



SciGirls in Space: Exploring the Moon, Mars and NASA Careers
(80NSSC19M0157)

Season Six Front End Evaluation Summary
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Executive Summary

Based on the feedback from the 37 youth, 11 parents, and 11 advisors, we are able to gain a more complete understanding of the impacts of the videos on the audience and their thoughts after viewing them.

Overall, each group felt the videos were interesting, inspiring, realistic, valuable and appropriate with some common emergent themes around perseverance, challenges (e.g. who to go to for help), the importance of showing diversity, the power of visiting a NASA center, and the positive effect of incorporating personal interests.

The advisors and parents felt the girl teams in the video were positive role models for all girls because they were shown making mistakes and persevering, working together, and asking questions of experts. The feedback from the parents was to be sure the cultural values are enhancing the science content in some way. The advisors also commented that finding connections between what is being studied and cultural values made them relevant. When asked about the adult mentors, advisors suggested showing the developing relationship with the mentor. Some of the parents wanted to see the girls interacting more with the mentor, and perhaps having the mentor share some of her personal background story.

There was a high level of agreement among the advisors, parents, and the youth about how positive it is to include family, friends, and members of the community into the SciGirls in Space shows. The youth found the visits the girls made to a NASA center inspiring and an important aspect of the experience while also highly valuing seeing the girls working together, being creative, and asking questions to help overcome their challenges.

Some commonality of ideas for future topics emerged from the youth summaries including our Solar System and planets, traveling to and living in space, and other aspects of STEM such as gaming and game development (including programming), being eco-conscious, and breaking boundaries.

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***SciGirls in Space* Feedback from Youth**

Three existing *SciGirls* sites had youth and parents complete the front-end evaluation: Marion P. Thomas charter in Newark, Independent School District 196 Rosemount-Apple Valley-Eagan, MN, Anderson Main Library, Anderson, SC. A total of 37 youth completed the survey after viewing the Super Sensors video (N=23) or both the Super Sensors and Space Squad (N=14).

Summary

- Youth were ages 9-13, self-identified as African American/Black (41%) or White (32%), non-Hispanic, Latino, or Spanish (86%), girls (100%), and having seen a SciGirls episode before (84%).
- Overall, the youth rated the videos with a mean of 4.2/5 while rating overall the Super Sensors higher (4.3) than the Space Squad and Super Sensors videos (4.0).
- Youth found the girls perseverance, going to the space center, experimenting, testing, and the photos of Saturn especially appealing.
- Youth reported wanting to learn more about a variety of topics including space suits, rockets, the Solar System, technology, and planets.
- Only four of the youth (11%) had participated in another NASA or space science activity.
- The youth found the girls visiting an actual NASA center important because it was “inspiring,” “very important,” seeing science in action, learning more about NASA, and seeing female scientists.
- Most (70%) felt they were able to relate to the girls in the episode with fewer seeing them as a role model (57%).
- Aspects of the video the youth rated as most important included seeing them working together (84%), being creative and unique (78%), and asking questions and exploring (76%).
- Additional ways youth felt SciGirls could do STEM included making games, programming/coding, each girl having a role, being “eco-friendly,” being positive, and breaking boundaries.
- Aspects of the mentor relationship that the youth felt could be improved included working together, interacting more with the girls, checking-in more often, having more variety in mentoring styles, and taking more with the role models.
- Most (85%) Of the youth would recommend including a family member in the video.
- Most (94%) felt it would be a good idea to include families, friends, and members of the community
- Youth felt the best ending would take place at NASA (70%).
- For the Abby, a college student video, the youth liked most hearing about the girl’s challenges and strategies for overcoming them (4.5/5) and learning how the girls got interested in STEM learning/career path (4.4).
- For the Abby Sofia, a high school student, the youth liked most learning how the girls got interested in STEM learning/career path (4.6), the visual storytelling techniques: video photography, pacing, music, etc. (4.6, the way the girl’s personality was presented (4.5), and hearing about the girl’s challenges and strategies for overcoming them (4.4).
- There was limited interest in seeing cultural values included into the videos – My studies (35%), life outside of school (41%), challenges to being a girl in STEM studies and their solutions (41%), and advice to other girls (41%).

- Additional things about the girl’s lives from the videos of interest included seeing how they overcame their fears, who helped them be successful, family support, personal interests, and sharing more about themselves.

Part 1: Feedback on *SciGirls* episode

	N
All responses	37
Space Squad & Super Sensors	14
Super Sensors	23

Overall appeal

Overall, how much did you like the video?

- Mean response = 4.2/5
- Space Squad and Super Sensors – 4.0/5
- Super Sensors – 4.3/5

Please explain your rating.

