
- Less sweets
- For an overall healthier diet at home

Interestingly, while students may not be requesting healthier foods at home, numerous focus group participants said the most important change their family has made as a result of P2H has been eating more fruits and vegetables, frying food in less oil and eating healthier diets.

Despite the changes that students and families reported, 46% of teacher interview respondents said they did not notice a change in the foods their students were eating, nor in their level of nutrition. That said, many teachers also noted that the families of their students are incredibly constrained because of limited family resources to buy healthier foods or due to being on free- and reduced-price lunch and eating what is served in the cafeteria, regardless of nutritional value. While teachers may not have seen changes in the foods their students were eating, 31%

of teacher interview respondents felt their students did have a better understanding of healthy eating, food decisions and the link between food and energy.

Families

To support the Foundation's Healthy Living outcomes, P2H tried to encourage families to make changes that support the whole family eating better and moving more. To measure this, the evaluation assessed the following indicators:

- *Family members' participation in P2H activities*
- *Changes in the type of foods parents purchase and serve*
- *Changes in the type of recreation and organized activities parents encourage*
- *New physical activities tried/encouraged*
- *Health club and recreation center memberships/awareness*
- *Park visits/awareness*
- *Attitudes toward physical activity and nutrition*

Family participation in P2H activities

Based on the tracking of output data collected by the Museum, family participation in all P2H activities was lower than hoped, however teacher interviews indicated that family participation in P2H was above average when compared with other school activities.

While output data is more clearly defined and outlined in the Process Evaluation Report (submitted July 2, 2010), this report will explore family engagement in P2H. According to teacher interviews, 15% of respondents said they found that P2H families participated in programming at higher levels than what can be traditionally expected for their students' families. Attendance at Family Fit Fests varied greatly between schools, with anywhere from zero to 600 participants at each evening event, and a total of 1,697 participants in all Family Fit Fests. For myriad reasons, Family Fit Fests were among the most difficult components to schedule and as a result, four P2H schools did not host the event.

Further, while the Museum hoped to reach 2,500 participants through Family Health Day, output data measured a total of 1,069 participants. While this number is well below the programmatic goal, considering that P2H reached 1,807 students, most who attend schools with hard-to-reach family demographics, the high number of participants in Family Health Days should be viewed as a great success. Due to scheduling complications, three schools had zero participation at Family Health Day, canceled their Family Health Day or never scheduled it to begin with.

The family membership component was also important for measuring family engagement. In total, 708 families redeemed memberships, 97% of whom were new members. Levels of participation at schools varied quite significantly, with one school redeeming only four family memberships and one school redeeming 76. Smith Elementary School is the only P2H school that did not redeem any family memberships.

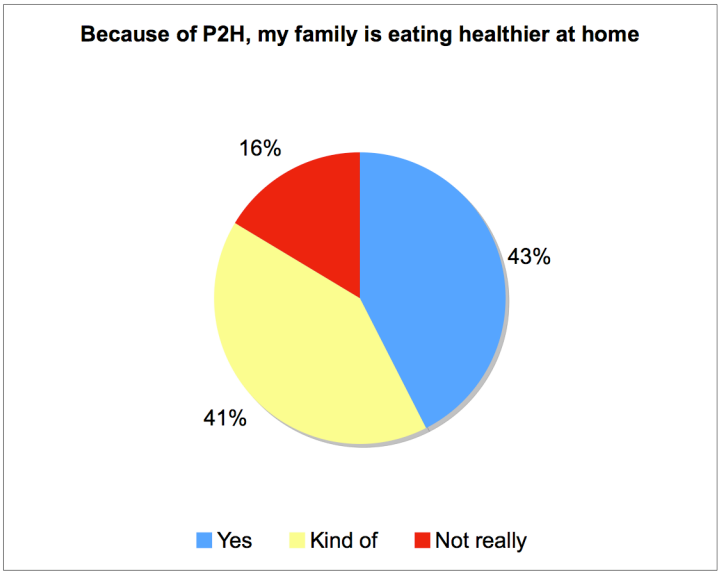
Finally, while not correlated to a specific activity or component of P2H, in a focus group conducted to inform the July 2010 Process Evaluation report, program staff revealed that P2H has included the most extensive Spanish language outreach of any Museum program. Staff said additional translation services and the creation of more program materials in Spanish helped support the diverse students and families participating in P2H.

Changes in the type of foods purchased and served, and the type of recreation that is encouraged

According to Family Health Day interviews, and family and student surveys, families are noticing positive changes as a result of P2H, are eating more vegetables and are engaging in more physical activity together.

According to Family Health Day interviews, **80% of respondents said they have noticed positive changes in their child or family as a result of P2H**. Of these respondents, 23% said they are making changes in the foods they buy and eat or are more concerned with nutrition. In addition, and similar to student focus group respondents, 41% of Family Health Day interviewees said that eating more nutritiously was the most important change their family had made as a result of participation in P2H. Family post-survey results support these findings as 69% of post-survey respondents agreed or strongly agreed that because of P2H their family made changes in the foods they buy and 70% agreed or strongly agreed that their family made changes in the way they prepare food. Further, student post-survey respondents were asked to rate whether their families were eating healthier as a result of P2H. As Figure 7 reflects, 43% of students indicated their families are eating healthier at home because of P2H.

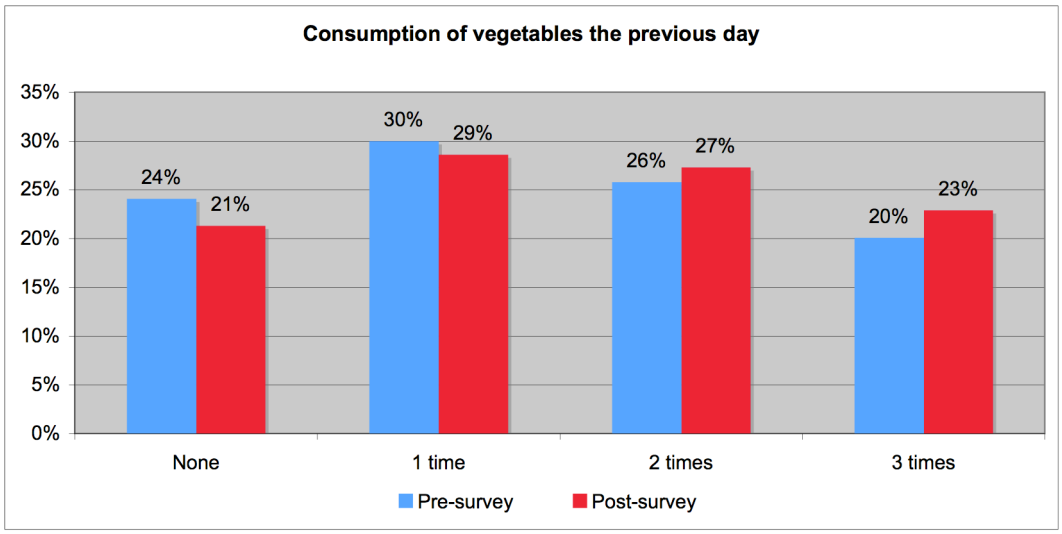
Figure 7: Role of Passport to Health on Eating Healthy at Home



To provide a slightly more specific indicator, on the pre- and post-survey students were asked whether they had eaten vegetables the previous day and if so, how many. Analysis revealed a statistically significant increase in the amount of vegetables students ate the previous day. While this question demonstrated statistical significance, the effect size was quite small. When analyzing the matching surveys (n = 424) the mean number of vegetables eaten the previous day by pre-survey respondents was 1.43, while the post-survey mean was 1.55. As illustrated by Figure 8, when analyzing all surveys, regardless of matching, results show that nearly 80% of all respondents on both the pre- and post-survey ate vegetables at least once the previous day, and only slightly over 20% of each group did not have any vegetables. Considering that student pre- and post-survey data indicated that fewer students enjoyed eating healthy foods by

the end of the program year, an *increase in vegetable consumption is a positive and somewhat surprising outcome.*

Figure 8: All Students' Consumption of Vegetables



In addition to monitoring changes in diet and food consumption, the evaluation hoped to measure changes in the type of recreation families are engaging in. As has been stated, 78% of parent post-survey respondents agreed or strongly agreed that as a result of P2H, their family has increased the amount of physical activity they do. Further, 85% of Family Health Day interviewees agreed that their family was more active as a result of P2H. Of these, 24% specified they are walking more as a family and 17% said they are spending more time playing at local parks.

"Passport to Health has brought our family together. We are going outside more and are more active as a family."

–Passport to Health parent

Membership at, awareness of, and number of visits to parks and recreation centers

Based on family surveys and Family Health Day interviews, knowledge of local parks and recreation centers increased slightly, however, the great majority of P2H families already knew of these places. In addition, patronage of parks and recreation centers did increase this year when compared with last year.

As a final family measure, the Museum hoped that participation in P2H would increase families' awareness of local parks and recreation centers and in doing so, would increase their use of these facilities. According to Family Health Day interviews, by the end of the program year, 89% of P2H families knew where the nearest park or recreation center was to their home. While 82% of these families knew where these places were before participation in P2H, 9% of respondents learned the locations of local parks and recreation centers as a result of their participation in P2H.

While participation in P2H did not dramatically change the percentage of families who were aware of local parks and recreation centers, the evaluation also measured whether or not families increased their use of these facilities. Table 7 demonstrates that while the majority of families visited the Museum, parks and recreation centers the same amount during the 2008–2009 school year as during the 2009–2010 school year, 33% of families visited the *Museum*

more during the P2H implementation year, and 45% of families visited *parks* more. These are dramatic increases and while it is difficult to directly attribute these increases to participation in P2H, the fact that 708 new Museum memberships were redeemed during the implementation year, 97% of which were for families that were first-time members, is significant, and probably played a significant role in the increase of Museum use.

Table 7: Self-reported use of the Museum and Local Parks and Recreation Centers

Compared to last school year my family has…	**% of families responding *Less often***	**% of families responding *The same amount***	**% of families responding *More often***
Visited the Denver Museum of Nature & Science	27%	40%	33%
Gone to a park	10%	45%	45%
Gone to and/or used resources at a recreation center	30%	45%	25%

In order to understand what held families back from utilizing these public resources, the family post-survey asked respondents to identify barriers to visiting parks and recreation centers. Overall, 25% of respondents agreed that their family did not have time, 24% said they were too expensive, 19% said the hours were too limited, 11% said they were too far and 4% said they were not safe. In addition, families were given the opportunity to write in additional barriers that were not listed. Several families said because of busy or difficult work schedules they didn't have the ability to go to parks, while several others said there were no barriers and they visited parks and recreation centers often.

Did the program increase teachers' use of Museum resources?

Teachers

In addition to increasing teachers' health science content knowledge and instruction, the Museum hoped that participation in P2H would increase teachers' use of Museum resources. To measure this, the evaluation assessed teachers' overall knowledge of resources available through the Museum as well as teachers' uses of general Museum resources and those directly associated with P2H.

Knowledge of availability and use of Museum resources, both general and P2H

Based on Museum tracking programs, teacher interviews and teacher surveys, it is clear that a lack of time, coupled with limited training on and understanding of resources prevented P2H teachers from fully accessing and utilizing Museum resources.

The Museum provides teachers with myriad resources, some of which relate directly to Museum programs, some of which are more general. While many of the available resources are meant for use in the classroom or on Museum fieldtrips, P2H partner teachers also gained access to three online resources: the *Expedition Health* Online Guide (designed for students in grades three to five and available to the public), the P2H Community Page (password protected and for P2H teachers only) and the Online Workshop or P2H Forum. Overall, teachers did not utilize P2H resources as extensively as the Museum had hoped. According to interview respondents, only 27% used any of the P2H resources, compared with 73% who did not. For the majority of these teachers, time was stated as the greatest barrier to using materials, but several mentioned that additional training or reminders about the uses of the resources would have been beneficial.

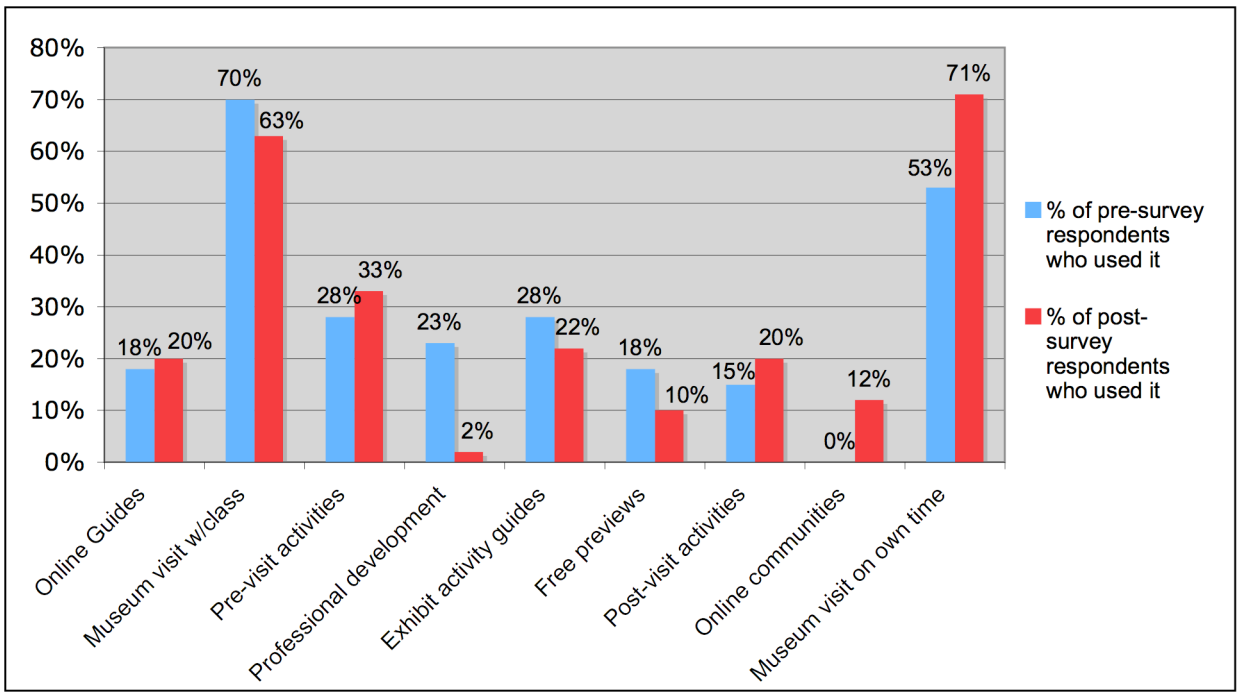
In order to gain a more specific understanding of the use of Museum resources, teachers were asked on the post-survey to indicate which of the P2H resources they had used. The most commonly used was the student Journal, which was used by 90% of teachers. While this is an impressive statistic, it is important to remember that Museum educators used several Journal activities during classroom or Museum visits, and the teacher post-survey was not designed to clarify whether the teacher used the Journal independently of Museum visits, or only in conjunction with educators. With the exception of the Journal, other resources were used less frequently. Seventy-four percent of respondents used materials or strategies from the teacher workshop, 69% accessed the monthly e-newsletter, 50% accessed the P2H online community page and 43% used the *Expedition Health* online guides.

To supplement findings from the teacher survey, the Museum provided information gathered from Google Analytics software, which was used to track Web site usage. Unfortunately, the software was not able to distinguish P2H teacher use of the community page from that of Museum staff. Without specific counts, and relying solely on post-survey responses, it is clear the use of online resources was limited. To determine the cause of this, the teacher interview included questions about the effectiveness and accessibility of the community page. Based on this data, 22% of respondents did not know about the P2H online community page and numerous others said they did not access the community page because of time constraints.

In addition to asking specifically about use of P2H resources, the pre-survey asked teachers what general Museum resources they had used in the previous two years and the post-survey

asked whether teachers had used Museum resources outside of their association with P2H. Responses were quite varied, but overall, teachers used *Museum resources* less than they used *P2H resources*. Figure 9 illustrates teachers' reported use of Museum resources. As can be seen, pre-survey respondents were more likely to visit the Museum with their class, use professional development and access exhibit activity guides. Post-survey respondents, on the other hand, were more likely to visit the Museum on their own, use online guides, and use pre- and post-visit activities.

Figure 9: Respondents Reported use of Museum Resources



Many teachers said time constraints and their lack of familiarity with the program made it difficult to utilize Museum resources. Many also said they hoped that in the 2010–2011 implementation year they would be able to use more of the resources, as they will have a better sense of the program and how it fits within their established curriculum.

Conclusions and Recommendations

Overall, and as is reflected in the body of this report, this evaluation has returned positive results regarding the outcomes of the Passport to Health program. As the Baseline Report and Process Evaluation illustrated, the program was well planned and program leadership was receptive to mid-course changes that were suggested to improve programming. Additionally, this outcomes report has further illustrated that the program team is committed to program improvements and to the completion of a thorough evaluation. In order to continue to achieve the outcomes established for the program, the Museum might consider implementing a few changes or re-emphasizing certain program components. While very specific recommendations based on the findings from each data collection method can be found in each of the subsequent appendices, the following represent overall recommendations identified over the course of the evaluation:

- **The Focus Families component** was the least successful evaluation component. If the Museum wants to continue to implement this component, it will have to change significantly. *The Museum should reconsider recruitment and retention techniques for Focus Families.*
- **The student Journal** has the potential to be an effective and useful tool that could greatly increase the ease with which teachers integrate P2H into their classrooms; however, the evaluation revealed that teachers are not using the Journal to its fullest extent. *The Museum could consider creating an* Instructor's Guide *that would accompany the student Journal, providing additional guidance and activity suggestions for teachers.*
- Numerous teachers mentioned it was difficult for them to find ways to **integrate P2H into required curriculum**. *The Museum could consider providing teachers with additional training so they are able to better integrate P2H into school curriculum.*
- Teachers and families expressed **confusion about P2H components** and what was included as part of the program. In order to increase understanding of components and to clarify participant expectations, *the Museum could consider creating and distributing more information to teachers and families regarding P2H and Museum resources.*

DENVER MUSEUM OF NATURE & SCIENCE

Appendix I: Passport to Health Year 2 Student Report

Summary of Surveys and Focus Groups

Submitted July 30, 2010 By:

JVA CONSULTING, LLC
partners in community and social change

Introduction

In 2009, the Denver Museum of Nature & Science (Museum) began implementing the Passport to Health program (P2H), a three-year program designed by the Museum to help improve health outcomes for fifth-grade students as well as their families and teachers at 30 low-income schools in the Denver metro area. The Museum contracted with JVA Consulting, LLC (JVA) to conduct a comprehensive evaluation of P2H, including two key components: a process evaluation to examine the program design and implementation, and an outcomes evaluation to measure the program's abilities to meet its overall objectives. This report helps inform the outcomes evaluation by providing insight into the effects of the program on students.

Through P2H, students, their teachers and families are engaged in activities, classroom instruction and field trips aimed at increasing students' awareness of physical activity, nutrition and how the two relate to healthy lifestyles. By implementing the program components and achieving the desired outputs, the Museum hopes that students will achieve the following outcomes:

1. Increase their health science content knowledge
2. Recognize the value of physical activity and its contributions to a healthy lifestyle
3. Advocate for healthy options and behaviors within their family

This report aims to answer the following three questions, which relate to students:

- *Did the program increase health science content knowledge?*
- *Did the program increase recognition of the value of physical activity, healthy foods and healthy lifestyles?*
- *Did the program encourage students to advocate for healthy changes at home and help families make those changes?*

Methodology

JVA, in coordination with the Museum, utilized a mixed-methods approach to collect quantitative and qualitative data from students to inform the evaluation. The following methods were utilized in the student evaluation:

Pre- and post-surveys

JVA conducted pre- and post-surveys with P2H students. JVA collected 764 pre-surveys from students in 19 participating schools. JVA hoped to conduct pre-surveys in all P2H partner schools, however, due to the timing of the survey administration and the extensive approval process for the external research request in two of the districts, approvals were not received in time to reach all of the schools in those districts. Surveys were administered when the schools did Fitness Physiology, the P2H introductory class facilitated by Museum educators in partner schools, with the majority being administered in fall 2009.

The student survey was developed by conducting a thorough review of more than a dozen existing instruments that measure health science knowledge and behaviors and adapting specific questions to measure the outcomes associated with this evaluation. Finally, the survey was pilot tested with two groups of students. Because there was an extensive amount of information that was collected through this instrument, JVA created two versions of the survey in

order to make the it more manageable—Survey A and Survey B—which differed in only one set of questions. Survey A included a set of questions about students' perceptions of eating healthy and Survey B included a set of similar questions about student's perceptions of physical activity. There were 364 respondents to Survey A and 376 respondents on Survey B (and 24 students who did not complete the differing section of the survey).

JVA collected post-surveys from 863 students in 24 schools participating in the P2H program. Post-surveys were administered in spring 2010 once schools had completed all program components including Family Fit Fest and Family Health Day. Similar to the pre-survey, there were two iterations of the post-survey and Survey A and Survey B, which were administered to the same students who completed the pre-survey version. Of the respondents who completed the survey, 446 completed Survey A and 410 completed Survey B (with seven who did not complete the differing section of the survey).

Pre- and post-surveys were matched by student in order to analyze their responses before and after the P2H intervention. Both pre- and post-surveys were assigned a unique identifier for each student consisting of the student's self-identified date of birth, the JVA-assigned school code and the JVA-assigned teacher code. Based on this identification system, there were only two pairs of students who shared the same identification code. As a secondary measure, each student's gender was added to the identification. After matching pre- and post-surveys using the student identification system, there were 457 matched pre- and post-surveys.

Pre- and post-surveys were analyzed using descriptive statistics, such as frequency, mean and standard deviation. Where there were matched pre- and post-surveys, paired-samples t-tests were conducted, which are used to compare the mean scores of the same groups of people at two points in time. These tests are used to determine if the differences between the pre- and post-survey are statistically significant, and that with an alpha of .05, you can be 95% confident that the difference is not due to chance. Finally, with these tests, a p-value shows whether there is a statistically significant difference and the effect size suggests how meaningful that difference is.

Additionally, multiple regression was conducted to control for variables that are outside of scope of P2H. For example, there may be barriers to improving the outcomes that P2H hopes to improve, such as language or income. JVA wanted to determine if there was any difference in its findings when it controlled for these variables. To do this, JVA used school-level data pertaining to the percentage of students categorized as English language learner (ELL) and the percentage of students receiving free- and reduced-priced lunch (FRL) at each school. Multiple regression was used, where appropriate, to determine whether there was an association between the school's ELL and FRL status and student perceptions of health and physical activity. These regressions yielded no statistically significant findings to report, so JVA is able to be confident that the findings are not impacted by these variables.

Focus groups

Six focus groups were conducted in the spring of 2010 with students who had participated in the P2H program. The six schools were: Gilpin (DPS) Park Hill (DPS), Paris (APS), Montview (APS), Rocky Mountain Elementary (Adams 12), and Westgate (Jeffco). Schools were chosen at random and JVA used two schools from both DPS and APS because these two districts had higher levels of participation in P2H than Jefferson or Adams. Student participants were also chosen at random. All of the students for whom JVA received parental informed consent were put into an envelope and names were chosen from each participating classroom, for a total of six to nine participants.

A moderator's guide was created, which included questions covering topics such as students' perceptions of science before and after participation in P2H, their perceptions of what it means to be healthy, P2H components they shared with their families, ways they could be healthier and how they could help their families live healthier lives. In addition to the moderator, a note taker was present taking detailed notes on a laptop computer during the discussion. Each focus group also had a staff member from the participating school present.

Study limitations

These methods were selected to obtain information about the implementation and effect of P2H on teachers. However, it is important to note the limitations to each method and the impact on analysis. The survey was designed to gather pre- and post-data from the same individuals with the intent of conducting statistical analysis to determine the extent and significance of change in behavior and knowledge. While there were sufficient number of matched pre- and post-surveys to conduct analysis, there were many students who lacked a match due to limitations in data collection. As noted above, the evaluation plan was not approved in two of the four districts in time to pre-survey all students who participated in the P2H program, which impacted matched response rates. Additionally, different youth received different levels of treatment due to being absent or enrolling in the school later in the year, which can impact results. Finally, since the pre- and post-survey instruments are the same, there might also be test/re-test bias.

Additionally, focus groups are a specialized method to learn in-depth information from a small number of people and to provide a setting to clarify responses, probe for additional information and use group dynamics to further discussion. However, the information expressed in focus groups is derived from a small number of people who are not representative of the complete population, and results are not reflective of an entire population or community.

Finally, it is important to note that not everything is attributable to P2H, but rather could be a result of natural learning. However, by triangulating the analysis and controlling for variables through analysis, the role P2H had in achieving students' outcomes becomes clearer.

Analysis

Did the program increase health science content knowledge?

According to P2H program materials, the Museum's definition of health science is: the study and gaining of new knowledge of human biology, disease and wellness, and the application of these discoveries to your life. To determine if P2H increased students' health science content knowledge, students were asked questions about their knowledge of nutrition and body systems as well as if P2H affected the way they thought about science.

Knowledge of nutrition and body systems

Students were asked five multiple-choice questions to gauge their knowledge of nutrition and body systems on the pre- and post-surveys. Table 1 details the percentage of matched pre- and post-survey respondents who answered each question correctly. For all questions except one, there was a higher percentage of students who answered the questions correctly on the post-survey. It is worth noting that students scored high on the pre-surveys with more than 70% who were able to correctly answer three of the five questions on the pre-survey. The question with the biggest increase in correct responses dealt with the impact of physical activity on body systems, with more than 54% of students correctly identifying the body systems on the post-survey compared with 46% on the pre-survey.

Table 1: Students' Knowledge of Nutrition and Body Systems

Question	Pre-survey % correct	Post-survey % correct
Based on the Nutrition Facts label, does this food have no sugar, a little sugar or lots of sugar?	79.6%	77.8%
How much food does your body need?	15.0%	17.9%
Look at this picture, which shows some of the organs that can be found inside the human body. What is the main job of the organ with the arrow pointing to it?	74.1%	77.7%
In your body, what two organs work together to make sure that oxygen gets to all the other organs of your body?	74.8%	78.7%
Physical activity has an impact on which of the following body systems?	46.4%	53.4%

Attitudes toward science

Students were also asked on the pre- and post-surveys to indicate their level of agreement with statements about science on a scale where 1 = Not really, 2 = Kind of, and 3 = Yes. Table 2 below reflects the mean score and standard deviation of the matched pre- and post-survey respondents to each statement. A paired-samples t-test was conducted for each statement to evaluate the impact of P2H on students' thoughts about science. Two statements resulted in statistical significance using an alpha level of .05. There was a statistically significant increase in students' perceptions of the statement, "Science helps me understand more about me" (p < .001, and eta squared statistic of .04, indicating a moderate effect size.) This is the direction in which JVA would hope to see changes as a result of the program. The other statement with statistical significance, however, did not change in the direction JVA would hope. There was a statistically significant decrease in students' perceptions of the statement, "I am interested in learning about science" (p < .005 and eta squared statistic of .05). This result may be related to the timing of the survey, for example, the pre-survey was taken at the beginning of the year when students are excited to learn and the post-survey was taken at the end of the year when students may be tired of learning. However, while the results of the survey indicate a decrease in students' interest in learning science, other data collection results reveal that P2H helped make science more interesting.