- *Me and my team will make the water bottle cooler.*
- *I liked the video a lot because it made me feel that I can do anything to change the world.*
- *I liked quite a bit because some of the stuff I want to do and some I don't want to do.*
- *I liked it a lot because you get to try new things.*
- *I liked them both because it was quite interesting and it also gave me a glimpse/idea of what I want to do when I grow up.*
- *The girls made useful things by working together.*
- *I liked it because it explained how to make a sensor.*
- *I think the video was very enjoyable and I really like how the girls used a lot of teamwork*
- *Nothing because I liked it a lot*
- *When the girls in the episodes made a camera and made a stamp and also when they explored science centers.*
- *I liked it quite a bit because the experiments were cool*
- *The video was really cool, informative, and inspiring.*
- *I loved it if there were just some spots that did not interest me.*
- *I gave it a 10 because it was awesome.*
- *I really liked it because I can relate.*
- *I really liked a lot of it because I just loved how it made.*
- *I liked the video because it tells you about the girls and they encouraged others.*
- *I liked it because it was educational and fun to watch.*
- *Because they teach us how to code.*
- *I could barely see it but from what I saw it was somewhat entertaining.*

Please feel to suggest how the production team could make this episode more appealing to you.

- *The production team could make this episode more appealing to me by exploring more things.*
- *I wanted more details about how they did it.*

- *I feel like the second video just got a bit boring.*
- *I feel like they didn't have to go so much into the girl's personal life*
- *The episodes did not really excite me, they could make it better and have hands-on activities for us too.*
- *in Space Squad there was no excitement or enthusiasm. They shouldn't be so serious all the time.*
- *Words were kind of technical, girls looked like middle schoolers, makes younger girls seem like they have to be older to solve a problem.*
- *I like how it taught to make a camera and the testing.*
- *The video felt choppy and the leap from learning about JPL to videoing animals in the backyard is a big leap. Next time, stick to the starting topic.*
- *I liked it quite a bit, but what would appeal more to me is a space experiment because I like space.*
- *If they told how to get some of the parts they used to make the camera trap*
- *I think the video was fine just I think they should have shown a bit more of the presentation.*
- *The episode was fun to watch, it made me feel like I could make a chance but showing family was not necessary.*
- *I liked everything but the cartoons.*
- *I got extremely sleepy so then it is boring.*

Space Science

What parts of the space science you saw in the episodes was appealing to you?

- *I liked that if the experiment didn't work the team tried it again and never gave up (4)*
- *When they were testing their projects. (6)*
- *That they made water bottle cooler by using space things.*
- *When the girls made a fabric for the bottle to not sweat.*
- *The space science I saw in the episode was appealing to me is building a machine.*
- *One was when they were making the bottle holders and two when they launched the space ship.*
- *The part where they showed as a model of all the layers of the water bottle.*
- *When they went to a space center*
- *Coding in Java Script, having the African-American (like me!) mentor show them how to program the motion sensor.*
- *Studying the pictures that the satellite/ rover took*
- *The part that appeals to me is the moon that has water. And how they can send pictures from here to there.*
- *How there could be life on that planet.*
- *I liked how the girls showed all the steps and every little detail they worked on.*
- *How they were building robots to explore other planets and moons.*
- *Camera trap, mountain lion*
- *How they found out there was water on the moon.*
- *If we will build things with materials just like the girls in the video.*
- *The space science I saw in the episode was appealing to me was how they compared the astronauts' clothes with experiments.*
- *When they showed the space ships going into space*
- *I was amazed by the photos of Saturn. (5)*
- *When they talked about the facts.*
- *The pictures of the robots*

- *I liked that they got to use a real rover.*
- *The coding and the animals*
- *The camera because cameras can see so many things and they can be used for a lot of things like looking at planets.*
- *I was interested in Saturn's moon and how there might be water on it.*
- *It was appealing that they were able to make robots.*
- *The part where all the girls talked about their various interests.*

What about space science do you want to learn more about?

- *Planets in the solar system; How would people live on different planet; planets with waters; other life in space; how will they get the information about if there is water on another planet or moon? (7)*
- *Coding the robots for space; how code for rovers would be different than a computer game or a site on Google; how to build robots and what materials there are to use; how long and how many people it took to code the robot; how many robots can be in space at a time (5)*
- *How to do make the rocket go up into space; how they make the fire come out of rockets safely; how the pieces of the rocket interact (4)*
- *I would like to learn about space: if space has changed; space technology (3)*
- *Space suits; How space suits protect astronauts (2)*
- *The solar system; The different ways our Solar System influences the way we live (2)*
- *What types of things can go into space and underground to see if there is water. (2)*
- *The functions*
- *How astronauts work*
- *Can a person with no jet in space go to another planet and still be alive?*
- *How math connects to space science*
- *How they made the stuff they use and how they work*
- *How to design my own camera trap*
- *Mountain sensors*
- *Cameras because they look so cool and they can help a lot of people for a lot of things*
- *Everything - I'm in love with space and NASA, so everything.*
- *Nothing right now.*

Have you participated in any other NASA or space science activities? If yes, please describe. Yes = 4 (11%)

- *That the girls use space things that were on the suit*
- *I've been to the KSC and a planetarium*
- *The Air Force museum in Ohio*
- *I went to the science center and explored some places and it was fun.*

How important is it to see girls visiting an actual NASA center/ lab/ work space?

- *It is very important. (6)*
- *I think it was cool seeing other people explore a big NASA lab (6).*

- *It is important to see a girl visiting an actual NASA because they can experience a lot of things.*
- *It is important to see girls visiting an actual NASA so they can explore*
- *It is important because I get to see others experience being there so if I ever end up being there I would have an idea of what to do.*
- *How scientists can help people*
- *Very important because they usually are not many girls in that career and there are other places you could try making your rocket using materials that are easy to get.*
- *Because they get a more physical idea of what it is like to go to space and also adds to their memory and some might find it interesting*
- *Because that can open our eyes to what happens there and give ideas for our future.*
- *It is pretty cool to see girls visiting NASA because it is probably fun and maybe at the liberty science center I can find that interesting.*
- *It is very important to see girls visiting a NASA center because you usually see a lot of girls working on things like space science.*
- *It is really important because it helped me remember that anything men can do, women can do it better.*
- *It is important to see that NASA I letting girls see science in action. Visiting telescopes*
- *I think it is really important to see that the girls were visiting the actual NASA center I have this opinion because now they have more knowledge about it if they need it in the future.*
- *I think having them visit a NASA center helps show part of the meaning of the show. You also learn where some of the things are and if they could make a good idea for a field trip. I think that there should be an episode where the girls go camping.*
- *It is a special thing and few get to do. Where they build the parts for robots.*
- *I think it is important because you can visualize what it is like being there.*
- *It is very important because you are learning new things and also it is about space and space materials*
- *It is very important seeing girls visiting an actual NASA center/lab/workspace since A LOT of people underestimate female scientists.*
- *It is important because you hardly find girls working in science related fields so we need to encourage that.*
- *It is important not super important just important because I want to see how the new things that they found like new planets, life on a planet, and new things they found on a planet.*
- *Not important at all, No. I don't believe there is space, I believe we live on a flat Earth and where "space" is really heaven.*

Are there other settings for doing space science outside of NASA that you or your daughters or students would find interesting?

- *Yes, I find the museum interesting because you learn about things and people.*
- *I find the Science Museum of Minnesota very interesting*
- *It would be cool to do it at a coding site, so they could explore a lot more things.*
- *No, I don't think other settings would be good.*

SciGirls as Role Models

When making *SciGirls*, the production team aims to show girls that viewers can identify with and see as positive role models.

Thinking about the *Space Squad* or *Super Sensors* episode: Did you feel you were able to relate to the girls in this episode? Why or why not? Yes = 26/37 (70%)

- *Yes, I was able to relate because the girls have talent.*
- *Yes because girls in the video worked to use techniques, work together and asked questions to reach their goals*
- *Yes because I will not give up and try to do my best*
- *Yes because I have had to work in a group with a few people*
- *Yes, in *Space Squad*, the girls were interested in engineering and so am I*
- *Kind of. I do like to draw*
- *Yes because they are setting an example to show that girls can do what they want.*
- *I would like to do the same because it is cool and looks like a lot of fun and amazing*
- *Yes. I want to use that for my dog and chickens*
- *Yes, the episode was very relatable. I like how the girls said a little about themselves*
- *Yes, they were very inspiring.*
- *Yes, I went to NASA*
- *Yes because they explained a lot about it*
- *Yes, I was able to relate to the girls in the episode because I do like to explore science centers and I also like to build things.*
- *Yes, because I like space and science just like them*
- *Yes, because they all are SciGirls*
- *Yes, because they did things like us*
- *Yes because they have hobbies that people also have*
- *Partly because it seemed kind of real but kind of fake*
- *Yes, because I know that I can code because they can*

NO responses

- *No, their life is nothing like mine*

Did you see the girls as positive role models for you or other girls? Why or why not? Yes – 21/37 (57%)

- *Yes, because the girls were being very productive; they worked together great (2)*
- *Yes because they knew things*
- *I saw positive role models for both because it showed you should not let other people bring you down for something you love.*
- *Yes because I try stuff and it does not work I try it again*
- *Yes because they did not give up (2)*
- *Yes, because it shows that girls can build great creations*
- *Yes, they worked well together and tested samples before the final project.*
- *Yes, they are smart and friendly*
- *Yes, because they showed their opinion about things.*
- *They are a positive role model because they are fun and seem like a great role model*
- *Because they went for it and were successful*
- *Yes, because they really tried and they are girls*

- *Yes because I can relate to a lot of those things*
- *Yes, they seemed pretty nice*
- *Yes, they are positive*
- *Yes because they inspire me*
- *Yes, because just like me they had hobbies and things they like to do b) I do see them as role models because they pushed me to work harder.*
- *No, I did not see any of them as role models because none of them related to me in any way*

“No” Comments

- *Well, I was able to relate to them when they said they enjoyed making things but most others I wasn't because I have never been there before b) For me, because I kind of interested in what they did.*
- *No because in SciGirls we won't be leaving the classroom b) yes because they don't stop behaving.*
- *No. They were too excited about space*
- *Somewhat - I liked that one of the girls wanted to be an engineer because that is what I want to do b) yes - because they got to make a camera and got invited to show how the camera worked at a museum.*
- *Not really. In the episode, the girls had a lady hand them everything they needed. It would not be that easy in my mind would not jump to how to helping the community b) yes because they encouraged science.*
- *I have seven chickens and a cat and a lot of the girls had pets but I haven't had that much experience with computers.*
- *A little - I have always wanted to see a NASA building*
- *No - I just like other hobbies*

Please check those that you think are most important.	N	%
Working together	31	84%
Making a difference	20	54%
Asking questions and exploring	28	76%
Being creative and unique	29	78%
Making mistakes	22	59%
Motivating others	23	62%
Using STEM to solve community problems	20	54%

Please explain why you checked these ways of doing STEM as most important.