Table 2: Students' Thoughts About Science

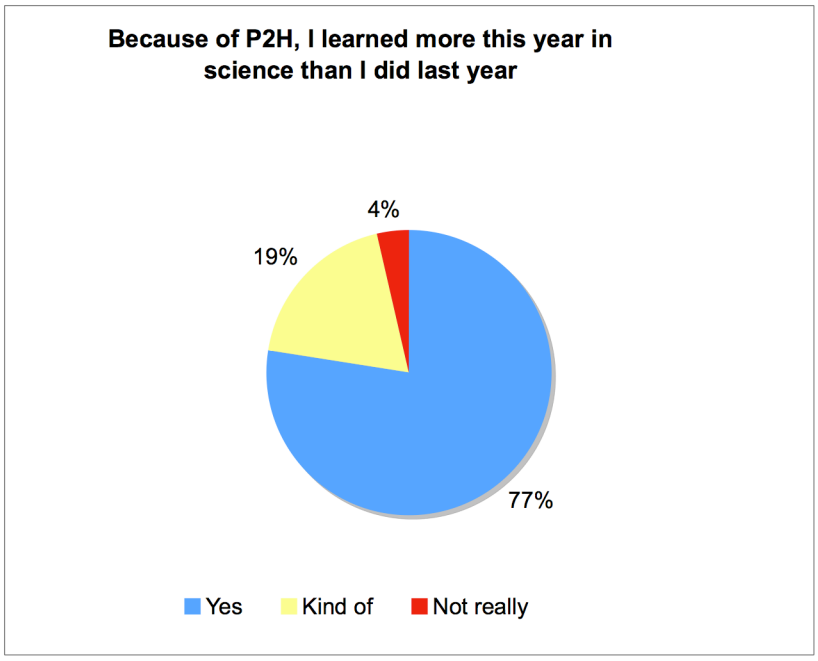
Question or statement from student pre- and post-survey	Pre-survey (*n* = 449)		Post-survey (*n* = 449)	
	Mean	SD*	Mean	SD
***I am interested in learning about science.*	2.83	0.41	2.71	0.52
***Science helps me understand more about me.*	2.57	0.61	2.70	0.55
When I am not at school, I still can use science.	2.45	0.71	2.49	0.72
I have fun learning science topics.	2.71	0.53	2.65	0.57

*Standard Deviation (SD) is a measure of variation of responses around the mean. The higher the standard deviation, the more variance there is in the responses.

**Difference between means is statistically significantly when using an alpha level of .05.

To help understand whether the program increased students' knowledge of health science, students on the post-survey only (*n* = 851) were asked whether they learned more this year in science than they did last year because of Passport to Health, using the same rating as above. As illustrated by Figure 1, 77% of students indicated that yes, because of P2H, they learned more this year in science than they did last year.

Figure 1: Role of Passport to Health on Learning Science



Finally, the student focus groups provided qualitative information to help answer this question. To determine if P2H increased students' health science content knowledge, students were first asked if P2H affected the way they thought about science. With very few exceptions, students responded that P2H had a positive effect on the way they thought about science. While responses were quite varied, the following themes occurred often and point to changes in the way students perceive science:

- **Experiential.** P2H was more hands-on and relied more on technology than traditional science classes, making it more interesting and engaging for students.
- **Cool and fun.** Because P2H was more experiential, it made learning science cool and fun.
- **Applicable.** P2H gave participants a better understanding of the way science relates to other things in their lives and other subjects in school.

Next, students were asked what was the most interesting/important thing they learned in P2H. For the most part, responses focused on the human body and physical activity:

- **Body/body systems.** Students learned more about how the body works, how body systems interact, how muscles and bones work, and what happens to us as we age.
- **Physical activity.** Participants learned why it is important to be physically active and how the body responds to exercise.

Overall, focus group data indicate that students participating in P2H found science to be more interesting and engaging this year, learned more about body systems and how the body works, and better understood how science affects them in real life. When students were asked what their favorite part of P2H was, common answers emphasized experiential components such as the laboratory in Expedition Health, yoga, dissection stations, videos and numerous activities, specifically the activity that allowed them to see their "insides" and how the body moves, the activity about lung capacity, and activities about analyzing heart and lung span.

Did the program increase recognition of the value of physical activity, healthy foods and healthy lifestyles?

Level of activity

To help understand students' activity level, both the pre- and post-surveys asked students to circle how many times in the last week they did something that made their heart beat faster and made them breathe hard. As illustrated in Table 3 below, the mean for the matched pre- and post-survey respondents was between five and six times in the last week for each group. A paired-samples t-test was conducted to evaluate the impact of P2H on students' activity, which indicated a statistically significant increase in activity level from the pre-survey to the post-survey (p = .005, eta squared statistic = .02). While the change is significant, it is important to note the effect size is small (.02), which suggests that although there is a difference between the two groups, the size of the difference is small.

Table 3: Students' Level of Activity

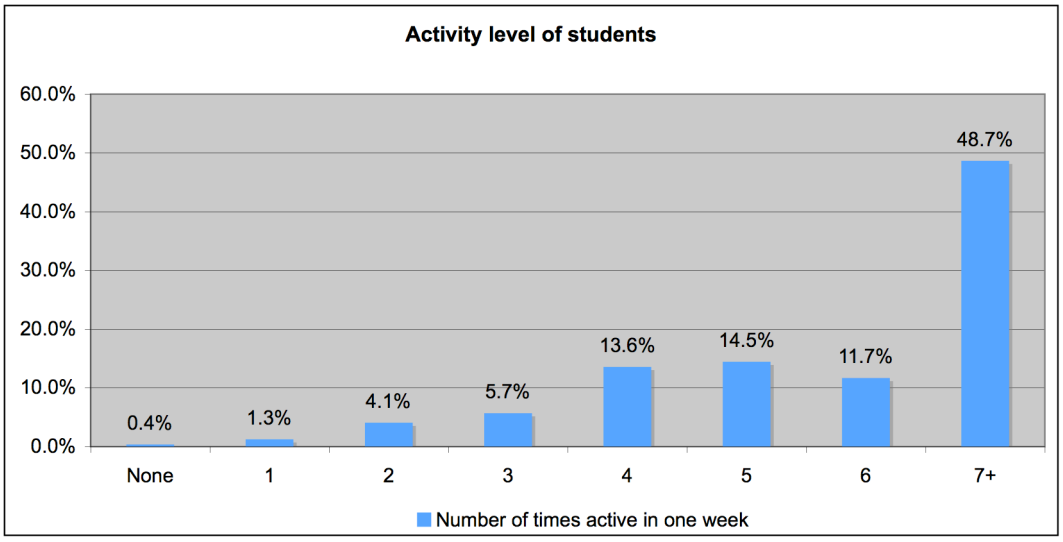
Question	Pre-survey (n = 441)		Post-survey (n = 441)	
	Mean	SD	Mean	SD
***How many times in the last week did you do something that made your heart beat faster and made you breathe hard (like swimming laps, running, playing soccer, playing tag, dancing, skating or anything else)?*	5.47	1.74	5.72	1.59

**Difference between means is statistically significantly when using an alpha level of .05.

Not all of the post-survey respondents were reflected in Table 3 above, because only those who had a matching pre-survey were included. Figure 2, below, captures the activity level of all post-survey respondents (n = 836). As illustrated by the figure, almost half of the post-survey

respondents participated seven or more times in some type of physical activity in the previous week.

Figure 2: All Post-survey Students' Level of Activity



Attitudes about physical activity

As noted in the methodology, half of the students responded to a set of questions on Survey A and the other half responded to questions on Survey B. The Survey B pre- and post-survey respondents were asked to indicate their level of agreement with three statements about physical activity on a scale where 1 = Not really, 2 = Kind of, and 3 = Yes. Table 4 presents the mean and standard deviation for both groups of matched-students. Once again, a paired-samples t-test was conducted to evaluate the change in students' perceptions of physical activity between the pre- and post-surveys. Two statements had statistical significance, "Doing physical activities helps keep me healthy", with a statistically significant increase in ratings between the pre- and post-surveys (p = .048, eta squared statistic = .02) and "I feel safe playing outdoors in my neighborhood," also with a statistically significant increase in ratings (p = .032, eta squared statistic = .02). While both tests indicate that the change did not occur by chance, this results should be used conservatively due to the p-values that were very close to the alpha level and a small effect sizes (.02 for both).

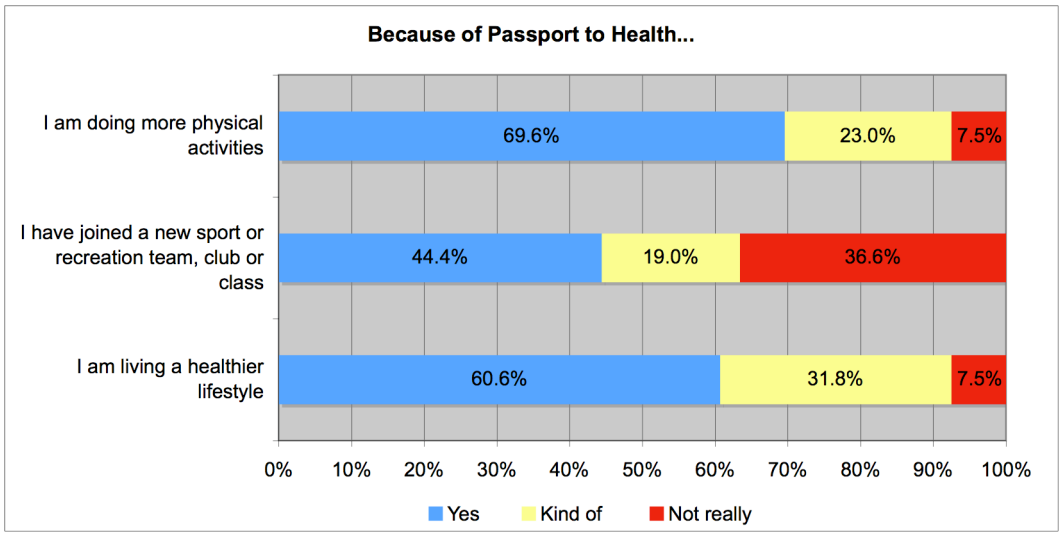
Table 4: Students' Thoughts About Physical Activity

Question or statement from pre- and post-survey	Pre-survey (n = 197)		Post-survey (n = 197)	
	Mean	SD	Mean	SD
It is important to do physical activities.	2.91	0.32	2.94	0.26
***Doing physical activities helps keep me healthy.*	2.91	0.37	2.96	0.19
I like doing physical activities.	2.83	0.39	2.84	0.38
***I feel safe playing outdoors in my neighborhood.*	2.51	0.67	2.63	0.57

**Difference between means is statistically significantly when using an alpha level of .05.

Finally, all students who participated in the post-survey were asked to respond to a series of statements about the role of P2H on their activity level and lifestyle using the same rating scale as above. Figure 3 illustrates the percentage of all post-survey students (*n* = 844) who responded to each statement and their ranking. Students had high perceptions of the P2H program based on their responses. Almost 70% of post-survey respondents indicated they are doing more physical activities because of P2H. Additionally, approximately 60% indicated they are living a healthier lifestyle.

Figure 4: Role of Passport to Health on Physical Activity



The student focus groups also provide insight into whether students understand what it means to be healthy and whether they are engaging in more physical activity since participating in P2H. When focus group participants were asked what it means to be healthy, an overwhelming majority of participants said that doing exercise or playing sports and eating healthy foods made you healthy. Other common responses included: not eating too much junk food, drinking lots of water, being skinny/not fat, eating lots of fruits/vegetables and not being sick. When students were asked why physical activity was important, responses included: it helps your bones, muscles and body; it increases your life span; it burns calories and makes you sweat; and it helps you think healthier and stay strong.

Additionally, when participants were asked if they had changed how physically active they were since P2H started, most students said they were doing more physical activity and one respondent said s/he now understands "why you need to do it more and what will happen if you don't."

Attitudes about eating healthy

The pre- and post-survey respondents who completed Survey A were also asked to rate their level of agreement with three statements about eating healthy, on the scale where 1 = Not really, 2 = Kind of and 3 = Yes. Table 5 details the means and standard deviations for each statement. Paired-sample t-tests showed only one statement was statistically significant, however, not in the anticipated direction. There was a statistically significant decrease in students' ratings of the statement "I like eating healthy foods" between the pre- and post-surveys ($p < .001$, eta squared statistic = .08). Similar to the discussion in a previous section, there are unanticipated outcomes that can result from the program. For instance, as a result of

P2H, students have a better understanding of what healthy foods are, which gives them more information to decide whether they like to eat them.

Table 5: Students' Attitudes Toward Healthy Foods

Question	Pre-survey (*n* = 201)		Post-survey (*n* = 201)	
	Mean	SD	Mean	SD
Eating healthy foods is important for my body.	2.96	0.20	2.97	0.21
***I like eating healthy foods.*	2.63	0.54	2.46	0.61
Healthy foods can taste good.	2.62	0.55	2.58	0.61

**Difference between means is statistically significantly when using an alpha level of .05.

Additionally, focus group participants were asked to reflect on examples of healthy food. Overall, students were more likely to name fruits and vegetables than anything else, but when asked specifically for healthy foods that are not fruits or vegetables, they provided examples such as: whole grain bread/pasta, beans, meat, yogurt, cheese, fish, peanut butter, enchiladas and tofu. These responses indicate that students are able to recognize healthy food choices. While students can recognize healthy foods, the bigger question, is whether students choose to implement this knowledge and live healthy lives. Based on their knowledge and understanding, students who participated in the focus groups were asked whether or not they were requesting different foods at home. Only a handful of focus group respondents said they were and they responded that they are asking for more fruits and vegetables, less sweets and for an overall healthier diet at home.

Did the program encourage students to advocate for healthy changes at home and help families make those changes?

Healthy eating

To help inform whether students are eating healthier as a result of P2H, students on the pre- and post-survey were asked whether they ate vegetables the previous day, with four possible response options, 0 = No, I didn't eat any vegetables, 1 = Yes, I ate vegetables 1 time, 2 = Yes, I ate vegetables 2 times, and 3 = Yes, I ate vegetables 3 times. The mean and standard deviation for the matched pre- and post-survey are detailed in Table 6 below, with both indicating that on average, students consumed vegetables one to two times a day. A paired-samples t-test was also conducted, which revealed there was a statistically significant increase in the amount of vegetables students' ate the previous day between the pre- and post-surveys (p = .038), however, with a small effect size (eta squared statistic = .01).

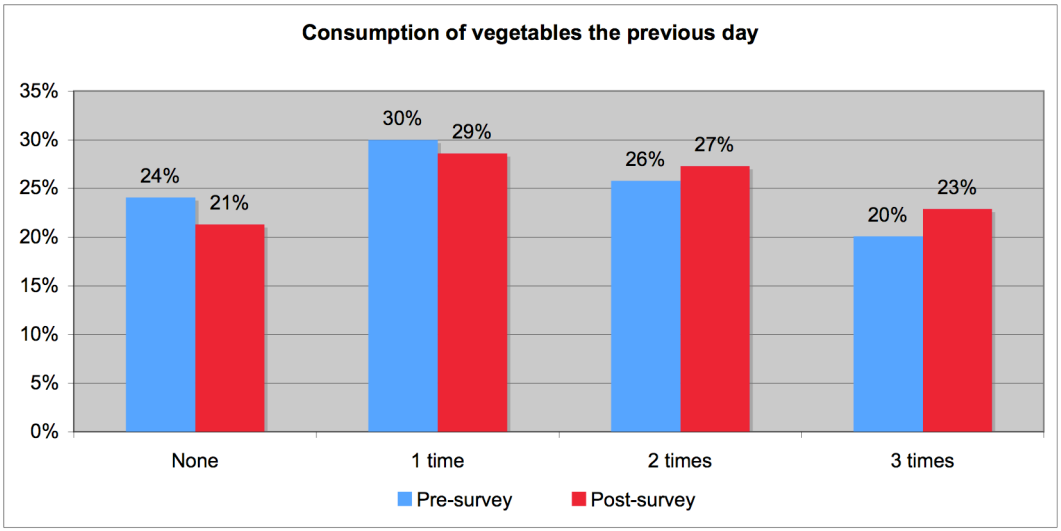
Table 6: Students' Consumption of Vegetables

Question	Pre-survey (*n* = 424)		Post-survey (*n* = 424)	
	Mean	SD	Mean	SD
***Yesterday, did you eat any vegetables?*	1.43	1.03	1.55	1.04

**Difference between means is statistically significantly when using an alpha level of .05.

Table 6 reflects only the mean responses for those individuals who took both the pre- and post-surveys. A look at responses for all students on both the pre-survey (*n* =721) and post-surveys (*n* = 840), in Figure 5 below, reveals the distribution of consumption of vegetables is relatively similar between both the pre- and post-survey respondents. Almost 80% of all students had eaten vegetables at least once the previous day, while slightly more than 20% did not have any vegetables.

Figure 5: All Students' Consumption of Vegetables



Family engagement in healthy eating and physical activity

Students who completed Survey A and Survey B were asked to rate their perceptions of how engaged their families are in eating healthy and engaging in physical activity on the previously mentioned scale of 1 to 3. Table 7 details the means and standard deviations for responses to each statement on the matched pre- and post-surveys. Average rankings were the highest for "I talk to my family about being healthy," with a mean response of 2.91 out of 3 on the pre-survey and 2.96 on the post-survey. The statement with the lowest rating was "I do physical activities with my family," with a pre-survey mean of 2.32 and a post-survey mean of 2.28. A paired-samples t-test was conducted for each statement, with no statements showing a statistically significant difference.

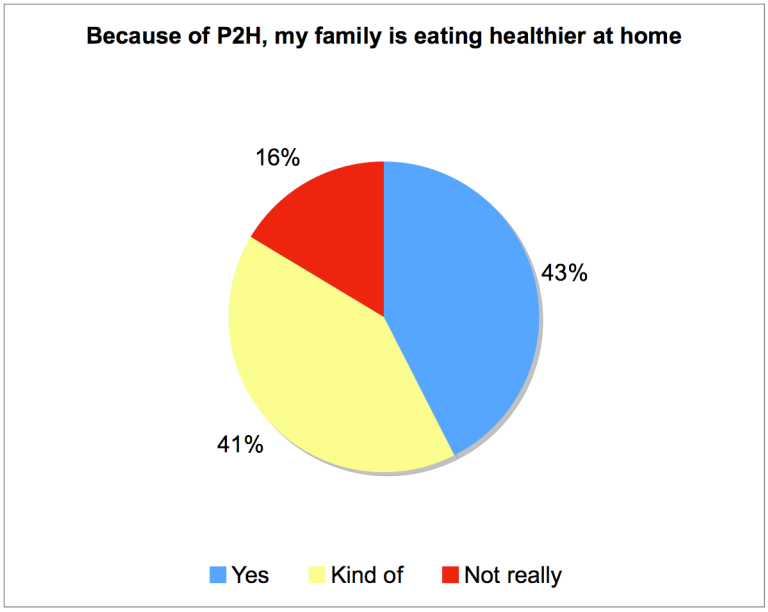
Table 7: Family engagement in healthy lifestyles

Question	Pre-survey (*n* = 197)		Post-survey (*n* = 197)	
	Mean	SD	Mean	SD
I talk to my family about being healthy.	2.91	0.37	2.96	0.19
My family encourages me to eat healthy.	2.59	0.64	2.61	0.64
My family encourages me to be active.	2.78	0.48	2.79	0.52
My family encourages me to do physical activity.	2.55	0.69	2.60	0.62

Question	Pre-survey (*n* = 197)		Post-survey (*n* = 197)	
	Mean	SD	Mean	SD
I do physical activities with my family.	2.32	0.70	2.28	0.75

Finally, students on the post-survey (*n* = 847) were asked to rate whether their families are eating healthier at home because of Passport to Health. Figure 6 reflects that 43% of students indicated their families are eating healthier at home because of P2H.

Figure 6: Role of Passport to Health on Eating Healthy at Home



Additionally, focus group data indicate that students were very likely to talk with their parents/families about things they learned or enjoyed in P2H. The most common elements or pieces of information that students shared with their families are, in order of frequency: the importance of exercise/sports, healthy food/nutrition, how to be healthier, the human body, why it's important to read nutrition labels and that P2H is fun/cool/interesting. Several students also noted that their favorite thing about P2H was the opportunity to show their families around at Family Health Day, and to help their families get excited about science, health and the human body.

While students were more likely to discuss or advocate for an increase in physical activity at home, several students mentioned that they were asking their families for different, healthier food options. In addition, numerous students felt that the most important change at home was that their families were now eating more fruits and vegetables, and were eating healthier overall. A couple of students said their families were less likely to fry food in lots of oil than they were before participation in P2H.

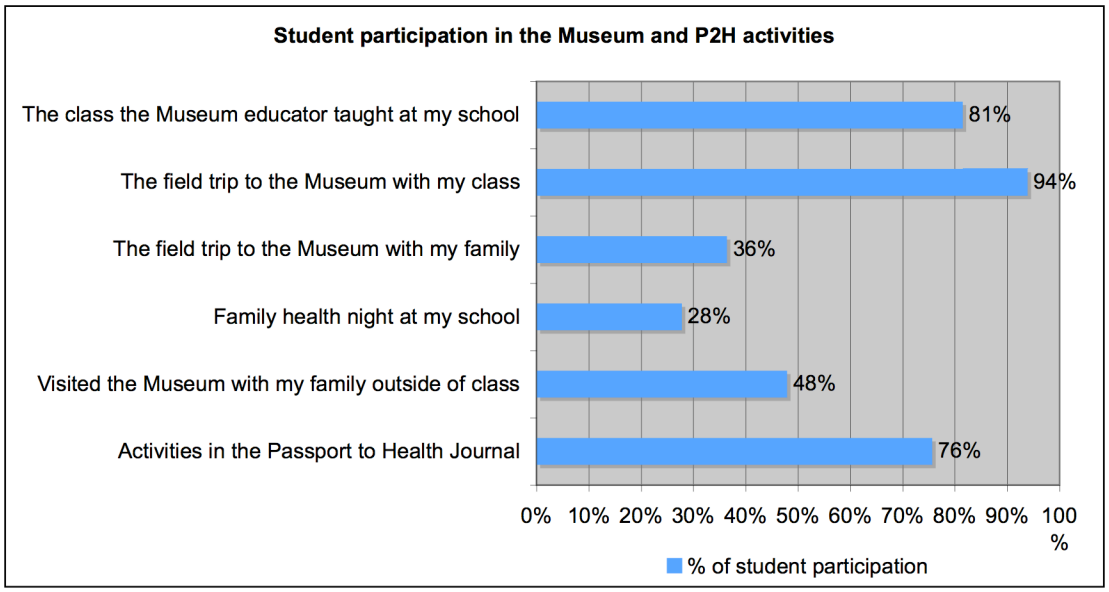
According to focus group participants, families of P2H students are making important changes in their lives because of what students are learning in P2H. In addition to the food changes noted above, students said their families were exercising more and doing more things together. While most students said their families were making changes for the better and that families had been very supportive of the information students brought home about health/nutrition/physical

activity, P2H participants did offer suggestions for things their families could do to be even healthier. While responses were quite varied, the most common was that families could engage in more physical activity. Following this suggestion, students said their families could watch less TV/spend less time at the computer, go outside more, eat less junk food and continue to cook healthier foods.

Museum activities

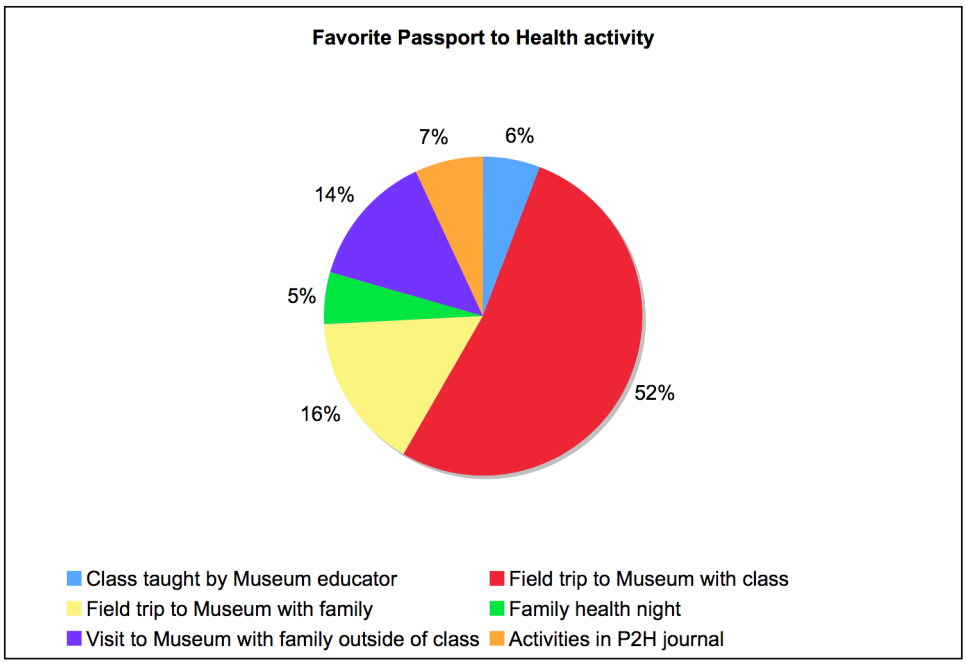
The post-survey asked students to identify the Museum and P2H activities they participated in during the year. Figure 7 reflects the percentage of post-survey respondents (*n* = 848) who participated in each activity. The activity that had the highest level of participation was the field trip to the Museum, followed by the class taught by the Museum educator at their schools.

Figure 7: Participation in the Museum and Passport to Health Activities



Students were also asked to identify the one activity that was their favorite. As Figure 8 illustrates, 52% of post-survey students who answered this question (*n* = 608) liked the field trip to the Museum with their class the best, followed by field trip to the Museum with their family.

Figure 8: Favorite Passport to Health activity



Finally, focus group participants were asked what they would change to make P2H even better. While students reported overwhelmingly positive experiences with P2H, suggestions in the following areas were offered:

- **Program materials:** Add more activities to the Journal, including a breakfast food log to help us track what we eat, and consider making another exhibit
- **Curriculum:** Include more information about the digestive system and more dissection, and clarify the purpose of the bat activity, which one student said: “didn’t encourage me to be more active, just to move my arms”
- **Activities:** Give us more time at Museum for field trips, do some of the activities outside, and make the activity rooms in the Museum more visible so families know where to go

Conclusion

The student surveys and focus groups provide insight into the knowledge, attitude and actions of students and help the Museum understand how it is meeting its student outcomes as well as areas for continued growth.

Did the program increase health science content knowledge?

There are a number of indicators that help the Museum answer this question.

- The percentage of students who correctly answered questions on the student survey about the body and body systems increased from the pre- to post-survey.
- On pre- and post-surveys, students were asked if they thought that science helped them understand more about themselves. On a three-point scale where 1 = Not really, 2 = Kind of and 3 = Yes, analysis revealed a statistically significant increase in student perceptions from the pre-survey where the mean score was 2.57 to the post-survey, where the mean was 2.70.
- When asked on the post-survey whether, as a result of P2H, students learned more in science this year than they did last year, 77% of students indicated that yes, they learned more in science this year because of P2H.
- Student focus group participants were asked what was the most interesting or important thing they learned in P2H. Numerous students said that learning how the body works, how systems interact, how bones and muscles work, and what happens to our body as we age were the most interesting things they learned.

Areas for growth or improvement

- Focus groups respondents indicated that they found science to be more interesting and engaging during the 2009–2010 school year than in past years, noting they appreciated the experiential nature of P2H, they found science to be more fun this year and P2H gave them a better understanding of the way science relates to other things in their lives and other subjects in school. Survey results, however, indicated a decrease in average student perceptions of whether they are interested in learning about science. These results may be related to the timing of the survey, for example, the pre-survey was taken at the beginning of the year when students are excited to learn and the post-survey was taken at the end of the year when students may be tired of learning. However, the Museum can explore ways to address this dichotomy by not only making P2H interesting, but also encouraging overall interest in science.

Did the program increase recognition of the value of physical activity, healthy foods and healthy lifestyles?

The following results help answer this question:

- According to the pre- and post-survey data, there was a statistically significant increase in the number of times students engaged in something that made their heart beat faster and made them breathe hard in the last week. Additionally, almost 50% of all post-survey respondents indicated that they were active seven or more times in the previous week.

- Seventy percent of post-survey student respondents indicated they are doing more physical activities as a result of P2H and approximately 60% indicated they are living a healthier lifestyle. Supporting these findings, focus groups respondents indicated they were doing more physical activity as a result of P2H because they now have a better understanding of what happens to your body when you are not active.
- There was a statistically significant increase in students' perceptions of the statement *Doing physical activities helps keep me healthy* between the pre- and post-surveys.

Areas for growth or improvement

- Based on surveys and focus groups, students are indicating an increased understanding of the value of physical activity. The Museum can continue its efforts to educate students about fitness and how it impacts health and well-being.

Did the program encourage students to advocate for healthy changes at home and help families make those changes?

The following information helps address this question:

- The average rating by pre- and post-survey respondents to the statement, *Eating healthy foods is important for my body,* was very high with pre- and post- means of 2.97 and 2.96 out of 3, indicating a high level of knowledge about the importance of eating healthy. However, when asked to rate the statement, *I like eating healthy foods,* analysis revealed a statistically significant decrease in student perceptions between the pre- and post-survey, with pre- and post- means of 2.63 and 2.46. While students understand the importance of eating healthy, they do not necessarily *like* eating healthy.
- Forty-three percent of post-survey respondents indicated their families are eating healthier at home because of P2H. However, when focus group participants were asked whether they were requesting different foods at home, only a handful of respondents said they were asking for more fruits and vegetables, less sweets and for an overall healthier diet at home.
- Focus group participants indicated they are likely to talk with their parents/families about things they learned in P2H, including the importance of exercise, healthy food, how to be healthier and the human body. Additionally, on the pre- and post-surveys, students rated the statement, *I talk to my family about being healthy,* very high with means of 2.91 and 2.96 on the pre- and post-surveys, respectively.

Areas for growth or improvement

- While data reflects students are talking with their families more about food, physical activity and healthy lifestyles, it is not entirely clear whether families are making changes based on the discussion. The Museum should continue to explore how to expand the reach of P2H to the family.

DENVER MUSEUM OF NATURE & SCIENCE

Appendix II: Passport to Health Year 2 Teacher Report

Summary of Surveys and Interviews

Submitted July 2, 2010 By:

JVA CONSULTING, LLC
partners in community and social change

Introduction

In 2009, the Denver Museum of Nature & Science (Museum) began implementing the Passport to Health program (P2H), a three-year program designed by the Museum to help improve health outcomes for fifth-grade students as well as their families and teachers at 30 low-income schools in the Denver metro area. The Museum contracted with JVA Consulting, LLC (JVA) to conduct a comprehensive evaluation of P2H, including two key components: a process evaluation to examine the program design and implementation, and an outcomes evaluation to measure the program's abilities to meet its overall objectives. This report helps inform the outcomes evaluation by providing insight into the effects of the program on teachers. It also provides insights from the teachers' perspectives about how the program affected students and their families.

Through P2H, teachers received health science curriculum support from the Museum education and outreach teams and were exposed to professional development through the teacher workshop and continuing education programs, such as Webinars and access to the online community page and online curriculum guides. By implementing the program components and achieving the desired outputs, the Museum hopes that teachers will achieve the following outcomes:

1. Increase their health science content knowledge
2. Better understand the implications of the benefits from student involvement in physical activities
3. Increase use of the Museum's resources with their students

This report aims to answer the following three questions, which relate to teachers:

- *Did the program increase health science content instruction and knowledge?*
- *Did the program increase recognition of the value of physical activity, healthy foods and healthy lifestyles?*
- *Did the program increase teachers' use of Museum resources*

Methodology

JVA, in coordination with the Museum, utilized a mixed-methods approach to collect quantitative and qualitative data from teachers to inform the evaluation. The following methods were utilized in the teacher evaluation:

Pre- and post-surveys

JVA administered pre-surveys to teachers at the teacher workshop held on June 4, 2009, prior to the start of the program and collected a total of 57 pre-surveys. Of the pre-survey respondents, 41 indicated they taught fifth grade last year, and 39 had taught health science content before. Additionally, the average number of years respondents had been a teacher was 10.4 (median of 7.5), and the average number of years they had taught fifth grade was 5 (median of 3.0).

JVA also administered a post-survey to teachers in spring of 2010, once all program components had been completed, and collected a total of 53 post-surveys. Of the post-survey respondents, 36 respondents had taught fifth grade last year. The average number of years

post-survey respondents had been a teacher was 8.7 years (median = 5.5) and the average number of years they had taught fifth grade was 4.5 (median = 3).

Individual interviews

In order to provide more detailed feedback and recommendations to the Museum, JVA conducted individual interviews via telephone with 13 P2H teachers from four districts in May and June 2010.

Study limitations

These methods were selected to obtain information about the implementation and effect of P2H on teachers. However, it is important to note the limitations to each method and the impact on analysis. First, the survey was designed to gather pre- and post-data from the same individuals with the intent of conducting statistical analysis to determine the extent and significance of change in behavior and knowledge. Unfortunately, however, there was an insufficient number of respondents who answered both the pre- and the post-surveys to conduct this analysis. Therefore, when presenting findings for questions that appear on both the pre- and post-surveys, it is important to keep in mind the results are a snapshot of two distinct groups of individuals at two different points in time.

Additionally, the majority of pre-surveys were administered at the teacher workshop in June 2009, which was open to fifth grade teachers and specials teachers, such as physical education, and math and science facilitators. As such, pre-survey respondents were not isolated to simply fifth-grade teachers, which may influence the pre-survey results. The post-survey, on the other hand, was administered primarily to fifth-grade teachers at each of the four districts at the completion of all program components. However, in some of the districts, fifth-grade teachers teach in teams, with some facilitating science lessons and some facilitating other subjects such as English.

JVA plans to work with the Museum in Year 3 to streamline the process for administering the pre- and post-surveys in order to increase the number of pre- and post-surveys that can be matched to achieve more consistent results and conduct additional statistical analysis.

Finally, interviews provide a forum to learn rich information from individuals. However, it is important to keep in mind that the findings from interviews represent the unique situations and perspectives of only those individuals who participated.

Analysis

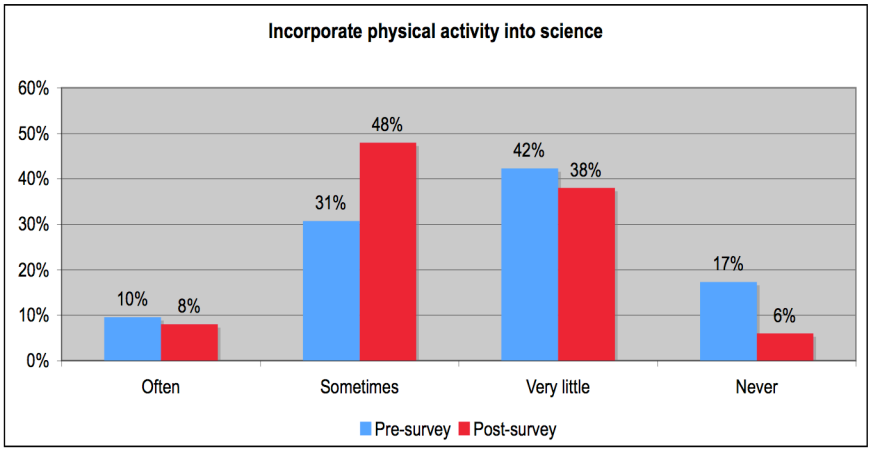
Did the program increase health science content instruction and knowledge?

Lesson plans utilizing health science concepts

Both the pre- and post-surveys included a series of general questions to learn whether teachers incorporated physical fitness and nutrition into science lessons as well as whether they incorporated health science concepts into lessons outside of science. As previously mentioned, due to the low number of survey respondents who took both the pre- and post-surveys, it is not possible to determine the extent of change among respondents before and after engaging in P2H. However, results from each survey were analyzed in order to understand trends from each group of respondents.

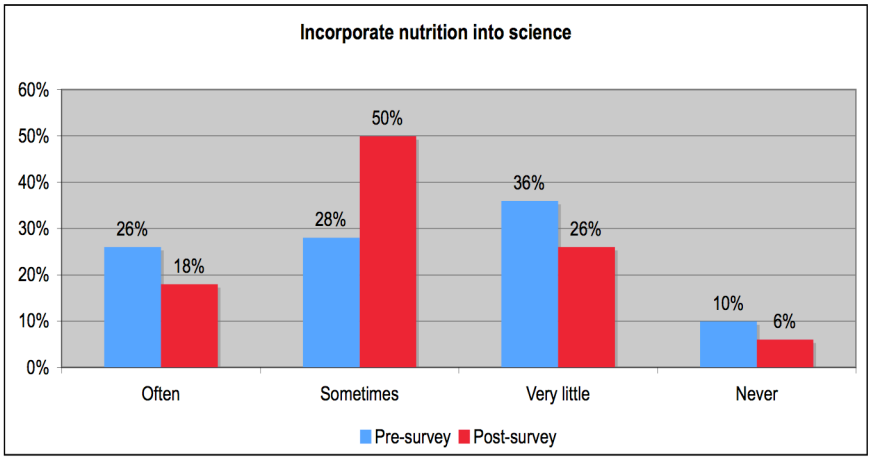
Respondents were asked how often they incorporated **physical fitness** into science lessons in the previous and current school years, on the pre- and post-surveys, respectively. As illustrated by Figure 1, 41% of respondents from the pre-survey group and 56% of respondents from the post-survey group "Often" or "Sometimes" incorporated physical fitness into science lessons compared with 59% and 44% of pre- and post-survey respondents, respectively, that either incorporated physical activity "Very little" or "Never" into their science lessons.

Figure 1: Percentage and Frequency of Respondents Who Incorporated Physical Fitness into Science Lessons



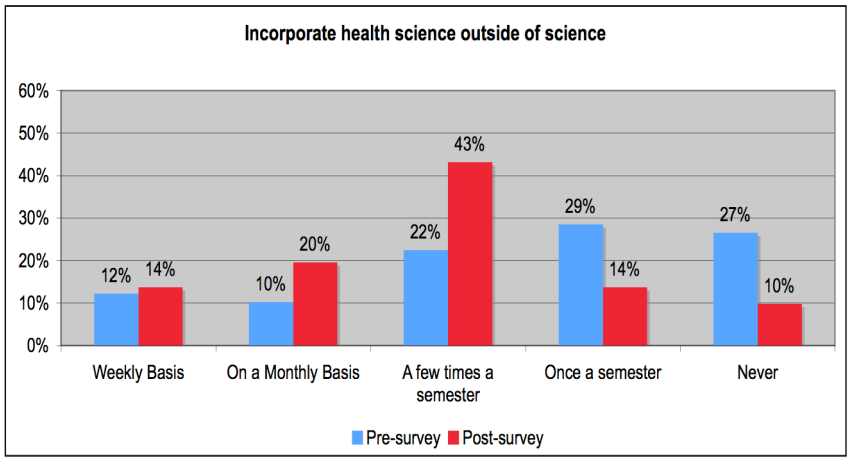
Similarly, teachers were asked how often they incorporated **nutrition** into science lessons during the previous and current school years on the pre- and post-surveys, respectively. Figure 2 reveals that 54% of pre-survey respondents and 68% of post-survey respondents incorporated nutrition "Often" or "Sometimes," compared with 46% and 32% of pre- and post-survey respondents, respectively, that incorporated nutrition "Very little" or "Never."

Figure 2: Percentage and Frequency of Respondents who Incorporated Nutrition Into Science Lessons



Finally, teachers were asked how often they incorporated health science concepts into lessons outside of science (such as in math or literature lessons) during the previous and current school years on the pre- and post-surveys, respectively. Figure 3 details the results of both groups of respondents. A higher percentage of post-survey respondents incorporated health science concepts into non-science lessons on a weekly basis, on a monthly basis and a few times a semester than the pre-survey respondents. Additionally, 27% of pre-survey respondents never incorporated health science concepts into non-science lessons compared with only 10% of the post-survey respondents.

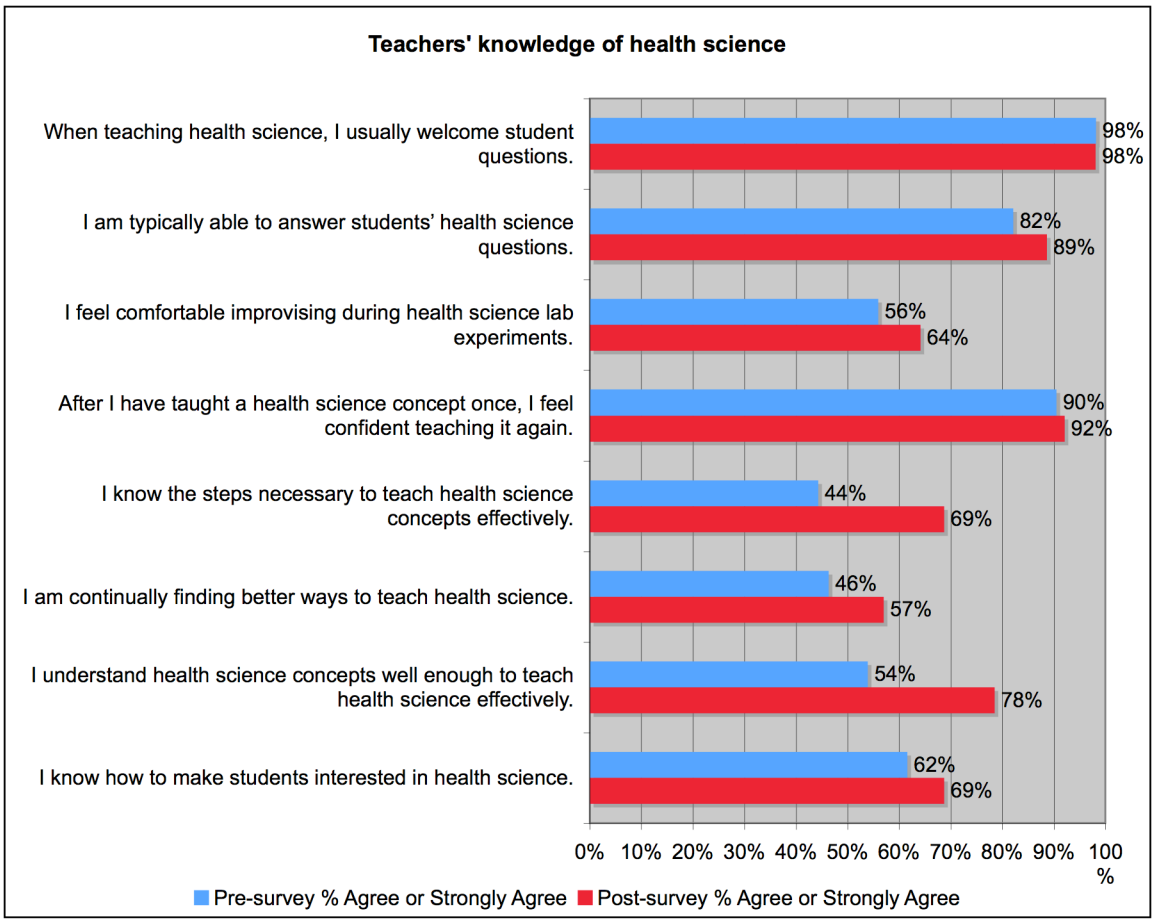
Figure 3: Percentage and Frequency of Respondents Who Incorporated Health Science Concepts Into Lessons Outside of Science



Knowledge and teaching efficacy

Teachers were asked on both the pre- and post-surveys to indicate the extent to which they agree or disagree with a series of statements dealing with concepts focused on science-related teaching and knowledge.[3] Once again, as previously noted, it is important to understand the results of the pre- and post-surveys illustrate the opinions of two groups of individuals and two different points in time. Figure 4 illustrates the percentage of respondents who agree or strongly agree with statements pertaining to knowledge efficacy. As illustrated, both groups had high percentages of respondents who agreed or strongly agreed that they welcome questions, and once they have taught a health science concept one time, they feel confident teaching it again. There were a few areas where the groups rated differently; specifically, there was a higher percentage of post-survey respondents who know the steps to teach health science concepts effectively as well as understand health science concepts well enough to teach them effectively.

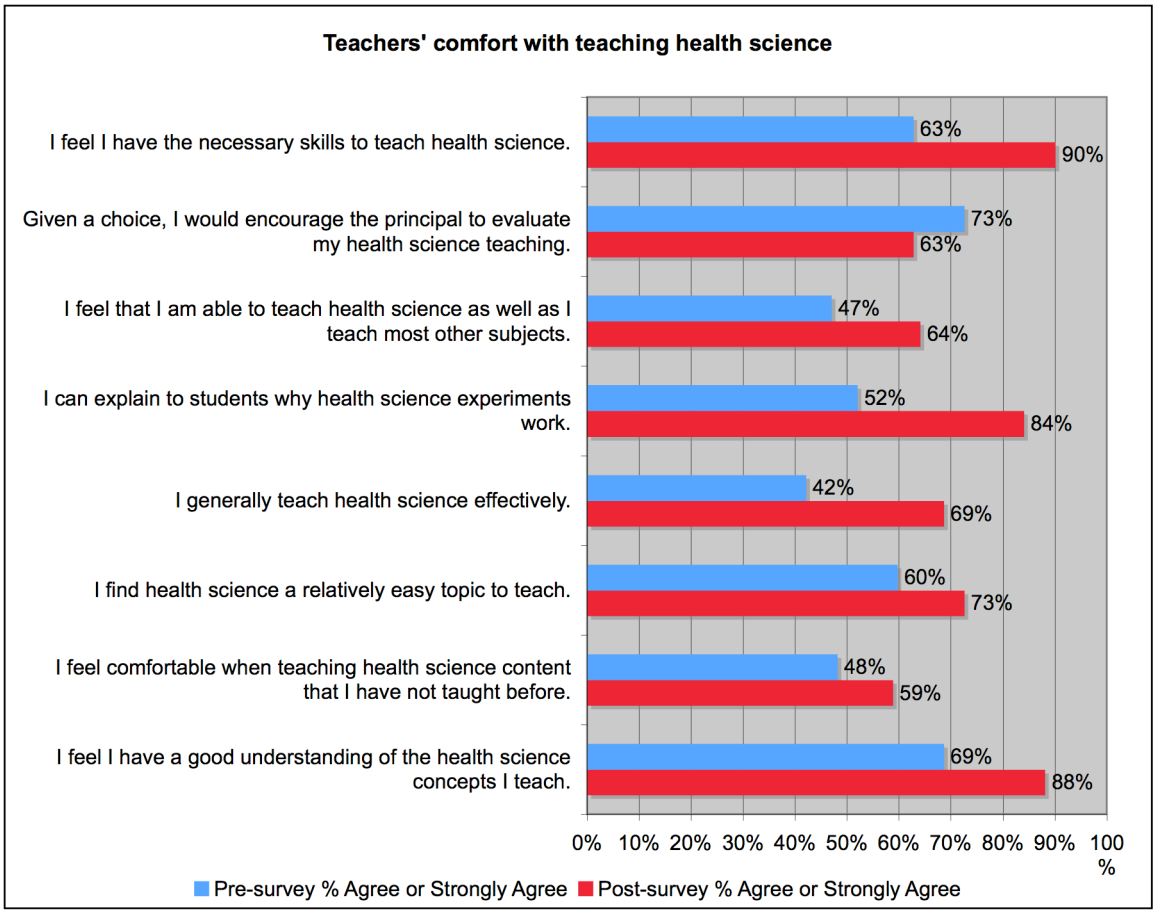
Figure 4: Teaches' Knowledge of Health Science



[3] Questions taken from the SETAKIST survey published in: Roberts, Kyle and Henson, Robin K., "Self-Efficacy Teaching and Knowledge Instrument for Science Teachers (SETAKIST): A Proposal for New Efficacy Instrument." Presented at the Annual Meeting of the Mid-South Educational Research Association (28th, Bowling Green, KY, November 17-19, 2000).

Figure 5 illustrates survey respondents level of agreement with statements pertaining to teaching efficacy. There were a number of areas that the post-survey group had higher levels of agreement than the pre-survey group of respondents, most notably a higher percentage of post-survey respondents agree or strongly agree that they can explain why health science experiments work, as well as that they teach health science effectively.

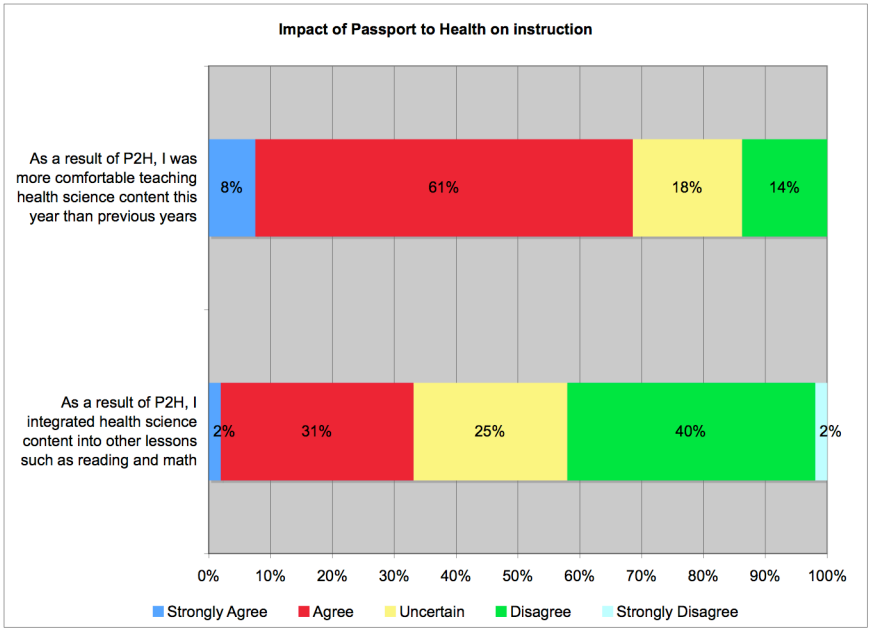
Figure 5: Teachers' Confidence to Teach Health Science



Impact of Passport to Health on instruction

Through P2H, the Museum sought to increase health science content knowledge among teachers. To better understand how P2H impacted teachers' instruction, the post-survey only included questions about teachers' integration of health science content into non-science lessons as well as their comfort level with teaching health science as a result of the program. As Figure 6 illustrates, 69% of post-survey respondents agreed or strongly agreed that they were more comfortable teaching health science content this year than in previous years, as a result of P2H. Additionally, 33% of post-survey respondents agreed or strongly agreed that as a result of P2H, they integrated health science content into other lessons such as reading and math, although 42% disagreed or strongly disagreed with this statement.

Figure 6: Impact of Passport to Health on Instruction

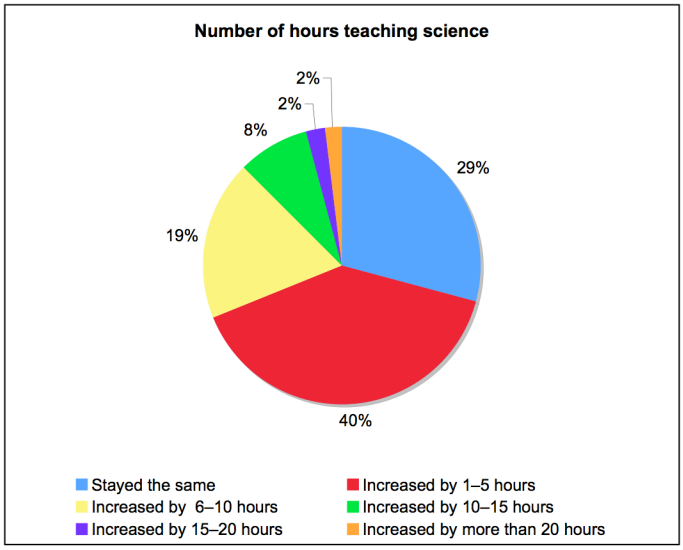


Interview respondents were also asked whether they were able to integrate health science into their non-science teaching and whether it gave them more confidence to teach it. Responses were mixed among interviewees when asked whether they were able to integrate health science into their non-science teaching, with half indicating they integrated it into other lessons and half indicating they did not. However, both those interviewees who had integrated it and those who had not had positive comments about the P2H material, noting that it integrated well with curriculum about the human body and nutrition (*n* = 4*)* and provided good materials such as visuals, videos and pedometers (*n* = 4).

Interview respondents also had positive feedback when asked whether P2H gave them more confidence in their abilities to teach health science. Three interviewees specifically noted that it provided them with different approaches to teach science and explain complex processes as well as with friendly activities that were easy for students to understand. Two interviewees also indicated they liked the field trip to the Museum and the Expedition Health exhibit.

Finally, the post-survey asked teachers whether the number of hours they spent on teaching or focusing on science curriculum changed as a result of P2H. As illustrated by Figure 7 below, 71% of respondents indicated the number of hours they spent teaching science curriculum increased, with 40% of those indicating an increase of one to five hours.

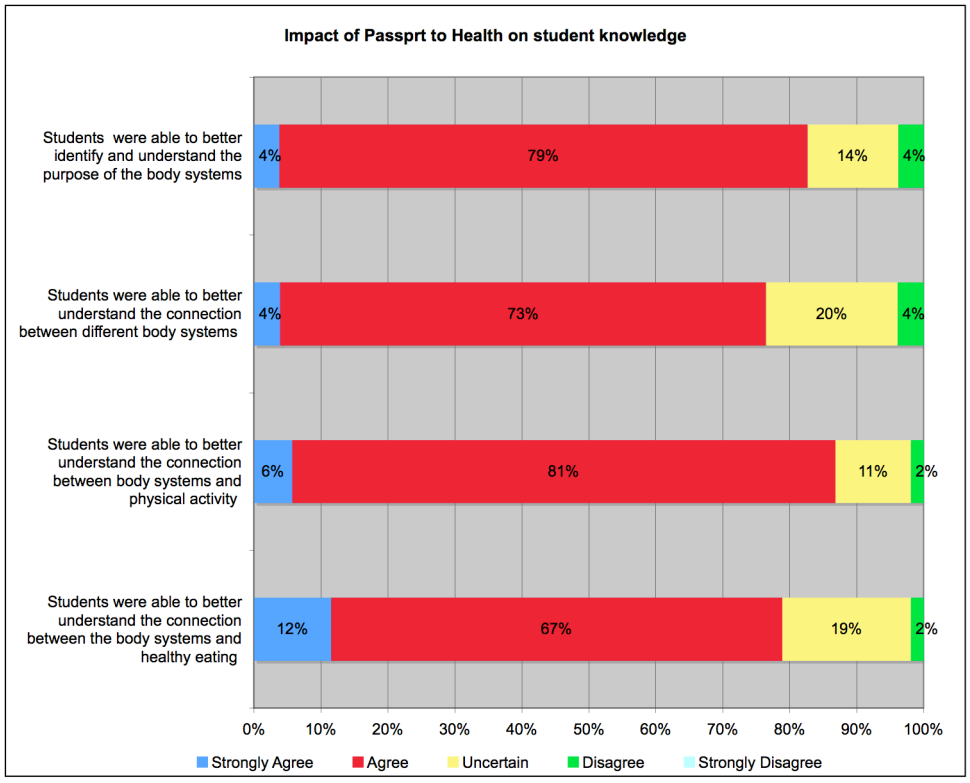
Figure 7: Change in Number of Hours Teaching Science



Impact of Passport to Health on students' understanding of health science concepts

To better understand the impact of P2H on teacher instruction and student knowledge, teachers were asked on the post-survey whether students who participated in P2H had a better understanding of body systems and healthy eating compared with similar groups of students. To gauge this, teachers were asked how strongly they agreed or disagreed with a series of statements. As illustrated by Figure 8, a very high percentage of teachers agreed or strongly agreed with each statement about the level of knowledge of students who participated in P2H this year compared with similar groups of students the teachers had taught this content to. For example, 87% of teachers agreed or strongly agreed that students who participated in P2H were able to better understand the connection between body systems and physical activity than other groups of students their age.