Working together

- *Working together is important because you might not understand something and a teammate can also help (3)*
- *Because working together with different ideas, asking questions, and exploring can help make a difference.*
- *Because I like being creative and working together asking questions and motivating others.*
- *It is important because we need to work together and be respectful.*
- *It is important to work together asking questions.*
- *Because they all help in different ways for example: working together.*

Value

- *I checked them as most important because if those are achieved it can lead to something good.*
- *Because that is what they should do*

- *These are things we do.*
- *STEM is very important in doing everything*
- *Because it makes you stand out as a nice person*
- *Teamwork is important being creative is good for society, being motivated gets us through life*
- *By making a difference you can improve a community.*
- *Using STEM to help solve community problems is most important because they help make a change.*
- *I checked these because these are all the things they need to do to succeed*
- *Because it is important to those girls and us to teach us science*
- *Because all of these will help others understand how important these are for reality and being a role model.*
- *Because if you do all of this you will be super successful*
- *I did all of the because it is all really important*
- *Because I felt that you need those to make something*
- *I think it is important to know about things and to show that you can do better than what is expected*
- *Helping others*
- *It seemed to be the things that people at my school find hard to accept sometimes*

Processes

- *People*
- *make mistakes. Show the mistakes. Encourage others to build up more girls in STEM.*
- *Everyone is different don't build something for them let them come up with it themselves. (3)*
- *They are important because it helps show what they do and how it works and it didn't make things less interesting.*
- *Asking questions and exploring will help them become better learners*
- *Exploring helps you learn being creative is important*
- *Because it is OK to make mistakes, always work together, be creative and ask questions.*
- *To figure out the problem*
- *Working together and motivating each other is what everybody should do and making mistakes is OK and I think girls should see that.*

Can you think of additional ways of doing STEM the SciGirls team should add to this list when producing the new SciGirls episodes for girls and their families?

- *We should make new things for our team*
- *Can make games and books*
- *To be nice to each other and have fun while exploring*
- *Every girl gets a different thing to help*
- *Seeing what water works best for plants*
- *Have more experiments for us*
- *Looking back on how other people tried to fix that problem.*
- *Nope. I am coming up blank here. Maybe next year I could give you ideas. Hang in there.*
- *Don't give them a box with all the supplies. Show them working and solving for themselves.*
- *Helping each other, not giving up so easy, having fun*
- *What the SciGirls want to do, something with animals, wilderness, paper folding*

- *They can show them solving real community problems people are having a lot of troubles with.*
- *They should work on an eco-friendly show*
- *See how they failed then fixed*
- *Thinking*
- *Give feedback, work hard, don't give up*
- *being positive, being curious, being ambitious*
- *You should show if they do make a mistake show it so girls don't think they can't do it*
- *I think they should do STEM more because not a lot of stem schools*
- *Breaking boundaries*
- *Respect - respecting others is very important*
- *I think they should involve their reviewers a little more*
- *Coding art*

The SciGirls Mentor relationship

Each *SciGirls* episode features girls interacting with STEM professional women mentors. Thinking ahead to the new *SciGirls in Space* episodes, did you notice anything in the mentor-girl relationship that could be improved? Please suggest where and how ideas and experiences might be added to the mentor-girl interactions.

- *That they use it for water bottles*
- *Yes, they worked together and did not give up and they were respectful to one another.*
- *I did not really notice anything that could be improved*
- *They should interact with other girls*
- *The mentor should check in on them more often*
- *I noticed that the mentors were barely with the girls and in my opinion, they need to talk more to their girls and help the girls if they have a question*
- *The mentor-girl interactions were healthy because they were both positive*
- *I think that nothing should be added.*
- *They should work together more often and get to know each other in person.*
- *Nope. No improvement. Just randomize the mentors a bit. Some who are bossy, super sweet, hyper, boring, talkative, quiet, super attractive but mean, not the prettiest but nice so that viewers will know that the world isn't filled with nice women.*
- *No. And maybe talk about different places around the world*
- *I think they should show the girls making a difference and how people will benefit from this in the future. Overall, I really like the SciGirls space episodes.*
- *It might help if the girls knew one of the mentors or a mentor was one of their family members. That might work together better.*
- *Do more cool science stuff together*
- *No, I think they are good friends*
- *No because the mentor girl had a good knowing of space science and she never gave up*
- *You maybe could get like 3 women mentors, and get all of the inputs so you could make it better*
- *I think they should be able to talk with the role models*
- *When the mentor girl was young if they were into science*
- *To meet them before*

- *Mentor-girls are important because other girls should have something to look up to and ask for help*
- *I think they should do nothing different because personally, I like them as it is.*

Girls Video Diaries

Each *SciGirls* episode features segments wherein the girls talk about their home lives and interests, sometimes showing pets, musical instruments, sports, and bedrooms. For the new *SciGirls in Space* shows, the *SciGirls* team wants your advice on how to make them more interesting.