Figure 8: Impact of Passport to Health on Student Knowledge



Interview respondents were also asked how P2H affected their students, specifically whether it impacted their physical activity, nutrition or approach to science. Sixty-three percent (*n* = 5) of interview respondents indicated that students increased their physical activity as a result of P2H, 25% (*n* = 2) didn't know and 12.5% (*n* = 1) didn't see a change in physical activity. Additionally, two interviewees thought their students had a different attitude toward exercise and better understood the importance of it, and five interviewees specifically noted the pedometer as a useful tool to encourage physical activity.

Interview respondents, however, were not as positive when asked whether students were making changes in the foods they eat. Forty-six percent (*n* = 6) of interview respondents said they did not see a change in nutrition, noting many students are constrained to choices due to being on free and reduced priced lunch or because they are limited based on what their families eat, and 23% (*n* = 3) of interview respondents were unsure whether students had changed their eating habits or if a change could be attributed to P2H. However, 31% (*n* = 4) found that students had a better understanding of healthy eating, food decision, and the link between food and energy.

When asked whether P2H affected the way their students approached science, 75% *(n* = 6) of interview respondents indicated students were more interested in science, the human body or being healthier and that it helped them think about science in a different way. The other 25% (*n* = 2) said their students were already interested in science. Finally, the majority (77%) of interview respondents thought their students were better able to identify body systems due to P2H, particularly when it was connected to other curriculum.

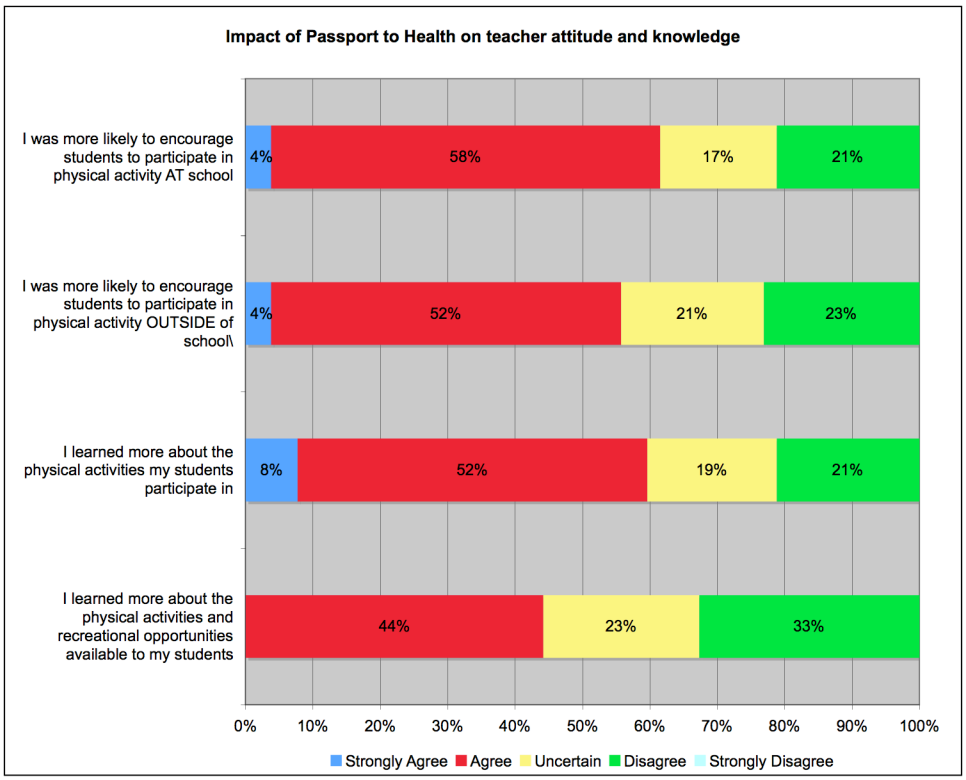
Did the program increase recognition of the value of physical activity, healthy foods and healthy lifestyles?

The Museum also hopes that teachers will better understand the implications of the benefits from student involvement in physical activities. The pre- and post-surveys asked a series of questions to learn how often teachers encourage physical activity as well as to determine their knowledge of physical activities and resources available to students.

Impact of Passport to Health on teachers' attitude and knowledge

The post-survey asked teachers to rate their level of agreement with a series of statements to better understand whether they were more likely to encourage physical activity as a result of P2H. It also included similar statements to learn whether as a result of P2H they learned about physical activities and resources available to students and whether their students participated in them. According to data in Figure 9, 62% of teachers agreed or strongly agreed they were more likely to encourage students to participate in physical activity at school and 56% agreed or strongly agreed they were more likely to encourage physical activity outside of school as a result of P2H. Sixty percent of post-survey respondents also agreed or strongly agreed they learned more about the physical activities their students participate in this year as a result of P2H, although only 44% agreed they learned more about physical activities and recreational opportunities available to their students as a result of the program.

Figure 9: Impact of Passport to Health on Teacher Attitude and Knowledge



Additionally, teachers on both the pre-survey and post-survey were asked to rate how important it is for their students to participate in physical activity on a scale of 1 to 5, where 1 = Not important and 5 = Very important. The average rating for respondents on the pre-survey was

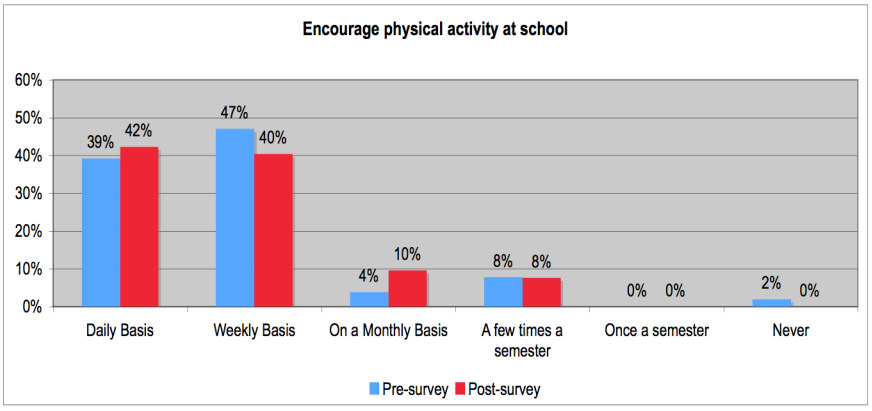
4.52 and the average rating for respondents on the post-survey was 4.82, reflecting that the average rating for both groups of respondents was important to very important.

Encouragement of physical activity and student use of resources

The pre- and post-surveys included a series of questions to learn how often teachers encourage students to participate in physical activity and their level of knowledge about resources available to students outside of school. Once again, due to the low number of survey respondents who took both the pre- and post-surveys, it is not possible to determine the extent of change among respondents before and after engaging in the P2H program, although results from each survey can help understand trends from each group of respondents.

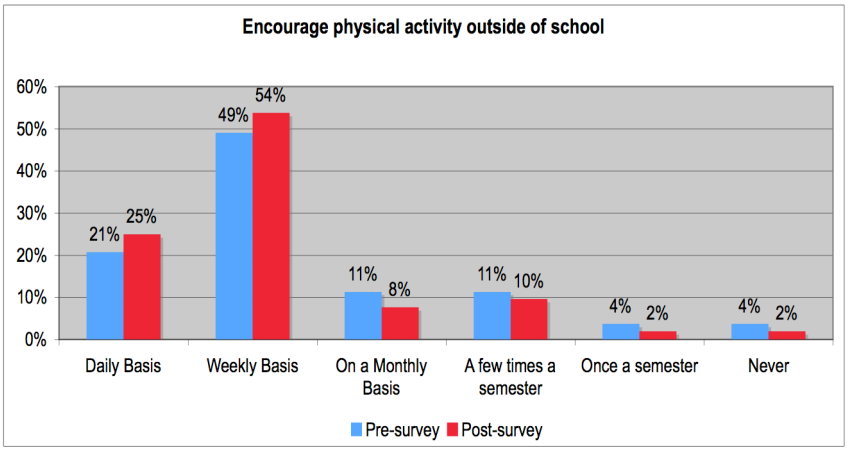
The pre-survey and post-survey asked teachers to indicate in the previous and current school years, respectively, how often they encouraged students to participate in **physical activity at school**. Figure 10 illustrates the percentage of respondents who replied to each frequency category. Thirty-nine percent of pre-survey respondents and 42% of post-survey respondents encouraged their students on a daily basis to participate in physical activity at school, and 47% and 40% of pre- and post-survey respondents, respectively, encouraged students on a weekly basis.

Figure 10: Percent and Frequency of Respondents Who Encouraged Physical Activity AT School



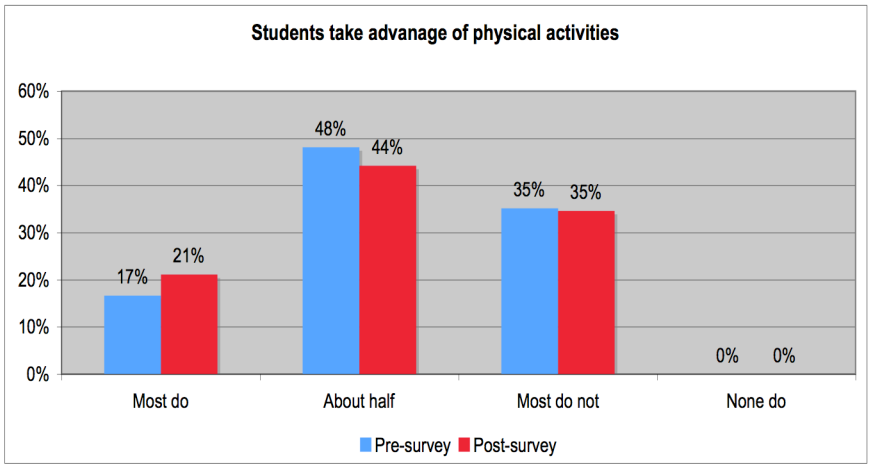
Similarly, teachers were asked on the pre- and post-surveys to indicate in the previous and current school years, respectively, how often they encouraged students to participate in **physical activity outside of school**. Figure 11 illustrates the percentage of respondents who replied to each frequency category. As illustrated, 21% of pre-survey respondents and 25% of post-survey respondents encouraged their students to participate in physical activity outside of school on a daily basis, while 49% and 54% of pre- and post-survey respondents, respectively, encouraged students on a weekly basis.

Figure 11: Percent and Frequency of Respondents Who Encouraged Physical Activity OUTSIDE of School



Teachers were also asked in both surveys whether they thought students at their schools take advantage of physical activities and resources (such as parks or recreation centers) outside of school that are available to them. Figure 12 illustrates the percentage of teachers who think their students take advantage of physical activities. As illustrated, 48% of the pre-survey respondents and 44% of the post-survey respondents think that only about half of the students take advantage of resources outside of school. Additionally, 35% of both pre- and post-survey respondents think that most students do not take advantage of these resources.

Figure 12: Percent of Respondents Who Think Students Engage in Physical Activities Outside of School



Finally, teachers were asked to rate their knowledge of physical activities and resources available to students outside of school on both surveys on a scale of 1 to 5, where 1 = Non-existent and 5 = Extensive. The average rating among teachers on the pre-survey was 3.0. The average rating among teachers on the post-survey was 3.31. Both groups of teachers rated their level of knowledge of physical activities and resources available to students outside of school mid-way between non-existent and extensive.

Did the program increase teachers' use of Museum resources?

Overall use of the Museum and Passport to Health resources

The Museum provides resources for teachers at the Museum and on its Web site. On the pre-survey, teachers were asked whether they had used museum resources in the previous two years. Additionally, post-survey respondents were asked whether they had used museum resources outside of their association with P2H. Table 1 details the percent of respondents from both the pre-survey and post-survey groups who had used the museum resources. As reflected in the table, it is inconsistent which group used museum resources more. The post-survey group had a higher percentage of respondents who visited the Museum on their own time, and who used online guides, pre-visit activities and post-visit activities than the pre-survey group, whereas the pre-survey group had a higher percentage of respondents who visited the Museum with class and used professional development and exhibit activity guides.

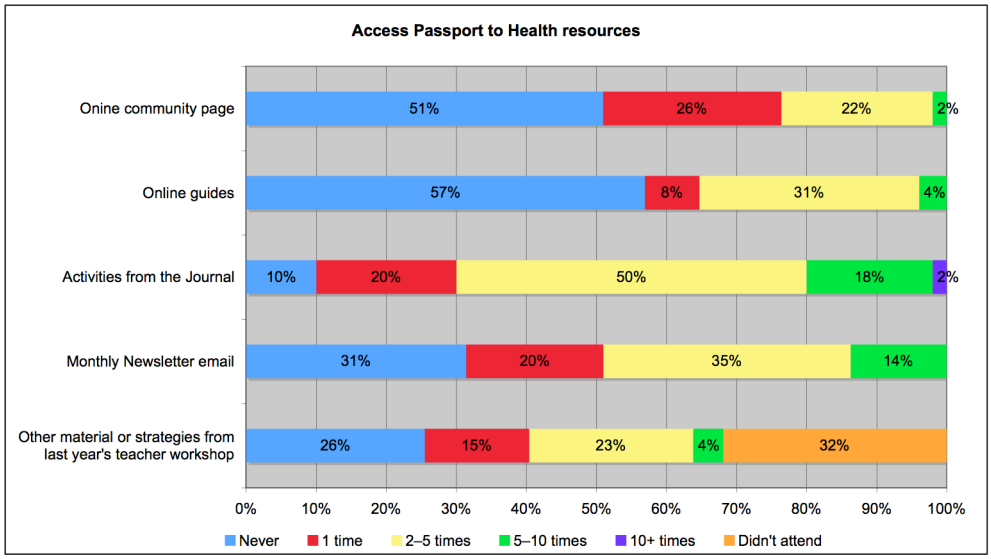
Table 1: Respondents Who Used Museum Resources

Museum Resource	% of pre-survey respondents who used it (*n* = 40)	% of post-survey respondents who used it (*n* = 51)
Online guides	18%	20%
Museum visits w/ class	70%	63%
Pre-visit activities	28%	33%
Professional development	23%	2%
Exhibit activity guides	28%	22%
Free previews	18%	10%
Post-visit activities	15%	20%
Online communities	N/A*	12%
Museum visit on own time	53%	71%

*This was not asked on the pre-survey

On the post-survey only, teachers were also asked how many times they accessed several types of resources associated with P2H since the beginning of the year. Figure 13 illustrates the percentage of respondents that accessed each type of resource to enhance their knowledge and/or classroom instruction. As illustrated, the most accessed resource was activities from the Journal, with 90% of respondents accessing them at least one time (and 70% accessing them two or more times.) The least accessed resources were the online guides and online community page, with only 43% and 49%, respectively, of respondents accessing them one or more times.

Figure 13: Teacher Access of Passport to Health Resources



Additionally, interview respondents were asked whether they utilized the above P2H resources this year. Only 27% (*n* = 3) of interview respondents said they used them (specifically the community page, Journal and newsletter), compared with 73% (*n* = 8) who had not. When asked what the Museum could do to increase teacher participation in and use of these resources, 38% (*n* = 5) said they hadn't accessed them due to lack of time. However, 46% (*n* = 6) stated more training or clarity on the resources would have been helpful, including how to access everything, with two interviewees specifically indicating it would be helpful to talk more about the resources at the teacher workshop. The final two respondents provided the suggestions of putting page numbers on the Journals and giving regular reminders about the resources.

Online community page

Finally, teachers on the post-survey only were asked to respond to a series of open-ended questions in order to learn more in-depth thoughts about specific topics. First, they were asked for suggestions on how to make the online community page a more useful resource. While responses ranged from confessions that teachers had little time outside of the classroom to access the resource to suggestions around tying the resource more closely to curriculum, the greatest percentage of teachers expressed interest in receiving periodic reminders about the availability and purpose of the community page. There were 32 teachers who responded to this question, and the following specific themes emerged:

- **Lack of knowledge/training.** The greatest number of respondents, 25% (*n* = 8), expressed an interest in additional training on and reminders about the existence and purpose of the online community page. Twenty-two percent of respondents (*n* = 7) did not know about the online community page, and 9% (*n* = 3) stated they had not accessed the platform or used it as a resource.
- **Time.** A notable 19% of respondents (*n* = 6) indicated they did not have time throughout the school year to explore and utilize the community page, and 6% of respondents (*n* = 2) wished they had been more proactive about using the community page.

- **Relevance.** One respondent recommended that the Museum alter the page to be more relevant to fifth-grade classroom curriculum, and another respondent requested that the Museum staff attach student worksheets to the resource to assist with program integration.

As a follow-up, respondents were asked whether they would use the online community page if, in fact, the aforementioned changes were made. The majority of respondents did not answer this question; however, of the 15 respondents who did answer it, 87% (*n* = 13) said yes and 13% (*n* = 2) said no, they would not use the page.

Passport to Health teacher workshop

Teachers were also asked on the post-survey what information or topics they would like to see covered at the P2H workshop in July. While responses were varied, the following four themes were present:

- **Integration into fifth-grade curriculum or classroom.** Of the 32 respondents, 31% (*n* = 10) were interested in learning more tools or resources to help tie Passport to Health to the fifth-grade curriculum. More specifically, teachers expressed an interest in discussing ways to more seamlessly integrate P2H subject matter into math, reading, literacy, physical education and science classes. Respondents expressed an interest in receiving not only instruction or lesson ideas, but also more resources to aid in integration.
- **Content specific to health, nutrition or recreation.** Nineteen percent (*n* = 6) of respondents wanted to see more content related to healthy lifestyles, such as nutrition or recreation, in the workshop so they could pass that information on to students.
- **Museum and P2H resources and curriculum.** Nine percent (*n* = 3) of respondents saw a need for a general overview of resources or opportunities within the Museum and/or a general review of the P2H components. Many noted that opportunities for more in-depth examination of P2H activities and components would have been beneficial.
- **Community resources.** Six percent (*n* = 2) of respondents expressed an interest in learning more about local community resources relevant to P2H's mission, such as recreation centers or athletic fields.

There were several unique responses that did not fit into the above categories or themes. These suggestions included incorporating more fun games into P2H and offering tips on how to better involve families. Finally, 22% of respondents (*n* = 7) indicated that the question was not applicable to them with reasons such as one respondent would not be attending the workshop and another respondent would not be teaching fifth-grade next year.

Additional thoughts from teachers

The post-survey and interview script asked teachers a few overarching questions about P2H to learn their perceptions about barriers to implementing P2H in the classroom and how the Museum could improve the program overall.

What is working well with Passport to Health

Teachers were asked in the post-survey and interview to identify one thing that the Museum should not change about P2H. Responses to this question varied from general appreciation of

the activities held at the school or Museum, to the more specific recommendation of retaining the membership component of P2H. In addition to the themes listed below, 15% (*n* = 6) of post-survey respondents said the program is great as it is or that everything should remain.

Despite the varied nature of the responses, the following themes emerged:

- **The field trip or activities at the museum.** Fifty percent (*n* = 20) of post-survey respondents and 69% (*n* = 9) of interview respondents highlighted either the field trip or other activities held at the Museum, requesting that they remain the same next year. The video room, the Wii Fit and the classes taught at the Museum generated the most positive feedback on the survey, and interview respondents most often cited Expedition Health. One teacher even mentioned that her students were so taken with the activities they kept their DMNS water bottles on their desks for the remainder of the school year.
- **Activities at the school.** Eighteen percent (*n* = 7) of post-survey respondents and 15% (*n* = 2) of interview respondents recommended that the Museum retain activities conducted on-site at the school. Family Fit Fest and Museum staff presentations at the schools were referenced specifically as program highlights.
- **The family and membership component.** Fifteen percent (*n* = 6) of post-survey respondents and 15% (*n* = 2) of interview respondents said the family membership was the most valuable component of the program, especially because it gave low-income families access to a resource they would not have had access to otherwise. An additional 15% (*n* = 2) of interview respondents also said they appreciated seeing families come together for events and activities.
- **The experiential or active nature of the program.** Thirteen percent (*n* = 5) of post-survey respondents and 23% (*n* = 3) of the interview respondents said the hands-on activities and experiments associated with the program should not be changed. Teachers mentioned that their students were especially engaged and interested in the activities because of the experiential aspects, which included the pedometers.

Barriers to integrating Passport to Health into the classroom

Teachers on the post-survey were asked what barriers they faced when trying to integrate P2H resources into their classroom. Fifty-two teachers responded, and the following themes emerged:

- **Time and curricular constraints.** Of the respondents, 62% (*n* = 32) said a lack of time was the greatest barrier they faced. Second to time, 25% of respondents (*n* = 13) said that district-required curriculum got in the way of P2H integration, and several said they did not see how P2H fit within currently required curriculum. An additional 6% of respondents (*n* = 3) said timing was challenging because of CSAP testing and the constraints it placed on teachers and teaching time.
- **Lack of experience or training.** For 8% of respondents (*n* = 4), a lack of experience with the P2H curriculum or with district requirements made integration a challenge. Several teachers did not attend the teacher workshop or felt they were not adequately prepared to integrate materials into the classroom.
- **School environment.** Eight percent of respondents (*n* = 4) mentioned their school environments made integration challenging. Some respondents felt high poverty rates contributed to low parent involvement and little interest in the program. One respondent noted that science is a low priority for the district, and as such, P2H integration was not emphasized.

In addition to feedback on the post-survey, interview respondents were also asked about the barriers to integrating P2H into the classroom. The responses to the interviews echoed those of the surveys, with 54% (*n* = 7) of interviewees citing time as the biggest constraint, followed by 31% (*n* = 4) indicating curricular constraints and 23% (*n* = 3) noting timing as an issue, specifically related to the field trip and Family Fit Fest.

The interview also asked respondents what the Museum can change next year to make it easier for them to integrate P2H into their daily classroom teaching. Feedback varied among the respondents; however, a few basic themes emerged:

- Better align P2H to district curriculum and timeline (*n* = 3)
- Place more emphasis on language development by adding more reading and comprehension (*n* = 2)
- Encourage greater attendance at the teacher workshop and add more time to look through the curriculum (*n* = 2)
- Provide more incentives and accountability for participation (*n* = 2)
- Open Family Health Day to grades 3–5 (*n* = 1)
- Add more Spanish to Museum components (*n* = 1)

Engagement of families in Passport to Health

Through the post-survey and interviews, teachers were asked several questions about the level of engagement of student families in their children's health as well as in P2H activities. The post-survey asked teachers the extent to which they agreed or disagreed that families whose students participated in P2H seemed more involved in their student's health than families of similar groups of students. Forty-seven percent of post-survey respondents were uncertain; however, 39% of respondents agreed or strongly agreed that families of P2H students were more involved in their student's health than other families.

The interview also inquired as to how engaged the parents/families were at each participating P2H school. While answers varied between the 13 interview respondents, the following themes emerged.

- **No engagement**. Forty-six percent (*n* = 6) of interview respondents stated that the families were not engaged at all. For some classrooms this was typical when compared to other external programming, whereas for others, P2H participation was lower than normal. Several teachers expressed that confusion regarding the activities and requirements may have impacted levels of engagement.
- **Higher participation than other programs.** Fifteen percent (*n* = 2) of interview respondents noted that engagement was high or strong in comparison to other programs. Regardless of the extent of participation among families, interview respondents noted that those who did participate in activities were excited and engaged.
- **Inconsistent participation.** Finally, 31% (*n* = 4) of interview respondents suggested that parents were more engaged in some P2H components, such as Family Health Day, than others, such as the Family Fit Fest.

In addition, interview respondents were asked what the Museum could do to increase engagement in P2H. Of the 12 respondents, 25% (*n* = 3) were overwhelmingly pleased with the

program, indicating that the Museum did a fantastic job in execution. The remaining interview respondents provided the following suggestions:

- **Communication.** Fifty-eight percent (*n* = 7) of interview respondents suggested that the Museum engage in more direct communication with parents. Specifically, suggestions ranged from having a separate parent information session at the beginning of school to incorporating P2H information into Back to School Night.
- **Incentives.** Family incentives also emerged as a response for how to engage parents, with 33% (*n* = 4) of respondents indicating that incentives would increase participation or overall levels of engagement. Several teachers suggested that using the Museum membership as a reward for completing P2H components might be an effective engagement tool.
- **Clear expectations.** Twenty-five percent (*n* = 3) of interview respondents mentioned that clearer expectations and information sheets might help to alleviate confusion around P2H activities and better engage families.

Interview respondents were also asked the best way to reach out to or communicate with families regarding program evaluation and P2H events (such as Family Health Day, Family Fit Fest, etc.). Five concrete themes emerged in analyzing the 13 responses.

- **Direct communication with families.** Thirty-eight percent (*n* = 5) of interview respondents suggested that direct communication with the families would be most effective. Responses included mailing information to student homes or even utilizing automated calls. At 54% (*n* = 7), the majority of respondents indicated that increased personal or face-to-face contact with the family was the best way to communicate with the population. Back to School Night, Community Resources Day and parent/teacher conferences were suggested as mediums for personal communication. Additionally, one respondent indicated better communication about why the paperwork or activity is required might increase engagement.
- **Communication through teachers.** On the other hand, 23% (n = 3) of respondents preferred that communication go directly through teachers and mentioned that automated emails and information sheets were effective tools to use as reminders.
- **Adjust timeline.** Additionally, 38% (*n* = 5) of interview respondents recommended an adjustment to the schedule or annual timeline. In this regard, many of the teachers asked that the Museum move the timeline forward so that more events could take place at the beginning of the school year.

Finally, when asked about the barriers to reaching parents, two out of 13 interview respondents suggested that classroom, student and family culture impacted communication. These respondents also suggested that some parents may feel intimidated, and others may not be engaged in their children's lives.

Engagement of schools in Passport to Health

Interview respondents were asked to discuss how the principal/school leadership supported P2H and what they would do differently next year. Seventy-three percent (*n* = 7) of interview respondents said the principal or leadership was supportive of P2H and provided support in the form of coordinating, planning or attending events (*n* = 4), getting space (*n* = 2) or helping with field trips (*n* = 2). On the other hand, 18% (*n* = 2) of interview respondents said their principals were encouraging, but not very involved or helpful, and 9% (*n* = 1) said his or her principal was not involved or supportive.

When asked whether the program timeline worked for their school, 78% (*n* = 9) of the interview respondents said it had, while the remaining 32% (*n* = 2) said they felt rushed at the beginning of the year when they did the science unit, and the timing of the Family Health Day was before Spring Break, which resulted in low participation.

Finally, when asked what they would do differently, all of the responses among interview respondents focused on timing of the program. Three respondents thought it would have been better if the program had been in the first semester, two respondents would like it to have been better coordinated with the science unit, two respondents would like it to have been spread out more, and one respondent thought the timing of the family membership should have been changed.

How the Museum can improve Passport to Health

Post-survey and interview respondents were asked what the Museum could do to improve the P2H program. Twenty-nine percent (*n* = 12) of post-survey respondents said that no changes were needed because the program is great as it is. The remaining post-survey and interview respondents provided feedback in the following areas:

- **Engagement.** Twenty-four percent (*n* = 10) of post-survey respondents and 10% (*n* = 1) of interview respondents commented on engagement in one form or another. Some suggested the Museum explore additional means of engaging parents, such as providing food at Family Fit Fests or encouraging membership. Others suggested means of further engaging students, such as inviting professional athletes to talk to students about health and exercise. Two respondents said that the videos and activities provided by the Museum were great, and that it would have been great to have additional similar resources to engage the students. Another respondent suggested that offering a day for families to come fill out membership paperwork might increase understanding and use of that component.
- **Timing and scheduling.** Twenty percent (*n* = 8) of post-survey respondents and 30% (*n* = 3) of interview respondents made comments regarding the timing of programming or the scheduling of components. For some teachers, this was directly related to their own teaching and finding ways to make P2H fit with current curricula. For others, however, comments were about scheduling at the Museum or having more time at the Museum, with one teacher relating that the continuation ceremony occurred after his/her buses had left and another teacher mentioning that the fieldtrip coincided with a high school trip, making it difficult to manage students. Finally, one interview respondent suggested the teacher workshop occur at the end of the school year rather than the beginning, as the week before school starts is very hectic.
- **Information.** Seven percent (*n* = 3) of post-survey respondents suggested that more information about the program could have been provided to families and teachers, especially regarding the program timeline. An additional 7% (*n* = 3) of post-survey respondents said that more information about nutrition, recreation opportunities and healthy lifestyles would have been helpful to provide to families as well. Finally, one post-survey respondent and one interview respondent said that additional support and guidance at the Museum would have been beneficial during Family Health Day.
- **Expand population and enhance curriculum.** Forty percent (*n* = 4) of interview respondents provided input about enhancing the curriculum by either incorporating a second language piece, aligning it more closely with state standards, or providing more specific lesson plans. An additional 20% (*n* = 2) of interview respondents recommended expanding P2H to include fourth graders as well.