Do you recommend including family members in these video diaries?

29/34 (85%) – Yes, encourage girls to include family members.

How do you suggest the *SciGirls* team help girls to do this? Can you give specific ideas or examples that you'd like to see included?

- *By giving feedback and no specific ideas*
- *By letting the girls ask their family their opinions*
- *They should include the family so that they can experience it together.*
- *Things they have in common with their family members*
- *Tell the family members they could be famous. Just some examples. Make anything up that sounds cool.*
- *I'd like them to talk more about their schools.*
- *Show something that they girls and their family members do together.*
- *I would like to see the girl's family members help out.*
- *If at the time they had a cousin visiting then they should introduce her.*
- *Just a little*
- *Maybe about the parents helped to the girls*
- *So they could learn something new*
- *So that they can be experienced with being open in the future*
- *What is your favorite sport?*
- *The parents can explore what the girl's experiences.*
- *I think the girls should include their families because maybe their family members were the ones who encouraged them to get into science.*
- *I think they should talk about their family's personality.*
- *Talk about their life.*
- *No, these should just focus on the girls themselves or be completely up to the girls to decide.*
- *Because they could be a girl's family which they could not allow to show for private reasons.*
- *The girls are the ones solving the problem, not their families.*
- *I think the girls should decide.*
- *I think it is the girls' choice because some of their families might not be very mature.*

Story & Science Conclusion: Communicate Findings/ Share Results

Toward the end of each *SciGirls* show the girls communicate their findings with other students. In other *SciGirls* shows, however, the girls may share their findings with people of all ages that often includes family members and/or friends.

For the new *SciGirls in Space* shows, the production team is considering including families, friends, and members of the community in these final sharing scenes. Do you agree with this approach?

32/34 (94%) – Yes. Can you give specific ideas or examples that you'd like to see included?

- *My cousins - Mercia, Fanta, Amina and friends*
- *Sure for friends and community members to see their ideas*
- *Their friends giving them advice and seeing if there are any complaints*
- *So the people can know the girls background and also know a little more about them*
- *Friends and family should see their children create.*
- *Because they are sharing knowledge with people of all ages*
- *Everyone sitting in a circle, girls share ideas standing up, everyone applauds.*
- *Have a neighborhood gathering where the girls can show their findings to friends and family.*
- *If one person had an idea and built a prototype then a whole neighborhood built the same thing give the one person the spotlight but include the whole neighborhood.*
- *Just friends*
- *I think it would be nice to see the family members also try to do a project.*
- *I think it is fun to see the girls making a difference.*
- *I would like them to show their experience.*
- *My friends I work with and my family*
- *They can learn more about SciGirls and space science.*
- *Seeing other friends, family, and people show even more diversity*
- *Going to school*
- *People they don't know*
- *Family members*
- *I think that if they are in a sport they should show their team and maybe coach.*

2/34 (6%) – No. Why do you prefer that the scenes not incorporate families, friends or members of the community more?

- *I feel like the girl's video diaries are enough.*

What kinds of sharing experiences and locations would make a good ending?

	N	%
NASA	26	70%
A museum	15	41%
A part	13	35%
A school	14	37%
A neighborhood	11	30%
Other	4	11%

Other described

- *Farm, office, apartment, construction zone, garden, factory, gas station, supermarket*
- *Backyard, forest*

- *Some place where something happened that they can solve*
- *Science center*

Part 2: Feedback on *SciGirls* Role Model Videos

<https://vimeopro.com/user10550772/scigirls-in-space>

Overall appeal of role model video 1: Abby, a college student

Think about the role model video you just viewed. How much did you like the following aspects of the video?

Rate using the scale from 1 (didn't like at all) to 5 (liked a lot)	Mean Rating
Learning about the girl's studies	3.8/5
Learning about the girl's life outside of school	4.0
Learning how the girl got interested in STEM learning / career path	4.4
Hearing the girl's advice for others	4.1
Hearing about the girl's challenges and strategies for overcoming them	4.5
The way the girl's personality was presented	4.1
The visual storytelling techniques: video photography, pacing, music, etc.	4.3
The length of the video	3.7

Overall appeal role model video 2: Abby Sofia, a high school student

Think about the role model video you just viewed: How much did you like the following aspects of the video?

Rate using the scale from 1 (didn't like at all) to 5 (liked a lot)	Mean Rating
Learning about the girl's studies	4.1/5
Learning about the girl's life outside of school	4.1
Learning how the girl got interested in STEM learning / career path	4.6
Hearing the girl's advice for others	4.1
Hearing about the girl's challenges and strategies for overcoming them	4.4
The way the girl's personality was presented	4.5
The visual storytelling techniques: video photography, pacing, music, etc.	4.6
The length of the video	4.2

What parts of the space science you saw in the episodes and role model videos was appealing to you?

- *That they were making water bottles*
- *Building machines*
- *Spaceships*
- *When she was telling us how good her life was outside of studies*
- *When the team took their time to do the experiment*
- *The bacteria and the engineering and robotics*
- *How they had to for their experiments over because the rockets exploded*
- *Helping in a rocket launch*
- *The parts of the video that appealed to me is how the first try failed but they kept trying.*

- *I thought the parts where they show how they fix their mistakes.*
- *All the projects. I like how they were experimenting with gravity.*
- *Seeing the ship exploded but they got it right*
- *How they included culture values*
- *The experiments*
- *The space ship they made*
- *I liked the second one better*
- *The engineering*
- *I liked the engineering part of the launch.*
- *Explaining why they did something and talking through how they struggled.*
- *I liked how they had cool shots of different things.*
- *When they had a problem and overcame it*
- *Mainly everything*
- *I liked how they used red and blue lights.*
- *The rocket exploding*
- *Grow planets in space*
- *Bacteria*
- *The parts that showed the lives of the girls outside of SciGirls.*

Role Model Stories

The *SciGirls* team hopes that middle school-aged girls will see the older girls as positive role models.

To help establish a cultural connection with girls who view the profiles, the team plans to include cultural values into each of the profile segments. How do you suggest the *SciGirls* team include cultural values into these segments? What would you like to see included? Feel free to suggest ideas or examples for any or all of the parts of each video.

My studies 13/37 = 35%

- *Why you wanted to study things you study*
- *Science, Math*
- *What do they hope to do in the future?*

My life outside school 15/37 = 41%

- *Do you do any extra activities?*
- *Things that motivate you everyday*
- *Video games and books*

Challenges to being a girl in STEM studies and their solutions 15/37 = 41%

- *No comments*

Advice to other girls 15/37 = 41%

- *Believe in themselves and be what they want to be*
- *Why you want to learn space science*

Thinking about the two role model videos you watched (Abby and Abby Sofia), can you think of anything else you want to know about these girls' lives or studies that you didn't see featured?

- *No (6)*
- *Yes, they didn't see things featured*
- *How they overcame their fears*
- *Yes*
- *How space suits work for astronauts*
- *People in their life who helped them and how*
- *How their families supported their decisions*
- *Their friends their teachers*
- *Explain their final project better*
- *Did Abby Sofia do anything or have a different passion before?*
- *Whether or not they had pets*
- *What kind of problems they had and how they solved it*
- *Maybe more about their life like school, grandparents, and more*
- *Their pets*
- *I want to know more about Abby Sofia's family.*
- *I would like to see more about the people that encouraged them.*
- *Maybe when they tell their name they could tell a little bit about themselves like where they grew up and things like that.*
- *What is your favorite color?*
- *How did they start off?*

Tell us about you!

The final few questions ask for background information to further help the *SciGirls* team understand more about the people who are giving feedback. Thanks for helping us to learn a little more about you!

Age	N	%
9	8	23%
10	9	26%
11	12	34%
12	4	11%
13	2	6%

Please check one or more boxes to describe your racial identity:	N	%
African American/Black	15	41%
Asian Indian, Chinese, Filipino, Japanese, Korean, Vietnamese, other Asian	4	11%
Native American Indian or Alaskan Native	1	3%
Native Hawaiian or Pacific Islander	0	0
White	12	32%
Other	6	16%

Other described:

- *Some Arab and German*
- *American and German*
- *Mexican*
- *Jamaican American*
- *Hattian-American*
- *Hattian*

Do you identify as Hispanic, Latino, or Spanish?	N	%
Yes	5	14%
No	31	86%

What is your current gender identity? (Check all that apply)?	N	%
Girl	36/36	100%
Boy	0	0

Before today, had you seen any <i>SciGirls</i> tv shows or videos before?	N	%
Yes	26/31	84%
No	2	16%

***SciGirls in Space* Feedback from Parents**

Parents of currently participating girls in *SciGirls* programs were asked to complete the same questions as the advisors.

Summary

- A total of 11 parents completed the feedback survey.
- All 11 (100%) saw the Super Sensors episode.
- Overall, the parents reported liking the video highly (4.6/5) with 100% liking it “quite a bit” or “a lot.”
- Parents felt the video was inspiring, encouraging, cute, and interesting.
- Parents found different aspects appealing including the pictures from Saturn, the curious girls, learning more about NASA, applying skills on Earth, and seeing female scientists and engineers.

- They wanted to learn more about planets, the importance of space exploration, how to be more involved, and dark matter.
- About a third (27% N=3) of the parents reported their child had participated in another NASA or space science activity.
- The parents felt it was important to see girls visiting an actual NASA center saying it was important because it wakes the interest of the girls, shows them the jobs people do, that it is good to learn new things, and seeing women in engineering roles.
- All of the parents (100%) felt the girls were positive role models for their daughter or other girls.
- They felt that the most important aspects of the episode were seeing the girls asking questions and exploring (91%), working together (73%), making mistakes (73%), and using STEM to solve community problems (73%).
- Additional ways of doing STEM SciGirls included health care, working in rural locations, and emphasizing real world problems.
- To improve the mentor-girl relationship, the parents suggested more interactions, more background information, demonstrations, and to continue to do what they are already doing.
- Six of the 11 parents (55%) felt including family members would be a good idea.
- All of the parents (100%) felt including families, friends and members of the community in the final sharing scenes would be a good idea with the ending being at NASA (64%), a museum (64%), or a school (55%).
- The parents enjoyed the different aspects of the Abby, a college student video including learning about the girl's studies (4.8/5), learning how the girls got interested in STEM learning/career paths (4.9), hearing the girl's advice for others (4.8), the way the girl's personality was presented (4.8), and the visual storytelling techniques (4.7).
- The parents also enjoyed the different aspects of the Abby Sofia, a high school student video including learning about the girl's studies (4.8), learning how the girl got interested in STEM learning/career path (4.8), hearing the girl's advice for others (4.8), the visual storytelling techniques (4.8), and the length of the video (4.8).
- Suggestions to include cultural values in the segments included asking for help, being sure the cultural values are enhancing the science content in some way, showing diversity, speaking in a group of boys, supporting other girls, and learning more about why things failed and how to fix them.