How the evaluators can improve communication and outreach

Interview respondents were asked what JVA could do, as evaluators, to better reach out to and communicate with teachers and school staff next year. Half of the interview respondents who answered the question said there was nothing the evaluation team could do to improve communication or outreach. The remaining interview respondents provided suggestions, which fell into the following three main categories:

- **Parental consent process.** Twenty-five percent (*n* = 2) of the respondents recommended changes to the parental consent process, which included simplifying or clarifying the language on the consent form or having the families sign the consent during Back to School Night.
- **Survey process.** Another 25% (*n* = 2) suggested that JVA make changes to the survey process, as it was a challenge for some students to read.
- **Communication.** Twenty-five percent (n = 2) suggested specific enhanced communication tactics such as attending a family liaison meeting or reminding teachers about Journal requirements.

Conclusion

The teacher surveys and interviews provide insight into the knowledge, attitude and perceptions of teachers and help the Museum understand how it is meeting its teacher outcomes as well as areas for continued growth.

Did the program increase health science content instruction and knowledge?

There are a number of indicators that help the Museum answer this question.

- Based on post-survey results, 69% of teachers agreed or strongly agreed they were more comfortable teaching health science content this year than in previous years as a result of P2H, and interview respondents noted that P2H provided them with different approaches to teach science and explain complex processes.
- The majority of teachers on the post-survey indicated that students who participated in P2H this year were able to better identify and understand the purpose of the body systems, the connection between different body systems, the connection between the body systems and physical activity, and the connection between the body systems and healthy eating than similar groups of students they have taught these concepts to. Additionally, 75% of interview respondents indicated students were more interested in science, the human body or being healthier as a result of participation in P2H.
- Of the interview respondents, 63% thought students had increased their physical activity as a result of P2H. However, respondents were not as positive when asked about whether students were making changes in the foods they eat, an indication that students are limited by the food available through free and reduced-price lunches or by what their families eat.

Areas for growth or improvement

- While 33% of post-survey teacher respondents agreed or strongly agreed that as a result of P2H they integrated health science content into other lessons, 42% disagreed or strongly disagreed with this statement. The Museum can continue to explore ways to help teachers integrate health science concepts into non-science lessons.

Did the program increase recognition of the value of physical activity, healthy foods and healthy lifestyles?

The following results help answer this question:

- The results of the post-survey indicate that as a result of P2H, 62% of respondents agreed or strongly agreed they were more likely to encourage students to participate in physical activity at school, and 56% agreed or strongly agreed they were more likely to encourage physical activity outside of school.
- As a result of P2H, 66% of post-survey respondents agreed or strongly agreed they learned more about the physical activities their students participate in.
- Based on the pre- and post-surveys, 86% of pre-survey respondents and 82% of post-survey respondents encourage physical activity at school on a daily or weekly basis.

Areas for growth or improvement

- While 44% of post-survey respondents agreed they learned more about physical activities and recreational opportunities available to their students as a result of P2H, 33% disagreed with this statement, providing an opportunity for the program to continue its efforts to inform teachers of resources available to students.

Did the program increase teachers' use of Museum resources?

The following information helps address this question:

- A high percentage of teacher respondents on the pre- and post-surveys had visited the Museum with their class as well as on their own time. Additionally, 33% of post-survey respondents had utilized pre-visit activities.
- Based on the post-survey, 90% of respondents had accessed activities from the Journal at least one time, with 70% indicating they had accessed them two or more times.

Areas for growth or improvement

- The least accessed P2H resources were the online guides and online community page. While many teachers hadn't accessed them due to lack of time, post-survey and interview respondents provided suggestions for how to make these resources more useful. Teachers recommended providing more training or clarity on the resources as well as reminders about their existence.

Additional input from teachers

- Teachers had positive perceptions of the program overall and expressed appreciation of the field trip and activities at the Museum, the Museum activities facilitated at the school, the family membership and the experiential and active nature of the program.
- Based on the post-survey, 39% of teacher respondents agreed or strongly agreed that families of P2H students were more involved in their student's health than families of similar groups of students.

Areas for growth or improvement

- Through teacher interviews, respondents provided suggestions for increasing family engagement, which included more direct communication with parents, providing incentives for participation and outlining clear expectations and information about involvement. The Museum has an opportunity to continue to explore methods of increasing family involvement in the next implementation year.

Appendix III: Passport to Health Year 2 Journal Report

Summary of the Journal Observations and Journal User Survey

Submitted July 30, 2010 By:

JVA CONSULTING, LLC
partners in community and social change

Introduction

The Passport to Health student Journal was designed to support P2H classroom activities, Museum activities and to enhance overall health science content instruction and knowledge among participating teachers and students. This report provides an assessment of the use and effectiveness of the Journal and aims to answer the following question related to teacher and student outcomes:

- *Did the program increase health science content instruction and knowledge?*

Methodology

To better understand and evaluate the use and effectiveness of the P2H student Journal and to determine whether or not it increased health science content instruction and knowledge, JVA utilized two evaluative tools: an observation form and a Journal user survey administered with P2H teachers. The Journal observation form was designed to allow JVA associates to evaluate the number of activities used in student Journals and the degree to which each activity was completed. Journal observations were conducted in the spring of 2010, at the same time that student and teacher post-surveys were administered. While JVA intended to administer the Journal observation form in all classrooms in all P2H schools, many teachers had already encouraged their students to take their Journals home, resulting in Journal observations taking place in only nine schools (33%). A total of 74 observations were conducted.

JVA associates received training on the implementation of the Journal observation form and in order to decrease discrepancies, JVA conducted an inter-rater reliability test to measure the accuracy of the tool. At the time of testing, the two JVA associates involved with the test returned very similar and accurate responses. On questions that JVA associates responded to differently, modifications were made to the tool to increase accuracy.

The second tool, the Journal user survey, was administered with teachers along with the teacher and student post-surveys at the end of the program year. This survey allowed teachers to indicate which activities they used with their students and encouraged teachers to provide the Museum with general feedback about the Journal and its effectiveness. Rather than ask questions about all 21 of the Journal activities, the Journal user survey asked only about activities that were not facilitated by Museum staff or educators. In total, there were 15 activities listed on the user survey and a copy of the Journal was available to teachers who wanted to or needed to cross-reference. While Journal user surveys were provided to all P2H teachers, 42 completed the survey for a response rate of 44%.

Study limitations

JVA hoped that the use of two evaluative tools would produce more holistic and complete information regarding the Journal and its effectiveness. However, because teachers were not instructed or encouraged to keep student Journals in the classrooms, only one-third of the P2H schools could be observed.

Analysis

Did the program increase health science content instruction and knowledge?

Student outcomes

The Journal observation form explored student use of the Journal and attempted to gauge understanding of questions and activities in order to determine if the Journal effectively increased health science content knowledge. Overall, the Journals were not used to their fullest extent, with the average student responding to only 33% of available activities. In total, the student Journal contained 21 activities, 10 pages of lined paper and 10 pages of graph paper. As Table 1 illustrates, the mean shows that 7.3 activities were responded to, while the median is 8 and the range is 12, which is quite high. This range illustrates that one student responded to 13 activities, one responded to one activity and all other students fell somewhere in between.

Table 1 also reflects that while students responded to, on average, one-third of all available activities, they demonstrated a high level of understanding with the activities they did respond to. In addition, 60% of observed Journals indicate that students were not only completing the one-word responses, but were also performing some level of reflection in the Journals. Finally, an average of 83.3% of all questions were completed for each activity, meaning that the activities students did respond to were 84% complete, with responses ranging from 16%–100%.

Table 1: Journal Observation

Journal Usage	
Average number of activities responded to	7.3
Median number of activities responded to	8
Range	12
Students demonstrating complete understanding	68%
Students demonstrating some level of understanding	32%
Students demonstrating no level of understanding	0%
Did the student perform reflection for this activity?	
YES	60%
NO	40%
Average % of questions completed for each activity	84%

Despite somewhat low levels of participation, levels of student understanding were high and students were more likely than not to complete at least some reflection for activities in the Journal. Based on this information, it seems likely that the Journal had a positive impact on student learning outcomes.

Teacher outcomes

The Journal contains activities and questions that relate to Fitness Physiology, ExerScience and Expedition Health, as well as activities and questions that do not correlate directly with P2H program components. The Museum hoped that by providing participating teachers with suggestions and activities to encourage them to use the Journal for non-P2H activities, the Journal would be another way to increase health science content instruction.

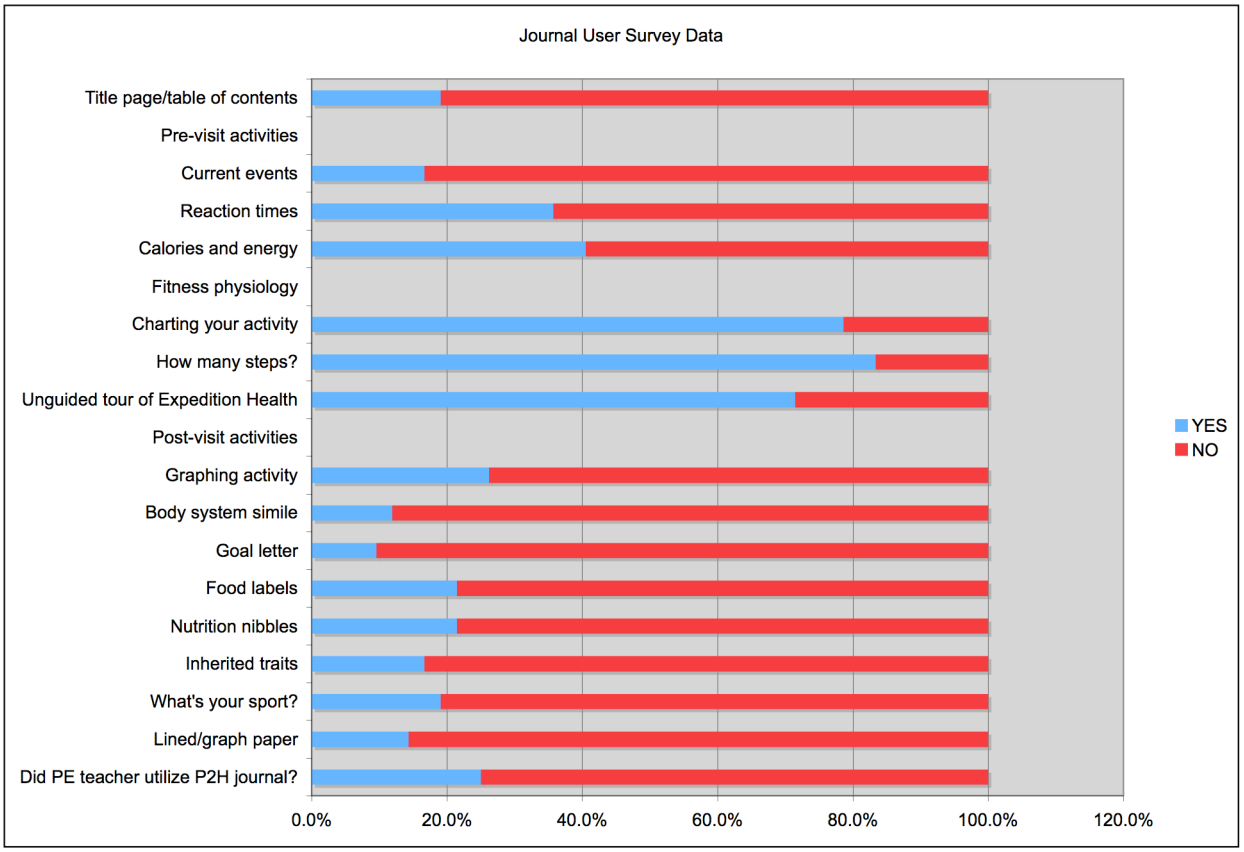
The Journal user survey returned results that support many of the findings of the Journal observation form. Table 2 illustrates the percentage of teachers who responded yes and no when asked if they had utilized each of the 14 activities not facilitated by a Museum Educator, had used the lined or graph paper, and whether or not the physical education teacher at their school encouraged the use of Journal activities or used activities in the classroom.

Table 2: Journal User Survey

Activity	YES	NO
Title page/table of contents	19%	81%
Pre-visit activities		
Current events	17%	83%
Reaction times	36%	64%
Calories and energy	40%	60%
Fitness physiology		
Charting your activity	79%	21%
How many steps?	83%	17%
Unguided tour of *Expedition Health*	71%	29%
Post-visit activities		
Graphing activity	26%	74%
Body system simile	12%	88%
Goal letter	10%	90%
Food labels	21%	79%
Nutrition nibbles	21%	79%
Inherited traits	17%	83%
What's your sport?	19%	81%
Lined/graph paper	14%	86%
Did PE teacher utilize P2H Journal?	25%	75%

The following figure illustrates reported use of Journal activities in graphical form.

Figure 1: Journal User Survey Data



As Table 2 and Figure 1 illustrate, teachers were far more likely to utilize the activities associated with Fitness Physiology and the Unguided Tour of *Expedition Health*, than they were to use any of the other pages of the student Journal. In fact, two of the activities associated with the pedometer challenge, as well as the Unguided Tour were the only activities used by 50% or more of P2H teachers. Only six teachers used the lined/graph paper at the end of the Journal and the post-visit activities accompanying the *Expedition Health* Online Guide were the least frequently used activities. Although the students demonstrated high levels of understanding and participation in the Journal activities, low participation from the teachers may indicate that the Journal was not as effective for increasing health science content instruction as it was for increasing health science content knowledge.

Barriers to use

To determine why teachers did not fully implement or utilize the Journal, the user survey asked respondents to identify barriers to use. The most common response, provided by 57% of respondents (n = 24), was that lack of time was the greatest barrier. Secondly, 17% of respondents (n = 7) stated that the P2H curriculum did not align closely enough with district requirements or curriculum, resulting in difficulties with implementation. Third, 12% of respondents (n = 5) said they did not know the uses of all of the pages or they were not able to plan classes with the Journal in mind because they did not feel comfortable with the Journal. Finally, 2% of respondents (n = 1) mentioned that the lack of page numbers made the Journal difficult to use.

Physical education integration

Because the Journal was not exclusively correlated with P2H activities, participating teachers were encouraged to include non-science teachers in the use of the Journal. On the user survey, P2H teachers were asked if the physical education (PE) teacher at their school had used the student Journal in his/her instruction. Seventy-five percent of respondents (*n* = 27) said the PE teacher did not use the Journal, while 25% (*n* = 9) said they did. Six teachers did not respond and two teachers mentioned that they did not know the PE teacher/s should be or could be involved with P2H programming. Increasing integration of the Journal into PE programming could be an important way of increasing health science content instruction in participating schools.

Math and literacy integration

In addition to integrating P2H curriculum into PE classes, the Museum hoped that the Journal would help facilitate the integration of health science into other subjects, such as math and literacy. To assist with this, the Journal contains numerous activities that can be used in math or literacy classes to help integrate P2H and health science topics into other subjects. According to reported use of specifics Journal activities, teachers were least likely to utilize literacy activities in and were only slightly more likely to utilize the math activities. Instead, the activities most likely to be used by teachers were those directly relating to P2H and health science. For example, only 10% of teachers reported using the *Goal Letter* activity, compared with 83% who used the activity from the pedometer challenge called *How Many Steps?* According to Journal user survey data, the Journal was not the most effective tool for increasing health science content integration into non-science coursework.

Conclusion

The Journal observations and Journal user surveys provided insight into the use and effectiveness of the P2H student Journal and helped illustrate how the Journal helped the Museum achieve its teacher and student outcomes. Based on the results and analysis of Journal observations and Journal user surveys the student Journal effectively increased health science content knowledge among students, but was less effective at increasing health science content instruction among teachers.

Did the program increase health science content instruction and knowledge?

The following indicators help to illustrate the response to this question:

Students

- According to Journal observations, students responded to an average of 33% of the activities in the Journal, most of which were completed with a Museum educator or while at the Museum. Journal observations also indicate that 68% of students demonstrated complete understanding of Journal activities, 32% demonstrated some level of understanding and 0% demonstrated no level of understanding.
- While students often did not complete activities in their entirety, on average students completed 84% of all questions for each activity in the Journal. Overall, students performed reflection 60% of the times.

Areas for growth or improvement

- Although students completed, with high levels of understanding, one-third of all Journal activities, the Museum could consider ways to encourage increased use of the tool. For example, while many students started the pedometer challenge, very few completed it. This activity would be simple to complete at home, with their families, and would encourage increased participation among students and families.

Teachers

- According to the Journal user survey, 25% of PE teachers utilized P2H Journal activities in their classes, while 75% did not. In addition to low participation on the part of PE teachers, two P2H teachers said they didn't know that the PE teacher should or could be included in P2H programming.
- Based on feedback from both evaluative tools, teachers were more likely to use science and health science Journal activities and were less likely to utilize math or literacy Journal activities.
- While several barriers were listed, 57% of teachers felt they did not have time to completely or extensively implement the student Journal.

Areas for growth or improvement

- While students completed one-third of all Journal activities, the majority were completed with Museum educators or in conjunction with a Museum visit, rather than as additional health science curriculum in school. The Museum could consider increasing training on the uses and effectiveness of the student Journal to increase teacher awareness of activities.
- Because time was cited as the greatest barrier to Journal use and many teachers said they did not have the opportunity to fully understand the uses of and the activities in the Journal, the Museum could consider creating an *Instructor's Guide* for the student Journal. This *Instructor's Guide* could more clearly label math and literacy activities and provide teachers with more guidance or information regarding the use and implementation of the activities. Similarly, the Museum could add a section designed for PE teachers that would clearly illustrate which activities are most appropriate for PE class implementation.
- Many teachers felt that the Journal did not align enough with district curriculum. The Museum could consider ways to clearly illustrate curricular alignment and demonstrate to teachers how to use certain activities in the context of district curriculum. This could be done through the creation of an *Instructor's Guide.*

General areas of growth or improvement

- Because teachers were not instructed to keep the student Journals in the classroom until the post-survey administration day, the number of observations that could be conducted as part of the evaluation was quite limited. The Museum and JVA could consider reminding teachers to keep the student Journals accessible until after post-surveys are complete.

Appendix IV: Passport to Health Year 2 Parent Report

Summary of Parent Post-Surveys and Family Health Day Interviews

Submitted July 30, 2010 By:

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partners in community and social change

Introduction

In addition to having a direct impact on students and teachers, the Museum hopes that Passport to Health will have a direct impact on families as well. Through parent participation in the Family Fit Fest, Family Health Day and the membership component, and through parent-child conversations, the Museum hopes that Passport to Health positively impacts families. The Museum hopes that parents and families will achieve the following outcomes:

1. Show better understanding of the importance of a healthy lifestyle for the whole family
2. Report making changes that support the whole family eating better and moving more

In order to gauge the achievement of these outcomes, this report aims to answer the following two questions, relating to parents/families:

- *Did the program increase recognition of the value of physical activity, healthy foods and healthy lifestyles?*
- *Did the program encourage students to advocate for healthy changes at home and help families make those changes?*

Methodology

In order to answer these questions, JVA utilized two evaluation methods. First, JVA associates attended four Family Health Days at the Museum and conducted 97 interviews with parents and families of P2H participants. The interview asked respondents to reflect on changes they witnessed in their children or families as a result of P2H. Questions focused on changes in physical activity, nutrition and food and whether or not their child was bringing information about P2H home with them to share with their families. Three schools were not able to participate in Family Health Days because of scheduling problems. Families from 75% of participating schools (*n* = 18) participated in interviews, which were conducted in English and Spanish.

Second, post-surveys were sent home to the families of P2H participants in the spring of 2010 and 404 surveys were returned. The survey asked questions similar to those asked in the interview and also included questions about whether or not families visited the Museum, local parks and/or recreation centers during the year. Surveys were conducted in English and Spanish and responses were collected from 85% of schools (*n* = 23).

Study Limitations

While the use of two evaluation tools did increase the number of responses solicited, there are limitations to these methods. First, it is important to note that family engagement was a challenge throughout the implementation year and the evaluation activities proved especially difficult in terms of family engagement. In order to increase participation in Family Health Day interviews, the Museum and JVA worked together to design and implement an incentive system. For two of the four Family Health Days, families were required to obtain a certain number of stamps before they could enter their child into a raffle to win a bicycle. Participating in the JVA interview earned families one of the stamps. For the other two Family Health Days, however, stamps were not required for entry into the raffle and JVA and the Museum received much lower participation in Family Health Days and evaluation activities. Further, because three schools were unable to attend the Family Health Days their opinions were not represented in the

interviews. However, all three of these schools had families that returned post-surveys, so these families are represented in this analysis.

Analysis

Did the program increase recognition of the value of physical activity, healthy foods and healthy lifestyles?

Through participation in all program components, the Museum sought to increase understanding of the importance of physical activity, healthy foods and healthy lifestyles among families. Because this is the crux of the program, the parent post-survey and the Family Health Day interviews emphasized this theme. Parents were asked a series of questions about changes they have implemented at home as a result of Passport to Health.

> *"Participating in Passport to Health is reinforcing our choices and is educating our kids about nutrition and exercise"*
>
> *–Passport to Health parent*

Impact on physical activity

According to post-surveys, 56% of respondents agree and 22% strongly agree with the statement: *Because of Passport to Health our family has increased the amount of physical activity we do.* In addition, the Family Health Day survey asked parents if they felt their children were more active as a result of P2H and 73% of interviewees (*n* = 66) said yes, while 24% (*n* = 22) said no. Further, of those who said no, their children were not more active because of P2H, many responded that they their children were very active before participation in P2H. Family Health Day interviewees were also asked if their families were more active as a result of P2H and 85% of respondents (*n* = 63) said yes, while 12% (*n* = 9) said no. Of the families that are reportedly more active, 24% (*n* = 15) said they were walking more as a family and 17% (*n* = 11) said they were spending more time at parks or recreation centers.

Impact on healthy foods

In the Family Health Day interviews, families were asked if they felt that P2H had affected the way their child or family approached nutrition or food. While 26% of the 89 respondents (*n* = 23) said they were not making changes, 70% (*n* = 62) said they were making changes. Of those who are making changes, several families mentioned specific changes they are making. Forty percent (*n* = 25) of those respondents making changes have introduced more fruits or vegetables into their diet. Secondly, 27% of respondents (*n* = 17) are reading nutrition labels more or are paying more attention to eating balanced meals. Eight percent (*n* = 5) of respondents reporting making changes are eating less red meat or have introduced leaner meats into their family diets. Six percent (*n* = 4) are making healthier choices and 5% (*n* = 3) are eating less sugar or are more conscious about sugar in their diet. Of the interviewees who said they are not making changes in how they approach nutrition, several said it is because they already have very healthy diets and others noted that while P2H is not encouraging food choice changes, the program is reinforcing decisions already being made.

Post-survey respondents were also asked a series of questions about food and nutrition. As Table 1 illustrates, 69% of post-survey respondents agree or strongly agree that their families have made changes in the foods they buy, 70% agree or strongly agree that they have made changes in the way they prepare food and 77% of respondents agree or strongly agree that they are paying more attention to nutrition labels as a result of P2H.

Table 1: Post-Survey Questions Regarding Impact on Healthy Foods

Because of Passport to Health…	Strongly Disagree	Disagree	Agree	Strongly Agree
Our family has made changes in the foods we buy	7%	24%	54%	15%
Our family has made changes in the way we prepare food	6%	24%	55%	15%
I pay more attention to nutrition labels	6%	17%	52%	25%

Impact on healthy lifestyles

While the previous sections focused on physical activity and nutrition, which are both contributors to a healthy lifestyle, post-survey respondents were also asked if, because of P2H, their families were talking more about healthy food and physical activity and how they relate to health. Eighty-six percent of respondents agree or strongly agree with that statement.

> *"Passport to Health has brought our family together. We are going outside more and are more active as a family."*
>
> *–Passport to Health parent*

Knowledge and use of parks and recreation centers

On the post-survey, parents were asked about the time their families spent at both the Denver Museum of Nature & Science and at local parks and recreation areas. Table 2, below, illustrates post-survey responses to these questions. As illustrated, most respondents visited the Museum and recreation centers about the same amount during the 2009–2010 school year as during the 2008–2009 school year, and equal numbers either visited parks more often or the same amount during both school years. The dramatic 33% increase in visits to the Museum could be attributed, at least in part, to the free family membership offered to families. According to data compiled July 9, 2010, 708 P2H families from 27 participating schools redeemed the membership. Of these, 97% were new members, while only 3% were former Museum members. During Family Health Day interviews, numerous respondents offered that Family Health Day was the first time they had ever been to the Museum.

Table 2: Self-Reported use of the Museum and Local Parks and Recreation Centers

Compared to last school year my family has…	Less often	The same amount	More often
Visited the Denver Museum of Nature & Science	27%	40%	33%
Gone to a park	10%	45%	45%
Gone to and/or used resources at a recreation center	30%	45%	25%

In addition to questions about the frequency of visits, the post-survey asked families what barriers prevented them from visiting the Museum as well as parks and recreation centers. The following two tables illustrate their responses. As the tables demonstrate, cost and time considerations were the top two barriers to access listed by families. For the Museum, the next barrier was a lack of transportation (13%), followed by respondents who didn't know about the Museum (7%). Finally, only 3% of respondents said they did not go to the Museum because they were not interested in the exhibits. This feedback illustrates that with very few exceptions, families are interested in coming to the Museum, but for many families, cost was a barrier. With the free P2H family membership eliminating potential cost barriers, it seems likely that participation in Museum events and visits to the Museum overall may increase as a result of P2H.

Table 3: Barriers to Visiting the Museum

What keeps your family from visiting the Museum?	Agree	Disagree
It is too expensive	38%	62%
My family does not have time	34%	66%
My family does not have transportation	13%	87%
We did not know about the Museum	7%	93%
We are not interested in the exhibits	3%	97%

Table 4: Barriers to Visiting Parks and Recreation Centers

What keeps your family from accessing recreation centers or parks?	Agree	Disagree
My family does not have time	25%	75%
They are too expensive	24%	76%
Limited hours	19%	81%
They are too far	11%	89%
They are not safe	4%	96%

Finally, parents participating in the Family Health Day interviews were asked if they knew where the parks and/or recreation centers were located that were nearest to their home. Eighty-nine percent of respondents (*n* = 73) said they did know, while only 11% of respondents (*n* = 9) did not know. Further, while 82% of respondents (*n* = 67) knew about these places before participating in P2H, 9% of respondents (*n* = 7) learned about local parks and recreation centers through participation in the program.

Did the program encourage students to advocate for healthy changes at home and help families make those changes?

In addition to the direct programming families have the opportunity to participate in, the Museum hopes that students will share what they are learning in P2H, and in doing so, will advocate for

healthy changes and help their families implement these changes. Eighty-six percent of post-survey respondents agree or strongly agree that *Because of Passport to Health my child has talked about science, health and/or physical activity at home.* Further, when Family Health Day interviewees were asked if their child talked about what they were learning in P2H, 85% of respondents (*n* = 75) said yes. Of those who responded yes, 36% (*n* = 27) said their child was talking at home about things they learned about the body, with 33% of them (*n* = 9) talking about the heart. Secondly, 28% of those who responded yes (*n* = 21*)* talked at home about nutrition, eating healthy and healthy foods. An additional 20% (*n* = 15) talked about exercise and the importance of physical activity. Based on these responses, it seems clear that P2H students are talking to their families about the things they learn and how to make changes at home.

As previous sections demonstrate, families participating in the Family Health Day interviews and the post-survey indicated they are increasing the amount of physical activity they do, are paying more attention to nutrition labels, are making healthier food choices and are trying to live healthier lives overall. Family Health Day interview participants were asked if they noticed changes in their child or family as a result of P2H. Overall, 80% of respondents (*n* = 70) said they have noticed positive changes. Of this group, 41% (*n* = 29) are doing more exercise or are more physically active; 24% (*n* = 17) said they have learned about, are more open about and are more aware of their bodies and how things affect the body; 23% (*n* = 16) are making changes in the foods they buy and eat, or are more concerned with nutrition; and 9% (*n* = 6) said they are more excited about health and are enjoying physical activity more.

Families participating in the Family Health Day interviews were also asked what was the most important change they witnessed in their family. While 17% of interviewees did not identify changes or stated their family had not changed, the remaining 83% identified numerous changes, the most common of which are represented in the following three themes. First, 46% (*n* = 37) of those who identified important changes said the most important change was that their family was exercising more and was *more physically active*. Another 41% (*n* = 33) said food-related changes and *eating more nutritiously* were most important. Finally, 25% (*n* = 20) said that *being healthier, making better choices and having increased knowledge* was the most important change made.[4]

Favorite Passport to Health elements

In the Family Health Day interviews, families were asked if they were enjoying participating in the P2H program. Fourteen percent of respondents (*n* = 13) were experiencing or hearing about P2H for the first time, but the remaining 86% of respondents (*n* = 77) said they were enjoying P2H. Of those who were enjoying the program, some provided examples of their favorite elements or components. Twenty percent of respondents (*n* = 15) said they most enjoyed the activities at the Museum and 7% (*n* = 5) specified the bike activity as their favorite. An additional 14% of respondents (*n* = 11) said the *Expedition Health* exhibit was their favorite component. Twelve percent (*n* = 9) cited learning about the body and science, another 12% cited learning about nutrition and food and finally, 8% (*n* = 6) stated that the family membership was their favorite P2H component.

[4] These percentages do not add up to 100% because families were not limited to providing only one answer, leading many to provide many responses and causing the numbers to add up to 112%.

Conclusion

Did the program increase recognition of the value of physical activity, healthy foods and healthy lifestyles?

The following information may help the Museum answer this question:

- According to post-survey respondents, 78% agree or strongly agree that their child or family is more physically active because of P2H. Supporting this, 73% of Family Health Day interview respondents said their child is more active and 85% said their family is more physically active because of P2H.
- Similarly, 70% of interview respondents said that because of P2H, their child or family is changing the way they approach food or nutrition. Of these respondents, 40% are eating more fruits and vegetables, 27% reported they are reading nutrition labels more than before and are paying closer attention and 8% are eating less red meat.

Areas for growth or improvement:

- While 89% of Family Health Day interview respondents knew where the park or recreation center nearest their house was, 11% still do not know. Because increasing family awareness of these resources is part of the P2H program, the Museum could consider additional ways to convey this information to families. For example, the Museum could consider creating asset maps for P2H school communities, illustrating local resources.

Did the program encourage students to advocate for healthy changes at home and help families make those changes?

The following information may help the Museum answer this question:

- Based on post-survey results, 86% of families agree or strongly agree that because of P2H their child is talking more about food and physical activity, and how they relate to health. Further, 85% of Family Health Day interview respondents said their child is talking about P2H at home and is sharing information with the family.
- Overall, 80% of Family Health Day interviewees said they have noticed positive changes in their child or family as a result of P2H.

Areas for growth or improvement

- While the majority of families participating in either the post-survey or the Family Health Day interviews indicated they are noticing changes in their children or families, it is difficult to distinguish between changes occurring because of advocacy on the part of the child versus changes occurring because of family participation in the program overall. As a result, JVA will work with the Museum to explore best practices in the field for measuring advocacy in specific health and health science interventions to ensure that P2H evaluation tools align with national practice.
- Based on Family Health Day interviews, 14% of respondents heard about P2H for the first time when they arrived at the Museum for Family Health Day. The Museum could consider creating a one-page flyer that would describe all program components and would explain P2H more clearly to parents and families.

Appendix V: Passport to Health Year 2 Focus Families Report

Summary of Recommendations for the Focus Family Component

Submitted July 30, 2010 By:

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partners in community and social change

Introduction

The P2H Focus Families component was designed to track and monitor behavioral changes that occurred within families as a result of their and their child's participation in P2H. The Focus Families component took place outside of the school setting and intended to understand what, if any, changes were occurring in the home. Focus Families were asked to self-monitor health-related lifestyle changes and record these changes, including food choices, food purchases, levels of physical activity and other healthy lifestyle changes. Each family was asked to log and record any health adaptations they associated with P2H. This report provides an assessment of the communication with Focus Families, defines how measurement tools were designed to capture outcomes, and the effectiveness of data collected. Overall, this report seeks to address the following question:

- *Did the program increase recognition of the value of physical activity, healthy foods and healthy lifestyles?*

Methodology

To understand the effects that P2H had on students and their families in the home, and to better evaluate what, if any, changes have occurred, JVA utilized the following evaluative tools as part of the Focus Families component:

- Comprehensive family assessment tool
- Activity log
- Individual family Journals

In addition, JVA used a quick screening tool designed to help determine qualification and commitment levels of the families. If families agreed with the majority of the questions and requirements presented in the quick screen tool, they were asked to participate in a face-to-face meeting for an initial assessment. The *comprehensive family assessment tool* is comprised of questions pertaining to family make-up and dynamics, general food purchasing behaviors, current behaviors as they pertain to general health and nutrition, and levels of physical activity. The *activity log* was designed to capture and track any changes in food purchases and to record physical activity. The log also included the following questions: "This month, has your family talked about healthier food choices, exercise or the museum project? What have you talked about and what, if any, changes have you noticed in your family or in your child?" *The individual family Journals* were distributed to encourage parents to capture any thoughts on how the program was affecting their lives or to note changes in their child that would not fit into the small recording space of the activity log. JVA hoped that the Journal would motivate parents to record their thoughts, changes in behavior, exercise levels or food purchases that may have been influenced by P2H.

The Museum hoped to recruit six families in the 2009–2010 school year and six additional families in the 2010–2011 school year. In the 2009–2010 school year, JVA worked with one family from each of the following six schools: Harrington, Fletcher, Goldrick, Peoria, Greenwood, and Cole Arts and Science Academy. In recruitment, JVA worked with family liaisons to identify families that closely represented the demographics and characteristics of P2H schools. For example, representative families included minority families, those with income levels below Colorado state average, and families with children who qualify for and/or utilize free- or reduced-price meals at school. Three of the families were monolingual Spanish speaking.

During the first three months of programming, six families were recruited and agreed to participate in Focus Families. Each of the six families completed the initial screening process and comprehensive family assessment. After this, however, communication slowly decreased and in total only two families completed more than one month of tracking and communication with JVA. Recently one of the two remaining families presumably changed their cell phone number because someone unfamiliar with JVA's contact is now answering the phone and cannot provide any information about this. As a result of this limited participation level, very little tracking information was obtained.

Study limitations

Several limitations were identified, including:

- Targeting predominately hard-to-reach populations
- Inability to keep ongoing communication with families
- Lack of data

Because of the desire to recruit the most difficult-to-reach families, several study limitations arose. The Focus Family component faced barriers from the beginning of implementation and JVA faced immediate limitations beginning with attempting to identify and communicate with school contacts and potential families. Teachers and family liaisons in some instances were responsive and helpful, however the majority of the attempted communications with school contacts were unsuccessful. Project time allocated for this step in the process doubled, and yielded very little response. Secondly, once families were identified, establishing initial communication with them and then maintaining the lines of communication was challenging. Because P2H operates in some communities with high rates of family mobility and because JVA focused on recruiting the most hard-to-reach families, communication was the greatest challenge faced. Families would change cell phone numbers, move houses or have phone services disconnected without communicating with JVA, creating major challenges and presenting limitations.

As has been mentioned, while JVA did successfully recruit six Focus Families in Year 1 of implementation, recruitment and retention proved difficult. Some of the barriers included:

- Difficulty communicating directly with the identified school contact/family liaison, including competing with other tasks required of families and schools at the start of the school year, such as student registration and immunizations.
- Many school liaisons work part-time and their hours varied quite dramatically from four hours a week at some schools to 20 hours a week at others.
- Roughly 50% of the school contacts/family liaisons were not able to successfully identify potential families for participation in the Focus Families component.
- High rates of turnover in the schools made it difficult to rely on one single contact.
- During implementation Year 1, JVA attempted to reach out to and recruit the "hardest-to-reach" families, including minority families, those with several elementary school-aged children, families that use the free- and reduced-price lunch program, and families with monolingual Spanish speakers. While JVA successfully recruited these families, they proved to be incredibly difficult to build long-term relationships with.

Analysis

Did the program encourage students to advocate for healthy changes at home and help families make those changes?

The tracking logs and Journals were intended for families to note behavioral change in children participating in P2H and in any behavioral change experience by the families. As was mentioned above in the Study limitations section, Focus Family participants did not use the logs and Journals regularly and, in fact, only one family reported consistent use of the log and Journal.

Table 1 illustrates the demographic characteristics of the six initial Focus Families.

Table 1: Focus Family Demographics

Focus Family Assessment (6 total families)	
Minority families (n = *6*)	100%
Families receiving federal assistance (n = *5*)	83%
Families qualifying for free- or reduced-price meals (n = *6*)	100%
Families using free- or reduced-price meal services (n = *6*)	100%
Families whose children were currently performing at least 3 hours of physical activity per week (n = *6*)	100%
Monolingual Spanish-speaking families (n = *3)*	50%

In addition to these demographics, the initial assessment helped to reveal the following information, which provided insight into the families. Most shopped in several locations including mainstream grocery stores and Wal-Mart; three Latino/a families also shopped at a "mercado" or local community grocery store specializing in Hispanic/Latino products and lower-priced produce; an additional three families indicated they were buying products in bulk because of the increased ability to feed the family for longer, which sometimes meant they were less focused on purchasing healthier food options. The following quote from one of Focus Families participants articulates the struggles many P2H families may face:

> *"I'm a single father and I try to talk to and teach my boys all the time, so now I'm taking them shopping and they have learned that with our limited money we can buy more processed bulk foods, but it's not good for them. It's a difficult lesson for them, but they know the more fruits and vegetables we can buy and when we cook it ourselves we are being healthy. The great thing is that—they get it."*

Because of low levels of participation in Focus Families, little data is available to evaluate and analyze. However, during the comprehensive family assessment, many families commented on the importance of the program and said that their children do convey some limited information on what they are learning. One parent expressed concern for her daughter who is overweight and said that P2H has presented an opportunity to speak about the issue and focus on health rather than appearance:

> *"My daughter said something really important. She talked about how hard our heart has to work when we are overweight. I think Passport to Health has opened the doors to learning and has got us to think about our health. We have changed, we are watching what we are eating and we're losing weight."*

At the end of the spring, this participant reported that she had lost 11 pounds and her daughter was losing a significant amount of weight, too.

Communication Challenges

Overall, communication with families was extremely challenging. The primary obstacles faced by JVA included:

- Disconnected or changed telephone numbers
- Families not returning phone calls
- Transportation issues, which made it difficult to schedule and follow-through with meetings
- Level of reading comprehension

As has been mentioned, the greatest obstacle to consistent communication was that Focus Family participants frequently changed their cell phone number or the cell phone number was disconnected. This occurred with five out of the six families. Further, four of the families did not have "land lines" in their homes, five of the families that provided cell phone telephone numbers had their numbers either changed or disconnected, one family moved out of state and another family changed schools. In addition, even when families did have reliable numbers, they rarely returned phone calls.

Other barriers to communication with families included transportation. JVA offered to meet families at their homes or at their child's school, depending on what made them more comfortable. Unfortunately, two of the families that decided to meet at the school were relying on public transportation and were not able to make it at the designated meeting time.

A final limitation was the recruited families' levels of literacy and reading comprehension, especially in Spanish. JVA made every attempt to provide simple, clear and concise language in all written communications, however some school districts required the addition of lengthy pieces of information, adding significantly to the complexity of forms and paperwork and challenges with regards to comprehension.

Conclusion

During the 2009–2010 school year, the Focus Families component of P2H yielded very little data to effectively measure the influence P2H is having on families of participating students. While several factors contributed to the inability to obtain data, many facets of this challenging situation created learning opportunities and areas for growth. This school year helped lay the foundation for better understanding the challenges of the Focus Families component. By understanding these challenges, there is greater opportunity to implement change and proactively mitigate some of the obstacles that will continue to present themselves while working with this hard-to-reach population.

The following conclusions and recommendations emerged from the Focus Families component in Year 1:

Identifying potential participating families

- Family liaisons and school contact information should be updated as soon as changes in school contacts, family liaisons, or teacher assignments take place.

- Families should be representative of all families, without specific focus on hard-to-reach families.
- Families should be approached for interest or participation earlier in the process, if possible.
- Rather than relying solely on the family liaisons, teachers should be asked to provide recommendations for focus family participations.

Communicating with families

- Simplified forms could be utilized with more concise messaging.
- Reduction in the amount of tracking documents. Combining the activity log with the family Journal could make tracking less time consuming.
- Determine immediately how families wish to be contacted. Also, when possible, obtain more than one telephone number, ask for email addresses, and for an additional contact person and phone number in case JVA is not able to reach the program participant.
- Currently an incentive of $15 is offered for each month that Focus Families participate in a quick phone check-in with a JVA associate. Only four families engaged in the monthly conversation. If incentives were larger or more appealing, more families may be inclined to participate in these calls.

General

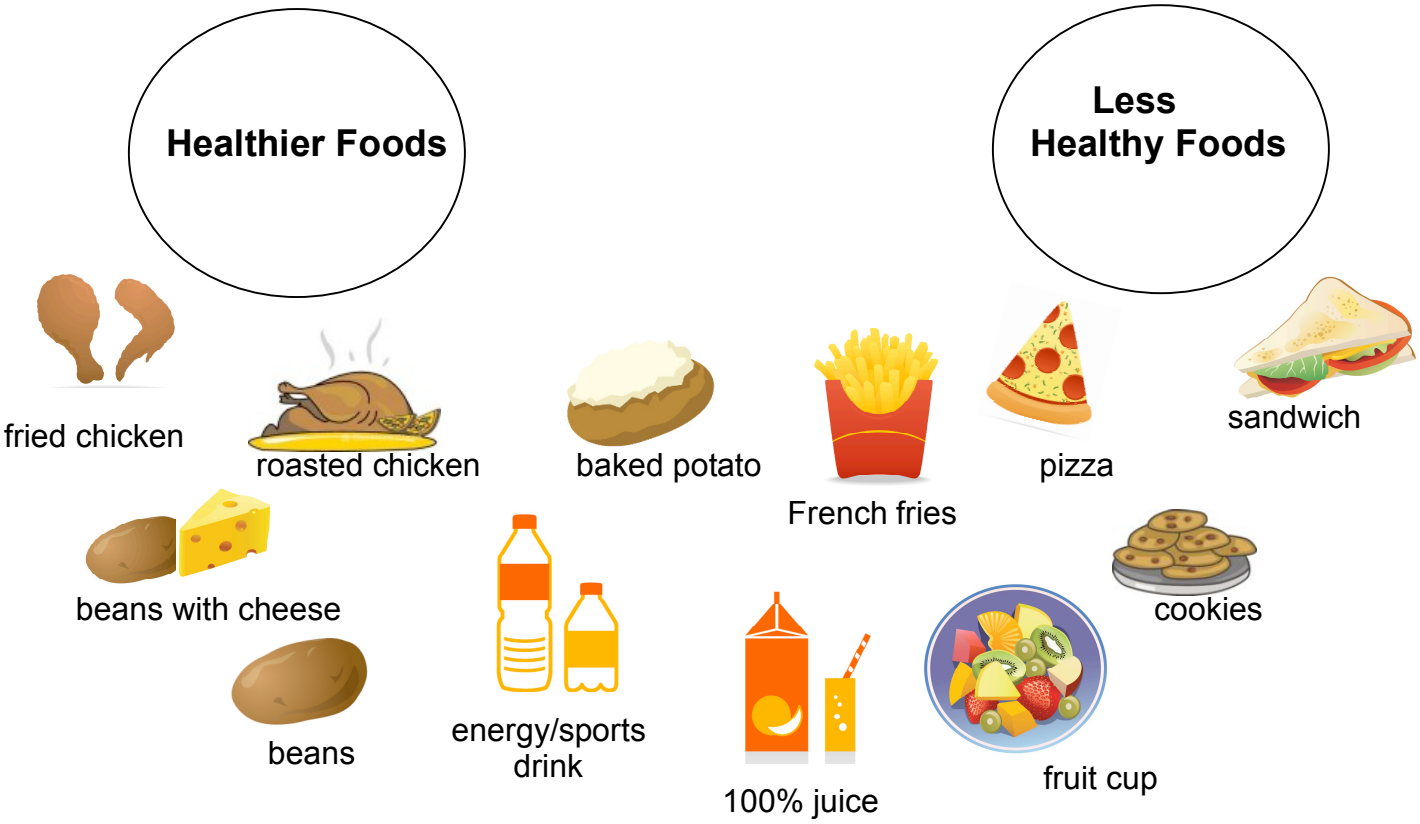
- Because of the challenges associated with creating an ongoing flow of communication with low-income communities of color, JVA and the Museum could discuss specific best practices and should consider revising the Focus Families methodology and strategy.
- The 2009–2010 Focus Families component did not reach the ambitious goals set forth by the Museum. However, stronger relationships were built with family liaisons and school contacts, which might allow JVA to get an earlier and more ambitious start during implementation Year 2.

Appendix VI: Evaluation Tools

Student Pre-survey (A)

This is an important survey to help tell us about your knowledge of health science. This is not a test and no one is going to grade you, so just mark the answer that you think is best.

1. Draw a line from each food item to the circle you think it belongs in. (Each food should have a line to one of the circles and each circle should have six lines.)



2. Yesterday, did you eat any vegetables? (Circle your answer) (Vegetables are salads; boiled, baked and mashed potatoes; and all other cooked and uncooked vegetables. Don't count French fries or chips.)

A) No, I didn't eat any vegetables yesterday
B) Yes, I ate vegetables 1 time yesterday
C) Yes, I ate vegetables 2 times yesterday
D) Yes, I ate vegetables 3 times yesterday

Circle the best answer for the following questions:

3. Based on the label, does this food have:

A) No sugar
B) A little sugar
C) Lots of sugar

Nutrition Facts

Serving Size 2 crackers (14 g)
Servings Per Container About 21

Amount Per Serving

Calories 60 Calories from Fat 15

	% Daily Value*
Total Fat 1.5g	2%
Saturated Fat 0g	0%
Trans Fat 0g	
Cholesterol 0mg	0%
Sodium 70mg	3%
Total Carbohydrate 10g	3%
Dietary Fiber Less than 1g	3%
Sugars 0g	
Protein 2g	

4. Is this statement true or false?

I often read nutrition labels like this one.

True False

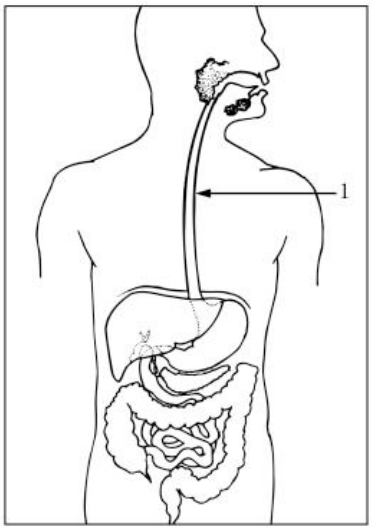
5. About how often when you have the choice between different types of food do you choose a food because you know it is healthier than the other food choices?

Often Sometimes Never

6. How much food does your body need?

A) As much as you can eat
B) Three square meals a day
C) Exactly what the food pyramid says
D) The food pyramid is a guide but it depends how much energy you use

7. Look at this picture, which shows some of the organs that can be found inside the human body. What is the main job of the organ with the arrow pointing to it?

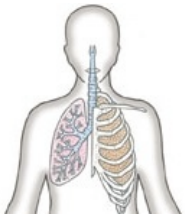
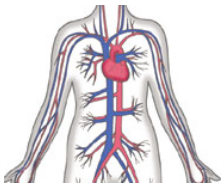


A) Carrying air
B) Carrying food
C) Carrying blood
D) Carrying messages from the brain

8. In your body, what two organs work together to make sure that oxygen gets to all the other organs of your body?

A) Lungs and kidneys
B) Heart and lungs
C) Brain and kidneys
D) Lungs and liver

9. Physical activity has an impact on which of the following body systems?


A) Respiratory B) Circulatory C) Musculoskeletal (Bones and Muscles) D) All of these

10. How many times in the last week did you do something that made your heart beat faster and made you breathe hard (like swimming laps, running, playing soccer, playing tag, dancing, skating or anything else)?



None 2 times 4 times 6 times

1 time 3 times 5 times 7 or more times

11. How often do you go to the gym or park?

Often Sometimes Never

Almost done!

12. Tell us what you think about science and eating healthy by checking the box that is closest to how you feel:

QUESTIONS	Yes	Kind Of	Not Really
I am interested in learning about science.	❑	❑	❑
Science helps me understand more about me.	❑	❑	❑
When I am not at school, I still can use science.	❑	❑	❑
I have fun learning science topics.	❑	❑	❑
Eating healthy foods is important for my body.	❑	❑	❑
I talk to my family about being healthy.	❑	❑	❑
I like eating healthy foods.	❑	❑	❑
Healthy foods can taste good.	❑	❑	❑
My family encourages me to eat healthy.	❑	❑	❑
My family encourages me to be active.	❑	❑	❑

Finally, tell us a little about yourself.

13. English is the language used in your home…

- ❑ All of the time
- ❑ Most of the time
- ❑ Some of the time
- ❑ Rarely
- ❑ Never

14. Are you a…

- ❑ Girl
- ❑ Boy

15. Please write your birthday: (For example: My birthday is Oct. 28, 1985)

_____

Thank you so much for your help!

Student Pre-survey (B)

This is an important survey to help tell us about your knowledge of health science. This is not a test and no one is going to grade you, so just mark the answer that you think is best.

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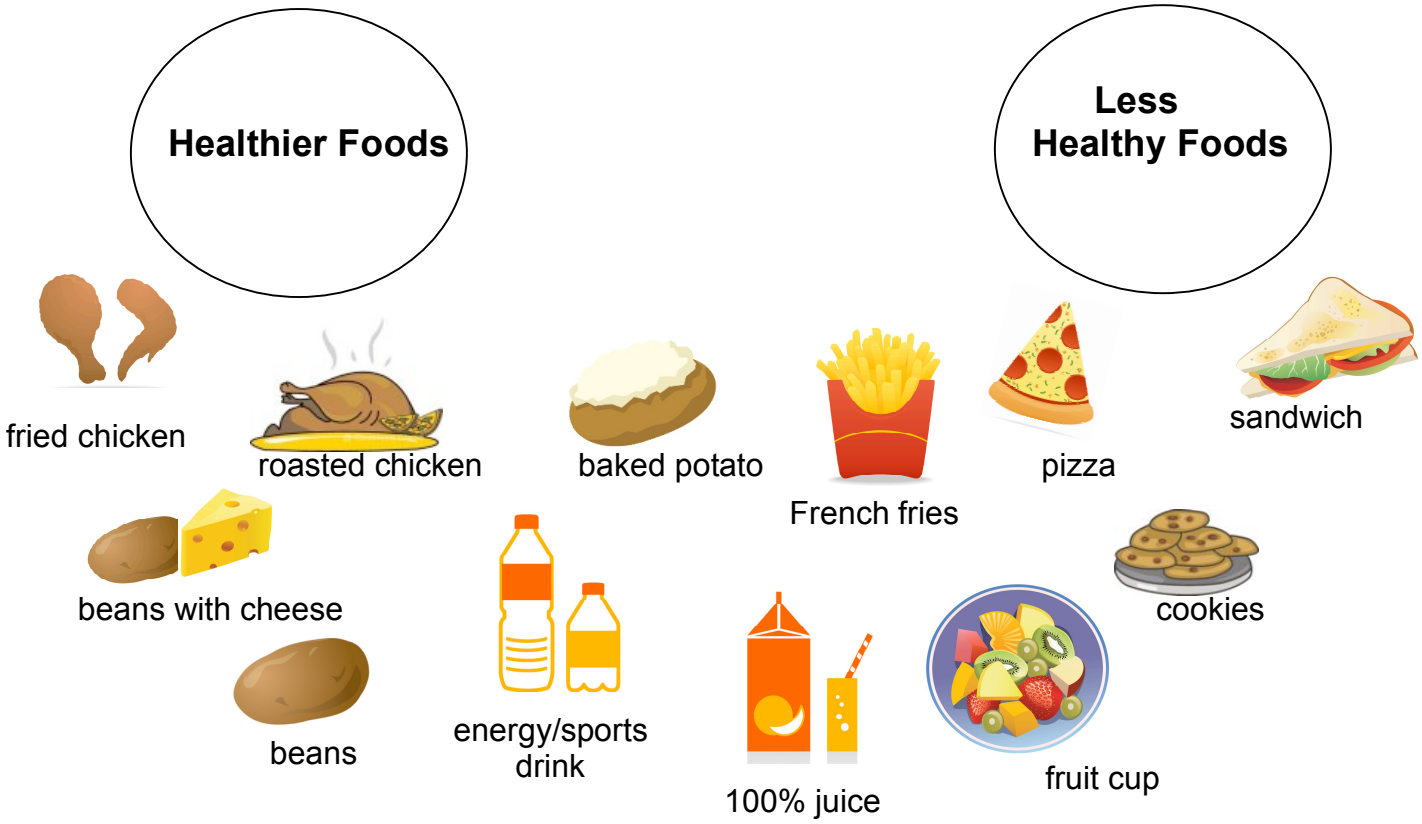

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Circle the best answer for the following questions:

3. Based on the label, does this food have:

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Nutrition Facts

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Servings Per Container About 21

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Dietary Fiber Less than 1g	3%
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4. Is this statement true or false?

I often read nutrition labels like this one.

True False

5. About how often when you have the choice between different types of food do you choose a food because you know it is healthier than the other food choices?

Often Sometimes Never

6. How much food does your body need?

A) As much as you can eat
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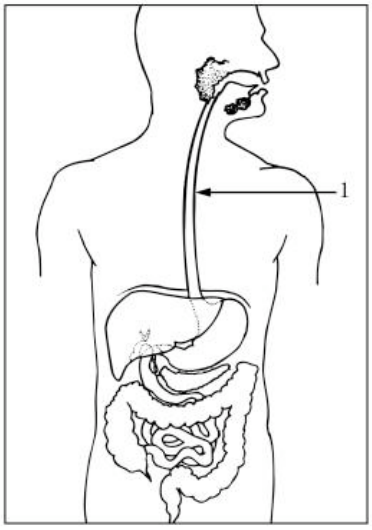

A) Carrying air
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C) Carrying blood
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8. In your body, what two organs work together to make sure that oxygen gets to all the other organs of your body?

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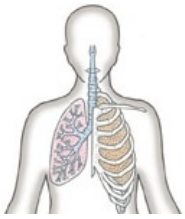
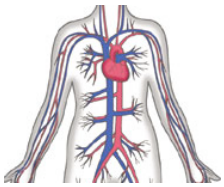
9. Physical activity has an impact on which of the following body systems?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12. Tell us what you think about science and doing physical activities (like football, dancing, roller skating, running, biking and anything else where you are moving) by checking the box that is closest to how you feel:

	Yes	Kind Of	Not Really
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Science helps me understand more about me.	❑	❑	❑
When I am not at school, I still can use science.	❑	❑	❑
I have fun learning science topics.	❑	❑	❑
It is important to do physical activities.	❑	❑	❑
Doing physical activities helps keep me healthy.	❑	❑	❑
I like doing physical activities.	❑	❑	❑
I feel safe playing outdoors in my neighborhood.	❑	❑	❑
My family encourages me to do physical activity.	❑	❑	❑
I do physical activities with my family.	❑	❑	❑

Finally, tell us a little about yourself.