Part 1: Feedback on *SciGirls* episode

	N	%
Space Squad	0	0
Super Sensors	11	100%

Overall appeal

Overall, how much did you like the video?

- Mean response = 4.6/5
- 100% liked it “quite and bit” or “a lot”

Please explain your rating. Also, please feel to suggest how the production team could make this episode more appealing to you.

- *I gave the highest rating to this video because it is very inspiring.*
- *I enjoyed watching average looking girls proceed through the design and testing process. It is encouraging to see that approach usually does not work the first time.*
- *Cute, educational, faced paced. Just a little concerned with the girl's eye rolling on the little boy. I like the idea of the girl teaching the boy but not poking fun of him because he is slow.*
- *I know nothing about code, where to purchase this items used to make the camera - a link would be nice.*
- *It fulfilled its goal by making a night sensor. I would suggest you have linked with supplies to make their own.*
- *It is interesting and kept my attention.*
- *This episode was an easy practical application of STEM concepts for the viewer.*
- *These videos are amazing! Love the explanation of how the cameras were made.*
- *It is interesting to know that is not as hard as I thought to build a camera.*
- *These videos encourage girls to explore STEM and try new things.*

Space Science

What parts of the space science you saw in the episodes was appealing to you?

- *The pictures the camera took of Saturn and its moons. The clarity was amazing.*
- *It was appealing to me how the girls were curious to build the camera sensor, and see it if worked.*
- *Understanding her job responsibilities and the work that NASA performs at JPL.*
- *The computer programming, solving a problem, working together.*
- *My nine-year old does not care for the busy into music or silly cartoon story as much as the girls.*
- *I like the environmental/ social solutions that STEM could assist in implementing.*
- *Making the camera*
- *Using the same satellite tech here on Earth*
- *The cameras on Saturn. Never knew we did all that.*
- *The pictures taken from Cassini, the rovers and the building of the camera.*
- *I learned what JPL stood for and the girls meeting with another female employee/engineer at NASA.*

What about space science do you want to learn more about?

- *Exploration of other planets*
- *I would like to learn more about planets and their different features.*
- *Why is space science important to my everyday life?*
- *Space station, the experiments people send up there*
- *The guide showing how sometimes it worked to give girls ideas how it would be useful in a variety of ways.*
- *Not sure, A lot on my plate right now*
- *How to be more involved and my child learning more about coding and relating it to space science*
- *Dark matter*
- *Other places they send cameras, other planets*
- *We would like to know more about the other planets like surface and is there life, how far have we gone in space.*
- *The launch in 1997*

Have your children/students participated in any other NASA or space science activities? If yes, please describe. Yes = 3 (27%)

- *Went to NASA for a tour. Saw two shuttle launches while in FL*
- *Visited Kennedy Space Center and planetarium last week.*

How important is it to see girls visiting an actual NASA center/ lab/ work space? Are there other settings for doing space science outside of NASA that you or your daughters or students would find interesting?

- *Very important. Visiting local museums.*
- *Yes, it is very important because this wakes up the interest to learn more about science activities*
- *Very important to visit labs. Clemson University and Roper Mountain Science Center are a couple of places locally that girls may enjoy visiting.*
- *Local science centers, planetariums. I think visiting JPL was important to view because more viewers have never visited a NASA center.*
- *Very important. I think jobs that people do not think about. Building cars, recycling, coating, tablet/ operating systems, toy assembly.*
- *Visit to the planetarium, watching documentaries*
- *It is always good to learn about new things.*
- *Very important so it is made real vs just imagination.*
- *Somewhat important - other science facilities would be acceptable as long as the girls can related to the work.*
- *I think it is really important to see other women in engineering roles to inspire them.*
- *We don't know. We visited a few years ago the Roper Mountain Center. Other than that I think we have to travel to FL.*

SciGirls as Role Models

When making *SciGirls*, the production team aims to show girls that viewers can identify with and see as positive role models.