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Student Post-survey (A)

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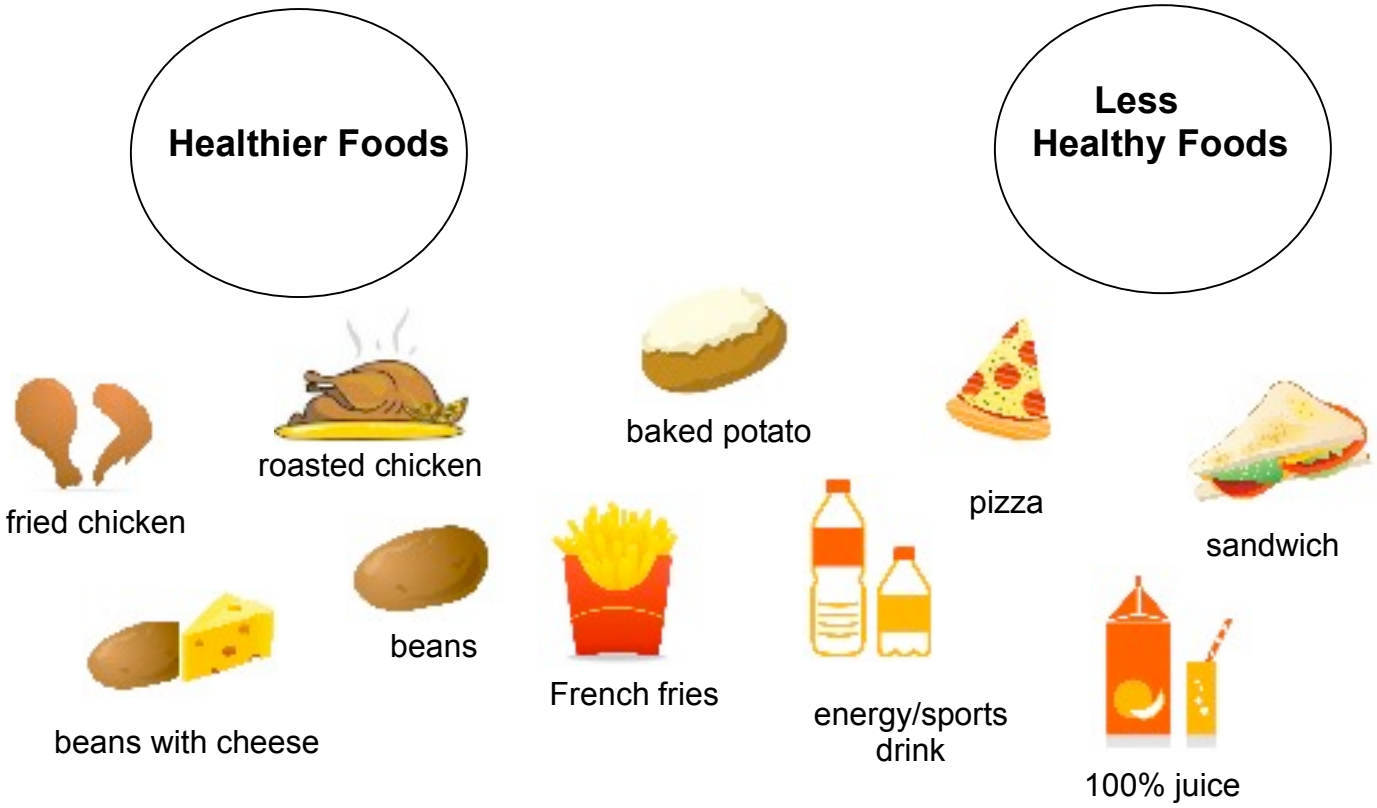

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4. Is this statement true or false?

I often read nutrition labels like this one.

True False

5. About how often when you have the choice between different types of food do you choose a food because you know it is healthier than the other food choices?

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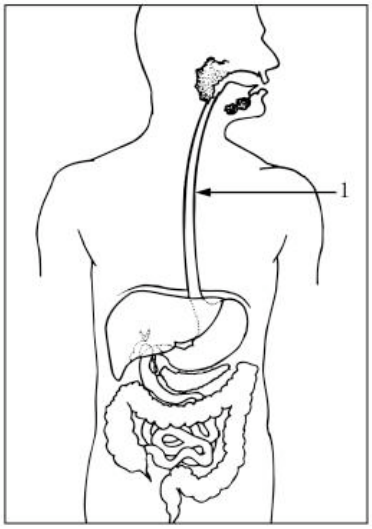

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8. In your body, what two organs work together to make sure that oxygen gets to all the other organs of your body?

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13. Finally, tell us about your experience with Passport to Health by checking the box that is closest to what you think:

	Yes	Kind Of	Not Really
Because of Passport to Health, I learned more this year in science than I did last year.	❑	❑	❑
Because of Passport to Health, my family is eating healthier at home.	❑	❑	❑
Because of Passport to Health, I am doing more physical activities.	❑	❑	❑
Because of Passport to Health, I have joined a new sport or recreation team, club or class.	❑	❑	❑
Because of Passport to Health, I am living a healthier lifestyle.	❑	❑	❑

14. Mark the box next to ALL of the activities you did this year:

❑ The class that the Museum educator taught at my school

❑ The field trip to the Museum with my class

❑ The field trip to the Museum with my family

❑ Family health night at my school

❑ Visited the Museum with my family outside of class

❑ Activities in the Passport to Health Journal

NOW . . . Put a circle around the ONE activity that you participated in that was your favorite.

15. Are you a…

- ❑ Girl
- ❑ Boy

16. Please write your birthday (For example, mine is October 28, 1985):

_____

THANK YOU SO MUCH FOR YOUR HELP!

Student Post-survey (B)

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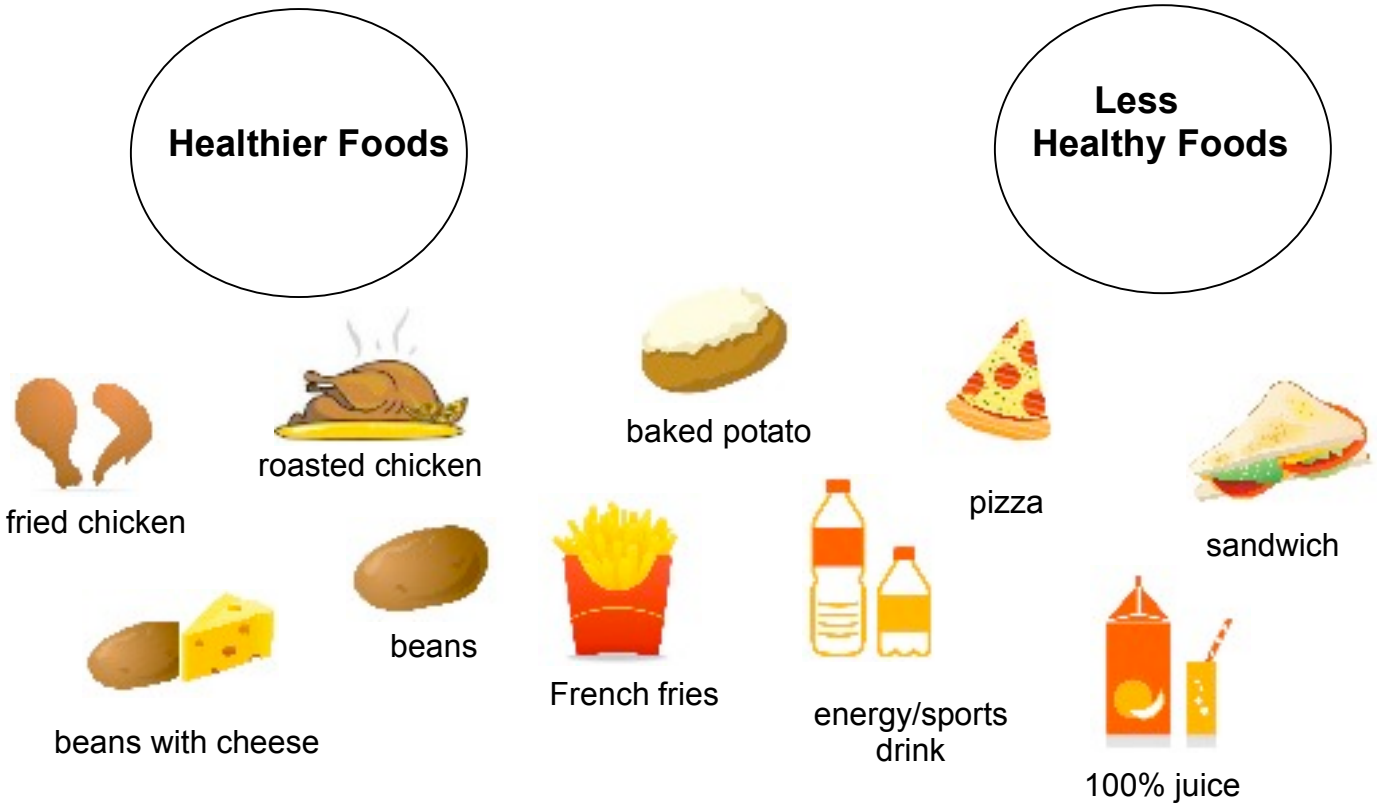

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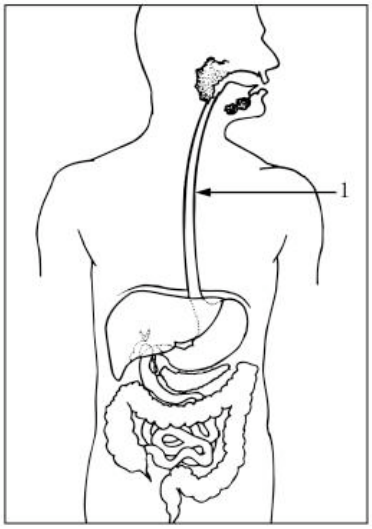

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	Yes	Kind Of	Not Really
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Science helps me understand more about me.	❑	❑	❑
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I have fun learning science topics.	❑	❑	❑
It is important to do physical activities.	❑	❑	❑
Doing physical activities helps keep me healthy.	❑	❑	❑
I like doing physical activities.	❑	❑	❑
I feel safe playing outdoors in my neighborhood.	❑	❑	❑
My family encourages me to do physical activity.	❑	❑	❑
I do physical activities with my family.	❑	❑	❑

13. Finally, tell us about your experience with Passport to Health by checking the box that is closest to what you think:

	Yes	Kind Of	Not Really
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Because of Passport to Health, I have joined a new sport or recreation team, club or class.	❑	❑	❑
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14. Mark the box next to ALL of the activities you did this year:

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❑ Visited the Museum with my family outside of class

❑ Activities in the Passport to Health Journal

NOW . . . Put a circle around the ONE activity that you participated in that was your favorite.

15. Are you a…

- ❑ Girl
- ❑ Boy

16. Please write your birthday (For example, mine is October 28, 1985):

_____

THANK YOU SO MUCH FOR YOUR HELP!

Passport to Health – Outcome Evaluation

Student Focus Groups

[TEXT IN ALL CAPS IS NOT READ ALOUD]

Location/Time: School facility during, before, during or after school (depending on school preference and availability)

Sample: 8-10 5th grade students from participating P2H schools

Attendees: One JVA Associate and one school staff member

Incentives: Kids will be offered health snacks

WELCOME/OVERVIEW

Hello. Thank you all for participating today. My name is Julia Alvarez and this is _____ and we are working with the Denver Museum of Nature & Science to see what you learned from participating in Passport to Health. Who remembers what the Passport to Health program is? (Ask a student to tell you and make sure they all remember) Great. So, what I want to talk about today are your experiences with the program and what you learned this year. Who can remind us what the four parts of the P2H program are? (ExerScience, Fitness Physiology, Family Fit Fest, Family Health Day) Perfect. So, we want to know whether or not the P2H program changed the way you think about science.

I will be asking you some questions and if you don't understand them, you can ask me to make them more clear. XXXXXX from your school is also here to listen to the conversation and she will be taking notes so that I can remember what you say when I write a report for the museum. The information you share today is confidential, I won't be telling the school or your teachers who said what. [ENSURE THEY KNOW WHAT CONFIDENTIAL MEANS] Also, it's important to remember that there are no right or wrong answers to these questions, I just want to know what you think and why. Also, participating is voluntary [ENSURE THEY KNOW WHAT VOLUNTARY MEANS]. So that means that if you want to leave at any time to go back to class you can, just let me know. You can also choose not to answer any question if you don't want to.

Is everyone ready?

OUTCOMES

Student responses to focus group questions should help to indicate that participation in Passport to Health resulted in:

- An increase in their health science content knowledge
- Increased understanding of the value of physical activity and its contributions to a healthy lifestyle
- An increased ability and willingness to advocate for healthy options and behaviors within their family units

QUESTIONS

1. For this question, I want to hear from each one of you. What were the best things about the Passport to Health program?
2. What did you think of science last year?

3. What do you think of science now?

Speaking of learning science, I am going to ask you some questions about what you learned this year about science and health

4. What do you think is the most important or interesting thing you learned in P2H?
    a. PROBE: Write down three examples of HEALTHY food? (give out half-sheets of paper)
        i. If all/mostly fruits/vegetables, ask for examples of other foods that are healthy, besides fruits/vegetables
5. Since you started the P2H program, have you changed the kinds of foods you eat?
    a. PROBE: Do you feel like you make healthier choices?
    b. PROBE: Please raise your hand if you read nutrition labels on the backs of food products. Did you do that before? Why/why not?
6. What does it mean to be “healthy”?
7. Write down your three favorite physical activities (activities that get your heart rate up)
    a. PROBE: Why is physical activity important? (this should lead to a conversation about the connection between activity and body systems)
    b. PROBE: Have you changed how physically active you are since P2H started?
    c. PROBE: Do you exercise more?
8. Did you make these changes because of things you learned in P2H?
9. Thinking about what you learned in P2H, please write down one **specific** thing you could do to be healthier?

In addition to learning about you, we want to know what you were able to teach your families about being healthy!

10. Did you talk to your families about P2H?
    a. PROBE: What did you talk to them about?
11. Do you do anything different at home because you participated in P2H? Like what?
    a. PROBE: Do you ask for different food?
    b. PROBE: Do you do more exercise?
    c. PROBE: What is the most important way that your family changed because of P2H?
12. Working with a partner, I would like you to plan a healthy dinner that you could cook with a grown-up in your house. Write or draw what you would make and WHY?
13. Based on what you learned, please write down one, specific thing your family could do to be healthier?
14. Talk with a partner about everything you did in P2H (the journal, activities at the Museum, Family Fit Fest, etc.) and I would like each of you to come up with one thing you would change to make P2H better.

CLOSING

Those are all of my questions.

Are there any final comments you would like to make or do you have any questions for me?

Thank you for participating in this focus group today. Your time is very helpful to us!

Passport to Health Teacher Pre-Survey #

Not including next year, how many years have you been a teacher? _____

Not including next year, how many years have you taught 5th-grade? _____

Did you teach 5th-grade last year? Yes No

Please CIRCLE the answer that best reflects your experience or opinion.

1. In the previous school year, how often did you encourage students to participate in physical activity AT school?

   On a daily basis

   On a weekly basis

   On a monthly basis

   A few times a semester

   About once a semester

   Never

   I did not teach last year

2. In the previous school year, how often did you encourage students to participate in physical activity OUTSIDE of school?

   On a daily basis

   On a weekly basis

   On a monthly basis

   A few times a semester

   About once a semester

   Never

   I did not teach last year

3. How important is it for your students to participate in physical activity?

   Not important Very important

   1 2 3 4 5

4. Do you think students in your school take advantage of physical activities and resources (such as parks or recreation centers) outside of school that are available to them?

   Most do

   About half do

   Most do not

   None do

5. How would you rate your knowledge of physical activities and resources available to students outside of school?

   Non-existent Extensive

   1 2 3 4 5

For the purposes of this program the Denver Museum of Nature and Science defines health science as:

> The study and gaining of new knowledge of human biology, disease, and wellness and the application of these discoveries to your life.

6. Based on the definition above, have you ever taught health science content?

Yes No If yes, how many years total?_____

The remainder of the survey asks a number of questions about your experience teaching health science content. If you answered "no" above and have not taught health science content, please use your experience teaching natural science when the question references health science.

7. In the previous school year, how often did you incorporate physical fitness into science lessons?

   Often

   Sometimes

   Very Little

   Never

   I did not teach last year

8. In the previous school year, how often did you incorporate nutrition into science lessons?

   Often

   Sometimes

   Very Little

   Never

   I did not teach last year

9. In the previous school year, how often did you incorporate health science concepts into lessons outside of science (such as math or literature lessons)?

   On a weekly basis

   On a monthly basis

   A few times a semester

   About once a semester

   Never

   I did not teach last year

10. Please indicate the degree to which you agree or disagree with each of the following statements by circling the appropriate number.[1]

	Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
a. When teaching health science, I usually welcome student questions.	1	2	3	4	5
b. I feel I have the necessary skills to teach health science.	1	2	3	4	5
c. I am typically able to answer students' health science questions.	1	2	3	4	5
d. Given a choice, I would encourage the principal to evaluate my health science teaching.	1	2	3	4	5
e. I feel comfortable improvising during health science lab experiments.	1	2	3	4	5
f. I feel that I am able to teach health science as well as I teach most other subjects.	1	2	3	4	5
g. After I have taught a health science concept once, I feel confident teaching it again.	1	2	3	4	5
h. I feel excited about teaching health science lessons.	1	2	3	4	5
i. I know the steps necessary to teach health science concepts effectively.	1	2	3	4	5
j. I can explain to students why health science experiments work.	1	2	3	4	5
k. I am continually finding better ways to teach health science.	1	2	3	4	5
l. I generally teach health science effectively.	1	2	3	4	5
m. I enjoy teaching health science content.	1	2	3	4	5
n. I find health science a relatively easy topic to teach.	1	2	3	4	5
o. I understand health science concepts well enough to teach health science effectively.	1	2	3	4	5
p. I know how to make students interested in health science.	1	2	3	4	5
q. I feel comfortable when teaching health science content that I have not taught before.	1	2	3	4	5
r. I feel I have a good understanding of the health science concepts I teach.	1	2	3	4	5
s. I feel energized after teaching new health science content.	1	2	3	4	5
t. Even when I am busy, I always try to make time to teach health science content.	1	2	3	4	5

11. The Denver Museum of Nature & Science provides resources for teachers at the museum and on its Web site. Please CIRCLE any of the following resources you knew about before becoming involved with Passport to Health, then LIST how many times in the previous two years you have used it.

Online guides	_____	Exhibit activity guides	_____
Museum visits w/ class	_____	Free previews	_____
Pre-visit activities	_____	Post-visit activities	_____
Professional development	_____	Museum visit on own time (not a preview)	_____

[1] Questions taken from the SETAKIST survey published in: Roberts, Kyle and Henson, Robin K., "Self-Efficacy Teaching and Knowledge Instrument for Science Teachers (SETAKIST): A Proposal for New Efficacy Instrument." Presented at the Annual Meeting of the Mid-South Educational Research Association (28th, Bowling Green, KY, November 17-19, 2000).

Passport to Health Teacher Post–Survey _____

Please answer the following questions only if you DID NOT complete the pre-survey:

Not including this year, how many years have you been a teacher? _____

Not including this year, how many years have you taught 5th-grade? _____

Did you teach 5th-grade last year? Yes No

Everyone should answer the remaining questions:

Please CIRCLE the answer that best reflects your experience or opinion.

12. In the current school year, how often did you encourage students to participate in physical activity AT school?

On a daily basis	About once a semester
On a weekly basis	Never
On a monthly basis	I did not teach last year
A few times a semester	

13. In the current school year, how often did you encourage students to participate in physical activity OUTSIDE of school?

On a daily basis	About once a semester
On a weekly basis	Never
On a monthly basis	I did not teach last year
A few times a semester	

14. How important is it for your students to participate in physical activity?

Not important				Very important
1	2	3	4	5

15. Do you think students in your school take advantage of physical activities and resources (such as parks or recreation centers) outside of school that are available to them?

Most do

About half do

Most do not

None do

16. How would you rate your knowledge of physical activities and resources available to students outside of school?

Non-existent				Extensive
1	2	3	4	5

For the purposes of this program the Denver Museum of Nature & Science defines health science as:

> The study and gaining of new knowledge of human biology, disease, and wellness and the application of these discoveries to your life.

17. In the current school year, how often did you incorporate physical fitness into science lessons?

    Often

    Sometimes

    Very Little

    Never

18. In the current school year, how often did you incorporate nutrition into science lessons?

    Often

    Sometimes

    Very Little

    Never

19. In the current school year, how often did you incorporate health science concepts into lessons outside of science (such as math or literature lessons)?

    On a weekly basis

    On a monthly basis

    A few times a semester

    About once a semester

    Never

20. The Denver Museum of Nature & Science provides resources for teachers at the Museum and on its Website. Please LIST how many times in the previous school year you have used the following museum resources OUTSIDE your association with Passport to Health.

Online guides	_____	Exhibit activity guides	_____
Museum visits w/ class	_____	Free previews	_____
Pre-visit activities	_____	Post-visit activities	_____
Professional development	_____	Online communities	_____
Museum visit on own time (not a preview)	_____		

21. Please indicate the degree to which you agree or disagree with each of the following statements about teaching health science by circling the appropriate number.[2]

	Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
a. When teaching health science, I usually welcome student questions.	1	2	3	4	5
b. I feel I have the necessary skills to teach health science.	1	2	3	4	5
c. I am typically able to answer students' health science questions.	1	2	3	4	5
d. Given a choice, I would encourage the principal to evaluate my health science teaching.	1	2	3	4	5
e. I feel comfortable improvising during health science lab experiments.	1	2	3	4	5
f. I feel that I am able to teach health science as well as I teach most other subjects.	1	2	3	4	5
g. After I have taught a health science concept once, I feel confident teaching it again.	1	2	3	4	5
h. I feel excited about teaching health science lessons.	1	2	3	4	5
i. I know the steps necessary to teach health science concepts effectively.	1	2	3	4	5
j. I can explain to students why health science experiments work.	1	2	3	4	5
k. I am continually finding better ways to teach health science.	1	2	3	4	5
l. I generally teach health science effectively.	1	2	3	4	5
m. I enjoy teaching health science content.	1	2	3	4	5
n. I find health science a relatively easy topic to teach.	1	2	3	4	5
o. I understand health science concepts well enough to teach health science effectively.	1	2	3	4	5
p. I know how to make students interested in health science.	1	2	3	4	5
q. I feel comfortable when teaching health science content that I have not taught before.	1	2	3	4	5
r. I feel I have a good understanding of the health science concepts I teach.	1	2	3	4	5
s. I feel energized after teaching new health science content.	1	2	3	4	5
t. Even when I am busy, I always try to make time to teach health science content.	1	2	3	4	5

[2] Questions taken from the SETAKIST survey published in: Roberts, J. Kyle & Henson, Robin K., "Self-Efficacy Teaching and Knowledge Instrument for Science Teachers (SETAKIST): A Proposal for New Efficacy Instrument." (2000). Presented at the Annual Meeting of the Mid-South Educational Research Association (28th, Bowling Green, KY, November 17–19, 2000).

22. Please indicate the degree to which you agree or disagree with each of the following statements about Passport to Health (P2H) by circling the appropriate number.

	Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
a. Students who participated in P2H this year were able to better identify and understand the purpose of the body systems than similar groups of students I have taught this content to	1	2	3	4	5
b. Students who participated in P2H this year were able to better understand the connection between different body systems than similar groups of students I have taught this content to	1	2	3	4	5
c. Students who participated in P2H this year were able to better understand the connection between the body systems and physical activity than other groups of students their age	1	2	3	4	5
d. Students who participated in P2H this year were able to better understand the connection between the body systems and healthy eating than similar groups of students	1	2	3	4	5
e. Families whose students who participated in P2H seemed more involved in their student's health than families of similar groups of students	1	2	3	4	5
f. As a result of P2H, I integrated health science content into other lessons such as reading and math	1	2	3	4	5
g. As a result of P2H, I was more comfortable teaching health science content this year than previous years	1	2	3	4	5
h. As a result of P2H, I was more likely to encourage students to participate in physical activity AT school this year than previous years	1	2	3	4	5
i. As a result of P2H, I was more likely to encourage students to participate in physical activity OUTSIDE of school this year than previous years	1	2	3	4	5
j. As a result of P2H, I learned more about the physical activities my students participate in this year than I have in previous years	1	2	3	4	5
k. As a result of P2H, I learned more about the physical activities and recreational opportunities available to my students	1	2	3	4	5

12. As a result of Passport to Health did the number of hours you spent teaching or focusing on science curriculum change?

No, it stayed the same
Yes, it increased by approximately 1–5 hours this year in comparison with last year
Yes, it increased by approximately 6–10 hours this year in comparison with last year
Yes, it increased by approximately 10–15 hours this year in comparison with last year
Yes, it increased by approximately 15–20 hours this year in comparison with last year
Yes, it increased by more than 20 hours this year in comparison with last year
Yes, but it decreased
If it decreased, why?

_____

_____

13. Since the beginning of the year, how many times did you access the following resources associated with Passport to Health to enhance your knowledge and/or classroom instruction?

Online community page	Never	Once	2–5 times	5–10 times	10 +	
Online guides	Never	Once	2–5 times	5–10 times	10 +	
Activities from the Journal	Never	Once	2–5 times	5–10 times	10 +	
Monthly Newsletter email	Never	Once	2–5 times	5–10 times	10 +	
Other material or strategies from last year's teacher workshop (Select NA if you did not attend the workshop)	Never	Once	2–5 times	5–10 times	10 +	NA

14. What are the major barriers to integrating Passport to Health resources into your classroom?

15. What information or topics would you like to see covered at the P2H workshop in July?

16. What would you suggest we try in the future to make the online community page a more useful resource?

17. If the suggestions above were implemented, would you use the online community page?

Yes No

18. What is the one thing that the Museum of Nature & Science could do to improve the Passport to Health Program?

19. What is the one thing that the Museum of Nature & Science should not change about the Passport to Health Program?

P2H teacher interview script

QUESTIONS:

1. First, please tell me what your role was in the implementation of Passport to Health at your school? (e.g., primary contact, administrator, family liaison, fifth-grade teacher (ask what subject they emphasize), etc.)
2. Please tell me a little bit about how Passport to Health affected your students or your classroom
    a. This year, were your students better able to identify body systems and understand the connection between body systems?
    b. Did Passport to Health affect the way your students approached science? How?
    c. Did you notice them making any changes in the foods they eat? Like what?
    d. How about in the amount of physical activity they do? How?
3. Next, please tell me how Passport to Health affected the way you teach
    a. Were you able to integrate health science into your non-science teaching? How?
        i. What made it easy to integrate?
        ii. What were barriers/what made it difficult to integrate?
        iii. What can the Museum change next year to make it easier for you to integrate Passport to Health into your daily classroom teaching?
    b. Did Passport to Health give you more confidence in your abilities to teach health science?
4. Did you utilize Passport to Health and Museum resources this year, including the online community page, the online guides, activities from the journal, monthly newsletter, other materials or strategies learned in last year's teacher workshop?
    a. How effective were they?
    b. What could the Museum do to increase teacher participation in/use of these services/supports?
5. How did your school engage in Passport to Health programming?
    a. How did your principal/school leadership support Passport to Health implementation?
    b. Did the program timeline work for your school?
        i. What would you do differently?
6. How engaged were the parents/families at your school?

a. What can the Museum do to increase engagement/participation in Passport to Health programming?
b. What is the best way to reach out to/communicate with parents/families?
    i. For evaluation purposes (consent forms, surveys, etc.)
    ii. For events (Family Health Day, Family Fit Fest, etc.)
c. What are the barriers to reaching parents?

7. What was your favorite thing about Passport to Health?
8. What is one thing the Museum could do differently/better?
9. What can we, as evaluators, do to better reach out to and communicate with teachers and school staff next year?

THANK YOU!!

Journal Observation Sheet

Journal Observation # _____
School ID _____
Teacher ID _____

Journal Observation Instructions: Flip through the journal and count the number of activities with any level of completion. Next select a sample (aim for 1/3 of total completed) of activities that were completed. Review the activities and answer the questions below using the following perameters:

Complete understanding–answers was appropriate for question asked (does not have to be right)
Some level of understanding–answer was related to what question asked but not necessarily appropriate
No level of understanding–answer does not relate to question asked

Total Number of Activities Complete? _____

Activity 1:
Please rate the level of understanding of each activity:
_____ Complete understanding
_____ Some level of understanding
_____ No level of understanding

Did the student perform reflection for this activity?
_____ Yes
_____ No

Activities Completed _____

Total Activities _____

Activity 2:
Please rate the level of understanding of each activity:
_____ Complete understanding
_____ Some level of understanding
_____ No level of understanding

Did the student perform reflection for this activity?
_____ Yes
_____ No

Activities Completed _____

Total Activities _____

Activity 3:
Please rate the level of understanding of each activity:
_____ Complete understanding
_____ Some level of understanding
_____ No level of understanding

Did the student perform reflection for this activity?
_____ Yes
_____ No

Activities Completed _____

Total Activities _____

Activity 4:
Please rate the level of understanding of each activity:
_____ Complete understanding
_____ Some level of understanding
_____ No level of understanding

Did the student perform reflection for this activity?
_____ Yes
_____ No

Activities Completed _____

Total Activities _____

Activity 5:
Please rate the level of understanding of each activity:
_____ Complete understanding
_____ Some level of understanding
_____ No level of understanding

Did the student perform reflection for this activity?
_____ Yes
_____ No

Activities Completed _____

Total Activities _____

Standards:

*Only mark ONE answer in response to each question

*Make a judgement of understanding on non-reflective questions not reflective ones

*Please report the number of non-reflection questions completed and available to help us gage level of participation

* A student performed reflection if they answer at least one reflection question in the section

*If there is no reflection question in the section write NA in response to the question

OVERALL:
Please identify activities that seemed to confuse students:

Please identify any information you see students writing down that is not part of the journal:

Passport to Health Journal
User Survey

The Passport to Health (P2H) journals are intended to engage students and facilitate learning. They include observation sheets or pages for your students to use with various activities, listed below. JVA and the Museum would like to get information about which journal articles you utilized during the course of the year. Please put an X next to each of the journal activities that you used in your classroom:

1. One lined page for students to create their own title page and/or table of contents _____

2. Pre-Visit Activities (*Expedition Health* Online Guide)
   - Current Events _____
   - Reaction Times _____
   - Calories and Energy _____

3. Fitness Physiology (Pedometer Challenge notes will be provided once you schedule the class.)
   - Page used during Fitness Physiology class
   - Charting Your Activity (Pedometer Challenge) _____
   - How Many Steps? (Pedometer Challenge) _____
   - Postcard Activity (Pedometer Challenge)

4. ExerScience (Each page corresponds to a different station in the class.)
   - Heart: Your Body's Rhythm and Beat
   - Lungs: Your Body's Cheering Squad
   - Bones and Muscles: Your Body's Movers and Shakers
   - Brain: Your Body's Team Captain
   - Energy: Your Body's Fuel to Win

5. Unguided Tour of *Expedition Health* _____

(Notes were provided when you scheduled ExerScience.)

6. Post-Visit Activities (*Expedition Health* Online Guide)
   - Graphing Activity _____
   - Body System Simile _____
   - Goal Letter _____
   - Food Labels _____
   - Nutritious Nibbles _____
   - Inherited Traits _____
   - What's Your Sport? _____

7. 10 lined pages and 10 graph pages to supplement the above, or for teachers to develop new activities

   _____

8. What (if anything) was the major barrier to utilizing the Passport to Health Journal in your classroom?

9. To your knowledge, did the PE teacher utilize the Passport to Health Journal? Yes No

   If yes, list any activities that you know they may have used:

**Please note that you are not asked to mark highlighted items because they are activities that were used by museum educators

Passport to Health Parent/Guardian Survey

Dear Parent or Guardian,

This year, your child participated in the Passport to Health program offered by the Denver Museum of Nature & Science. We are surveying parents and guardians to learn about your experiences with the program in order to learn how it may have affected your family. Please complete the following confidential survey to provide us with your feedback. Please return the survey to your child's teacher.

Please mark the appropriate response:

Because of Passport to Health. . .	Strongly disagree (1)	Disagree (2)	Agree (3)	Strongly agree (4)
My child has talked about science, health and/or physical activity at home	❑	❑	❑	❑
Our family has made changes in the foods we buy	❑	❑	❑	❑
Our family has made changes in the way we prepare food	❑	❑	❑	❑
Our family has increased the amount of physical activity we do	❑	❑	❑	❑
I pay more attention to nutritional labels	❑	❑	❑	❑
Our family has talked about healthy food and physical activity and how they relate to health	❑	❑	❑	❑

Compared to last school year my family has…	Less often this school year	The same amount	More often this school year
Visited the Denver Museum of Nature & Science	❑	❑	❑
Gone to a park	❑	❑	❑
Gone to and/or used resources at a recreation center	❑	❑	❑

What (if anything) keeps your family from visiting the Museum (check ALL that apply)

- ❑ It is too expensive
- ❑ My family does not have transportation
- ❑ My family does not have time
- ❑ We are not interested in the exhibits
- ❑ We did not know about the Museum
- ❑ Other (write below)

What (if anything) keeps your family from accessing recreation centers or parks (check ALL that apply)

- ❑ They are too expensive
- ❑ They are too far
- ❑ They are not safe
- ❑ Limited hours
- ❑ My family does not have time
- ❑ Other (write below)

_____

THANK YOU! YOUR RESPONSES ARE IMPORTANT TO US!

Encuesta sobre Pasaporte a la Salud

Querida padre o guardián,
Este año, su hijo/a participó en el programa Pasaporte a la Salud que se ofrece a través del Museo de Naturaleza y Ciencias. Estamos realizando una encuesta para padres y guardianes para aprender sobre sus experiencias con el programa para que podemos aprender como el programa ha afectado a su familia. Por favor contesta la siguiente encuesta confidencial para proveer sus reacciones y mándelo a la escuela con su estudiante para que se lo entregue al maestro/a.

Favor de marcar el cuadrito con la descripción más cercana a sus sentimientos:

Por haber participado en Pasaporte a la Salud…	Totalmente en desacuerdo (1)	No estoy de acuerdo (2)	Estoy de acuerdo (3)	Totalmente de acuerdo (4)
Mi hijo/a ha hablado más de las ciencias, la salud y/o actividades físicas en la casa	❑	❑	❑	❑
Mi familia ha cambiado las comidas que compra	❑	❑	❑	❑
Mi familia ha cambiado las maneras en que prepara la comida/los alimentos	❑	❑	❑	❑
Mi familia ha aumentado la cantidad de actividades físicas que hace	❑	❑	❑	❑
He prestado más atención a la información nutricional	❑	❑	❑	❑
Mi familia ha hablado de la comida sana, actividades físicas y como relacionan a la salud	❑	❑	❑	❑

En comparación al año escolar pasado, mi familia ha…	Menos veces este año escolar	Lo mismo	Más veces este año escolar
Visitado al Museo de la Naturaleza & las Ciencias	❑	❑	❑
Ido a un parque	❑	❑	❑
Ido y/o usado recursos en un centro de recreación	❑	❑	❑

¿Qué (si algo) impide a su familia de visitar al Museo? (Marca TODOS que aplican)

- ❑ Está demasiado caro
- ❑ No tenemos transportación
- ❑ No tenemos tiempo
- ❑ No tenemos interés en las exposiciones
- ❑ Nosotros no supimos sobre el Museo
- ❑ Otro (escribelo por abajo)

¿Qué (si algo) impide a su familia de usar los parques o centros de recreación? (Marca TODOS que aplican)

- ❑ Están demasiado caros
- ❑ Están demasiado lejos
- ❑ No están seguros
- ❑ Tienen horas limitadas
- ❑ No tenemos tiempo
- ❑ Otro (escribelo por abajo)

Passport to Health—Outcome Evaluation
Parent Interviews

OUTCOMES:

Family responses to interview questions should help to indicate that participation in Passport to Health resulted in:

- Changes in students' attitudes and behaviors in relationship to physical activity
- Changes in students' attitudes toward, knowledge of and behaviors toward healthy food options
- Increases in families' knowledge of, activities and behaviors around physical activity and healthy food options

We also hope to learn about the families' overall experiences with

- Passport to Health
- The Denver Museum of Nature and Science

INTRODUCTION

Do you have five minutes to participate in a short conversation about Passport to Health? Great, Thanks. My name is _____ and I am helping the Museum get a sense of what families think of the Passport to Health program so that we can help make it even better next year. We also want to understand how the Passport to Health program has affected your child and how it may have affected your family.

Before we begin, I want to make sure you know what was part of the P2H program as you may have participated in other programs as well. P2H includes Family Fit Fest at your child's school where you did health-centered activities, today's Family Health Day at the Museum, and a family membership to the Museum. Your fifth grader has also done a Museum program at their school and a field trip to the Museum. (Confirm knowledge)

INTRODUCCION EN ESPAÑOL

¿Tiene usted cinco minutos para participar en una conversación sobre Pasaporte a la Salud? Gracias! Me llamo _____ y estoy trabajando con el Museo para evaluar el programa y decidir como el Museo pueda mejorar el programa en el año siguiente. También queremos aprender como el Pasaporte a la Salud ha afectado su hijo/a o su familia.

Antes de empezar, quiero asegurar que usted sabe que fue parte del Pasaporte a la Salud. El programa incluye actividades para la familia, por ejemplo la Noche de Salud Familiar en la escuela de su hijo/a, donde hizo actividades sobre la salud, también el programa de hoy se llama el Día de Salud Familiar y finalmente, su Membresía Familiar al Museo. Su hijo/a en quinto grado también ha participado en un programa en su escuela y otro aquí en el Museo enfocando en la salud, las actividades físicas y la comida sana. ¿Recuerda usted todos estos componentes? Perfecto ¡Entonces, empecemos!

QUESTIONS

1. Have you enjoyed participating in the P2H program? What have been the best parts?

2. Have you noticed any changes in your child or your family as a result of P2H?

    a. PROBE: Does your child talk about what they learn in P2H at home? Like what?

    b. PROBE: Has P2H affected the way your child or family approaches nutrition or the foods you eat? How?

    c. PROBE: What about physical activity?

        i. Is your child more physically active as a result of P2H?

        ii. Is your family more physically active as a result of P2H?

        iii. Do you know where the rec centers/parks are in your community?

            1. Did you know this before P2H?

3. What is the most important way your family has changed because of P2H?

4. Finally, what school does your child attend?

THANK YOU!

PREGUNTAS EN ESPANOL

1. ¿Ha disfrutado participar en el programa Pasaporte a la Salud?

2. ¿Ha observado algunos cambios en su hijo o familia por su participación en Pasaporte a la Salud?

    a. PROBE: por ejemplo, ¿habla su hijo sobre cosas que aprendió en Pasaporte a la Salud? ¿Cómo que?

    b. PROBE: ¿El programa ha afectado la manera en que su hijo o familia piense en la nutrición o las cosas que come? ¿Cómo?

    c. PROBE: ¿Qué sobre actividades físicas?

        i. ¿Está su hijo más activo por causa del programa?

        ii. ¿Qué sobre la familia? ¿Haga más actividades físicos?

        iii. ¿Sabe ud. donde están los parques o los centros de recreación en su comunidad?

            1. ¿Sabia este información antes de Pasaporte a la Salud?

3. ¿Cuál es la manera más importante en que su familia ha cambiado por causa del programa?

4. Por fin, ¿que escuela asiste su hijo/a?

Denver Museum of Nature and Science: Passport to Health

Recruitment Plan: Focus Families

The Denver Museum of Nature & Science's Passport to Health is a program designed for fifth-grade students in the Denver metropolitan area. It is funded by the Colorado Health Foundation and serves many underserved communities. The project will increase understanding of health science and raise health literacy, and it will ultimately inspire healthy living among participating schools, students and families. The Focus Family component of this project takes place outside of the school, and therefore Jefferson County Public Schools does not encourage or discourage this research and cannot be held liable for Focus Family activities.

It is important to the Museum that families be involved in this learning experience and better understand the importance of a healthy lifestyle for the whole family. In order to assess the impact of the program, JVA Consulting (JVA) will recruit and monitor up to 12 participating families over the course of one year.

These families will be called "Focus Families." Focus Families are families that agree to work with the JVA evaluation team. Focus Families will be asked to be an active participant in the measuring, tracking and documenting of behavioral changes experienced by the student and family. The estimated time required by each family is approximately 40 minutes per month, which includes time for entries to the Healthy Living family log and participation in a monthly telephone call. The first and last month of participation will require a 30-minute home visit. Ongoing communication may also include interviews and on-site home visits by JVA facilitator Guadalupe Torres, who can be reached at 720.407.8382 or at guadalupe@jvaconsulting.com.

Family Selection Process:

Focus Family participants will be recruited in collaboration with each school's designated parent liaison employed by the school or some other appropriate staff person as identified by the school's primary contact.

JVA seeks to identify families that meet the following criteria:

1. Have been identified as an "active" family by the parent coordinator or family liaison
2. Have a younger child or children that attend the school
3. Have expressed a serious level of interest in participating as a Focus Family
4. Have agreed to meet the minimum requirements.

Focus Families Recruitment	Protocols
Identifying potential families (November 2009)	• JVA will work with **each participating schools' parent liaison employed by the school or some other appropriate staff person recognized by the school's primary contact.** • Once a family has been identified, the parent coordinator and/or family liaison will contact the interested family and provide a *letter of introduction* and participation *consent agreement.*
Focus Family participation consent agreement	• The agreement must be completed, signed and returned to the school. JVA will schedule the first home visit upon receipt of the signed participation agreement.
Home visits—pre- and post-assessments (November/December 2009 and April/May 2010)	• JVA will schedule **two home visits, each taking approximately 30 minutes.** JVA will explain and distribute the Healthy Living family log. **The pre- and post-assessments, which are identical,** will be conducted in fall 2009 and spring 2010, respectively. • Changes in values, attitudes and overall condition (i.e., healthy lifestyles) will be assessed. • Changes in family food choices and physical activity (self-reported) will be assessed.
Ongoing tracking with monthly phone calls and follow-up emails.	JVA will address the following: • Review the families' understanding of the importance of healthy lifestyle • Look for new and creative ways to promote/entice families to get active • Review the healthier cooking options and recipes
Post home visit (May 2010)	• A post visit and assessment are conducted to evaluate and capture all pertinent self-reported data communicated by the family. • All data captured in the initial assessment, ongoing phone calls and other methods of communication will be documented, reviewed and analyzed.

JVA CONSULTING, LLC
partners in community and social change

November 2009

Dear Passport to Health Family,

Thank you for your interest in becoming a Focus Family participant for the Denver Museum of Nature & Science's Passport to Health (P2H) program. Focus Families are families that are willing to monitor and track behavioral changes that occur as your child participates in the P2H program, presented and administered by the Denver Museum of Nature & Science.

We ask all Focus Family participants to record changes in food choices and exercise levels. Changes will be reported on the Healthy Living family log, which will be provided for each family at the first home visit. We also ask that the individual noting changes participates in a brief monthly call. Both of these activities should take a total of 40 minutes per month. The first and last month of participation will require a 30-minute home visit. Guadalupe Torres of JVA Consulting will schedule the first home visit for November/December 2009 and the second home visit in April/May 2010.

Program participation is for the duration of one year. Due to the length of the program, it is critical that your family is committed for the duration of the program. Your family's contribution of recording changes will help determine the level of impact of the P2H program.

As an incentive for your participation, we would like to offer to continue your free family membership to the Denver Museum of Nature & Science for an additional year following your participation in P2H. In addition, for each month you participate in Focus Families and complete the short monthly telephone interview, you will be given a $15 gift certificate to King Soopers.

Thank you for your consideration of this program. If you have any questions, please contact me at Guadalupe@jvaconsulting.com or at 720.407.8283.

Kind regards,

Guadalupe Torres, Consultant
JVA Consulting, LLC
2465 Sheridan Boulevard
Denver, CO 80214

DENVER MUSEUM OF NATURE & SCIENCE

Focus Family
Initial Screening

1.) On a scale of ONE to FIVE, what is your level of interest in participating as a Focus Family? _____

2.) Will you be able to devote 5–10 minutes per week to record changes in food purchases, physical activities and any behavioral or attitude changes?

3.) Do you have a home telephone or cell phone on which you can receive a monthly telephone call and participate in a 10-minute conversation pertaining to any changes in food purchases, physical activities or behavioral or attitude changes?

4.) Are you willing to discuss the Passport to Health program with your child? This can be as simple as, “What have you learned in the Passport to Health program?”

5.) One a scale of ONE to FIVE, how important is it to you that your child learns about healthy food choices and the importance of physical activity in their everyday lives?

Updates in contact information can be provided to Guadalupe Torres at JVA Consulting.
Guadalupe@jvaconsulting.com
720.407.8382 (direct)

DENVER MUSEUM OF NATURE & SCIENCE

Passport to Health: Focus Family Participation Agreement

Your child's fifth-grade class is participating in the Passport to Health program, run by the Denver Museum of Nature & Science. In order to ensure that this program is meeting its objectives, the Museum has contracted with JVA Consulting to measure the impact of the program on entire families. Your family has been asked to participate as a Focus Family.

Focus families agree to the following:

- Measure monthly changes in food selection and purchases and document changes
- Track and record your family's physical activities, noting what activity was done, who participated and for how long
- Document the impact of Passport to Health on your family, citing any changes in behaviors, attitudes or noted learning that has transpired
- Participate in an in-home visit with a researcher from JVA Consulting in fall 2009 and spring 2010.
- Engage in a monthly telephone interview with a researcher from JVA Consulting**.** Questions pertaining to shopping habits, ethnicity and government assistance may be asked**.**

For your participation, we will continue your free family membership to the Denver Museum of Nature & Science for an additional year. In addition, for each month of participation, you will receive a $15 gift card to King Soopers.

Your participation is voluntary, however, the participation period is for approximately one year. Families can choose to cease their participation with the evaluation at any time, and whether you decide to participate or not will not affect your child's grades at school. All information will be reported in aggregate form, and although specific quotes may be used, they will never be attributed to a specific individual or contain information that identifies a specific individual. Data collected will be kept secure until the end of the program, at which time they will be destroyed.

If you have any questions related to this evaluation, you can contact the facilitator, Guadalupe Torres of JVA Consulting, at 720.407.8382 or Guadalupe@jvaconsulting.com. Thank you for your consideration of this important program. There are no risks associated with participation. Benefits include the incentives for participation and in providing feedback regarding the Passport to Health program.

I understand the above information and voluntarily agree to participate as a Focus Family for the Passport to Health program.

Yes, I consent_____ No, I do not consent_____

Student's Name _____School_____

Parent's Name(s) _____,
Phone_____

Signature(s) _____,
_____

Date_____, Date _____

DENVER MUSEUM OF NATURE & SCIENCE

Pasaporte de Salud

Carta de Consentimiento para la programa de Familias de Enfoque (Focus Families)

La clase de quinto año de su estudiante estará participando en un el Programa Pasaporte de Salud, que se ofrece a través del Museo de Naturaleza y Ciencias. Para asegurarse que este programa esta cumpliendo sus objetivos el Mueso ha contratado al JVA Consulting para hacer una evaluación external del las familias de los estudiantes. Su familia ha pedido a ser un participante en Focus Families.

Focus Families de acuerdo a las siguientes

- Documentar los cambios en la comida y los productos que le compran.
- Documentar las actividades físical de su familia, tomando nota de cual actividad, quien participaron y por cuánto tiempo.
- Documentar el impacto de la programa en su familia, citando a los cambios que ha ocurrido.
- Participar en una visita en la casa con un representante de JVA Consulting en el otoño de 2009 y la primavera de 2010.
- Participar en una entrevista telefónica cada mes con un representante de JVA Consulting.
- Para su participación en la programa de Focus Families, se le dará un país libre de miembros de la familia segundo año en el Museo de Naturaleza y Ciencias. También recibirá un certificado de regalo de $15 a King Soopers cada mes de su participación.

La participación de su familia en este programa (Focus Families) es totalmente voluntario. Si usted decide dejar a participar en esta programa, nos ayudara a entender mejor si el Programa Pasaporte a tu Salud tiene un impacto en la vida de su familia. Si usted tiene cualquier pregunta por favor comuníquese con Guadalupe Torres en el JVA Consulting al 720.407.8382

Gracias por su consideración de esta importante programa.

Si, Yo doy mi consentimiento_____ No, doy mi consentimiento_____

Nombre del Estudiante (Deletréelo Por Favor)_____

Nombre de Madre/Padre o Guardián (Deletréelo Por Favor)_____

Firma de Madre/Padre o Guardián _____

Fecha_____ Telefono_____

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2465 Sheridan Boulevard
Denver, Colorado 80214

Denver | 303.477.4896
Western slope | 970.319.1674
Toll-free | 800.292.9551

DENVER MUSEUM OF NATURE & SCIENCE

Focus Family Assessment

The Denver Museum of Nature and Science wants to learn more about the impact of its Passport to Health (P2H) program on students and their families. Focus Families are families that agree to document ongoing activities, physical activities and changes in behaviors as their child participates in the P2H program.

Section 1. Family dynamics

How many children do you have and what are their ages and grade level?

How many members of your family live in the home?

What racial or ethnic groups make up the members of your household? Choose all that apply.

☐ White ☐ Black or African American ☐ American Indian/Alaska Native
☐ Asian ☐ Hawaiian/Pacific Islander ☐ Some other race
☐ Hispanic/Latino

Section 2. Food purchases

Who does the primary shopping for groceries in your family?

_____

How frequently?

☐ More than once per week ☐ Once per week

☐ Twice per month ☐ Other

Does your family receive any of the following? (check all that apply):

☐ Food Stamps
☐ Food bank donations
☐ WIC
☐ Other (explain)_____

Section 3. Health and nutrition

How often does your child eat breakfast?

☐ Every day ☐ Most days ☐ Some days

What factors go into the preparation of your child's lunch?

Are there cultural influences involved in your food choices and preparation?

Do you read food labels when picking items to purchase for your child?

How big of a factor is nutrition in your food choice purchases for your child?

Section 4. Physical activity

Does your child or children participate in any after school sport? If so, which one(s)?

What are some of the nearby facilities or recreational centers that your child can visit for exercise and fitness? For example, pools, gyms and sports fields.

Does your child or family frequent any of these facilities? If so, how frequently?

Does your child or children participate in any other physical activity? If so, what activity and how frequently do they participate?

What physical activity does your family experience together? How frequently and for how long?

How often do you engage in conversations about healthy lifestyles with your child?

What are some barriers for your child to live a healthier lifestyle?

What are some barriers for your family to live a healthier lifestyle?

DENVER MUSEUM OF NATURE&SCIENCE

Pasaporte a la Salud: Programa de focus families

La clase de quinto grado está participando en el programa Pasaporte a la Salud, dirigido por el Museo de Denver de Ciencia y Naturaleza. Para asegurarse que este programa esta cumpliendo sus objetivos el Mueso ha contratado al JVA Consulting para hacer una evaluación external del las familias de los estudiantes. Su familia ha pedido a ser a un participante en Focus Families.

Acuerdo de participación de focus families

- Medir y documentar los cambios en las compras de alimentos cada mes (2-5 minutos cada semana).

- Documentar las actividades física de su familia, tomando nota de todas las actividades se llevó a cabo, que participó y por cuánto tiempo (2-5 minutos cada semana).

- Documentar el impacto del Pasaporte para la Salud en su familia, citando los cambios que ha ocurrido (2-5 minutos cada semana).

- Participar en una entrevista en su casa con Guadalupe Torres de JVA Consulting en la primavera de 2010 (15 minutos cada entrevista).

- Participar en una entrevista telefónica una vez cada mes (5-10 minutos cada mes).

Cada mes de participación, usted recibirá una tarjeta de regalo de $15 a King Soopers. Su participación es voluntaria, sin embargo, el período de participación es de aproximadamente un año. Las familias pueden elegir a cesar en su participación con la evaluación en cualquier momento, y si decide participar o no, no afectará a las calificaciones de su niño(a) en la escuela. Toda la información se presentan en forma agregada, nunca se atribuirá a un individuo específico o contener información que identifique a un individuo específico. Los datos recogidos se mantiene segura hasta el final del programa, momento en el que serán destruidos.

Si usted tiene alguna pregunta por esta evaluación, puede contactar Guadalupe Torres, de JVA Consulting, en Guadalupe@jvaconsulting.com, o 720.407.8382. No existen riesgos asociados a la participación. Los beneficios incluyen los incentivos para la participación y la retroalimentación sobre el programa Pasaporte a la Salud.

Entiendo que la información anterior y voluntariamente de acuerdo en participar Pasaporte a la Salud y la programa de Focus Familes

Sí, doy mi consentimiento _____ No consentirá

_____

Nombre del estudiante _____ Escuela_____

Padre o Madre _____, numero de Telefóno_____

Signatura (firme por favor)_____

PREGUNTAS de PRESELECCIÓN

1.) En una escala de uno a cinco, ¿cuál es su nivel de interés en participar en Focus Families?

_____

2.) ¿Será capaz de dedicar a 5-10 minutos cada semana para documentar los cambios que su familia experiencia?

3.) ¿Tiene usted un teléfono de casa o celular que puede recibir una llamada telefónica y participar en una conversación de 10 minutos cada mes en relación de los cambios y efectos del este programa de Pasaporte a la salud?

4.) ¿Puedes discutir el programa Pasaporte a la Salud con su niño(a)? Esto puede ser tan simplemente como "¿Qué has aprendido en el programa Pasaporte a la Salud?"

5.) En una escala de uno a cinco, ¿qué importancia tiene para usted que su niño(a) aprender de alimentos saludables y la importancia de las actividades físicamente en su vida diaria?

Por mas información contacto a Guadalupe Torres, en 720.407.8382 o en guadalupe@jvaconsulting.com.

Passport to Health (P2H) Healthy Family Living - - MONTH 2010 Log

School:
Family:
Willis

P2H
Student:

What new, healthier food items were purchased?
ITEMS:
What did you buy?

What physical activities did you and your family do this month?

ACTIVITY - what did you do?	Who did it?	When? (date)	For how long? (minutes)	NOTES

Did you notice any Changes in Attitudes and Behaviors related to health and wellness? This month has your family talked about food, exercise, health, or the program at the museum? What have you talked about and what, if any changes have you noticed in your family or in your child?

Pasaporte a la Salud (Programa de P2H) Familias Saludables

MES 2010

Escuela:

Familia:

Estúdiate:

La elección de alimentos saludables - ¿Qué comida nueva o diferente compraste?
Que cosas compraste?

¿Qué actividades físicas hicieron tu y tu familia en este mes?

Actividad – Que hicieron?	Quien lo hizo	Cuando (fecha)	Por cuanto tiempo? (en minutos)	Notas

Notó algún cambio en las actitudes y comportamientos relacionados con la salud y el bienestar? Este mes te has hablado con su familia acerca de la comida, el ejercicio, la salud, o el programa (P2H) del el museo? ¿Qué has hablado y lo que, si los cambios has notado en tu familia o en su hijo(a)? Que cambios has notado en su familia o en su hijo(a)?