Thinking about the *Space Squad* or *Super Sensors* episode:

Did you see the girls as positive role models for your daughter or other girls? Why or why not? Yes = 11/11 (100%)

- *Yes. They were "regular/normal" girls that my daughter could identify with.*
- *Yes, I agree that the SciGirls are positive role models for my daughter. They are very inspiring and makes her want to do it.*
- *Yes, the girls appear as positive role models. Viewers can identify with the girl's interests, pets, and family life.*
- *Positive, up-beat, not afraid to make a mistake.*
- *Teamwork, how they handle mistakes*
- *Yes, because they work together and were passionate about their project.*
- *Yes, well behaved and inquisitive*
- *They seem like regular kids, so yes*
- *Yes, very positive. Also loved meeting the families and pets.*

- *Yes, they are very smart, cooperative, hard workers and I would like my daughter and their friends to participate and learn like the girls in the video.*
- *Yes. It helps our girls realize working together as a team is important in life/the real world.*

Please check those that you think are most important.	N	%
Working together	8	73%
Making a difference	4	36%
Asking questions and exploring	10	91%
Being creative and unique	3	27%
Making mistakes	8	73%
Motivating others	3	27%
Using STEM to solve community problems	8	73%

Please explain why you checked these ways of doing STEM as most important.

- *It is important to learn that you don't always succeed on your first try and that success usually involves a combined team effort.*
- *It helps me make the world a better place and shows that it is important to never stop learning.*
- *I selected these three because I think these activities discourage girls. Girls assume they must be knowledgeable, possibly work alone, and be successful (perfect).*
- *All are important.*
- *So the girls understand the learning impact*
- *They are real situations that could cause frustration if not handled when learning new things.*
- *In all things one should be open to learn and explore. Mistakes teach how to keep trying and knowing errors are not the end of the world.*
- *Taking big problems like what is on Saturn and turning into solutions for every day like what is in the backyard night.*
- *I think the young girls have to explore more science and the most important is learn that even if you make a mistake you can try again so you can cope with it. That's very important to learn.*
- *Team work is a real world characteristic that is important. There are no stupid questions. Relevance of the projects. It is OK to make mistakes. It is part of learning.*

Can you think of additional ways of doing STEM the *SciGirls* team should add to this list when producing the new *SciGirls* episodes for girls and their families?

- *STEM in health care that can improve people's lives - whether it be pharmaceutical, surgical or mechanical*
- *After arriving at a solution, where else might that solution apply. Further applications. Future research.*
- *Showing different learners*
- *Rural locations without and science centers/labs available. How to learn and do more where resources are limited.*
- *Emphasize real world applications for STEM projects.*
- *Explain problems used a little more.*
- *Possibly interview an engineer. Maybe of a dam or road construction or parking garage/building.*

The SciGirls Mentor relationship

Each *SciGirls* episode features girls interacting with STEM professional women mentors.

Thinking ahead to the new *SciGirls in Space* episodes, did you notice anything in the mentor-girl relationship that could be improved? Please suggest where and how ideas and experiences might be added to the mentor-girl interactions.

- *More interaction with the mentors and maybe more background information about the mentors*
- *I think that the way the episodes are made, makes it easy to understand and keeps the girls interested and motivated to learn.*
- *I enjoyed the diversity in this project. I enjoyed viewing minorities in professional positions and this is not staged, it is real. Very encouraging for young viewers*
- *Maybe more of her showing them how to do things. She did a great job of exploring. Maybe more hands on showing.*
- *This is a really great part of the program. To include what they do - regular job not just giving a tour and special small group time with a select few.*
- *I though the mentor/girl relationship was great.*
- *I thought it was very well done and professional.*
- *They are awesome! My daughter is very happy to see them participate.*
- *The mentor was very encouraging to the girls, yet did not tell them how to do everything or give the answers. She quidded them through the project and let them make choices/decisions.*

Girls Video Diaries

Each *SciGirls* episode features segments wherein the girls talk about their home lives and interests, sometimes showing pets, musical instruments, sports, and bedrooms. For the new *SciGirls in Space* shows, the *SciGirls* team wants your advice on how to make them more interesting.

Do you recommend including family members in these video diaries?

6/11 (55%) – Yes, encourage girls to include family members.

How do you suggest the *SciGirls* team help girls to do this? Can you give specific ideas or examples that you'd like to see included?

- *I would like to see the girl's family members to encourage the girls to never stop learning.*
- *By viewing the family, I somehow became a part of the girls' culture, feel more connected and she seems more average, real, normal.*
- *I think it shows family or friend support is always a good idea. A lot of girls have no support, so it does not have to be blood family.*
- *I loved meeting the girl's family. Made you see they are normal girls. Loved mamma cooking.*
- *Just introducing the family/pet*
- *This is good so other girls watching may find a way to relate i.e.: this girl has a younger sibling like I do.*

5/11 (45%) – **No, these should just focus on the girls themselves or be completely up to the girls to decide. Please explain your answer.**

- *I think it is important for the girls to decide independently what they want to reveal about themselves*
- *It depends - I would rather see more of the science content than family dynamics. Only include family if it is relevant to the science.*

- *No preference - let the girls decide.*

Story & Science Conclusion: Communicate Findings/ Share Results

Toward the end of each *SciGirls* show the girls communicate their findings with other students. In other *SciGirls* shows, however, the girls may share their findings with people of all ages that often includes family members and/or friends.

For the new *SciGirls in Space* shows, the production team is considering including families, friends, and members of the community in these final sharing scenes.

Do you agree with this approach?

11/11 (100%) – Yes. Can you give specific ideas or examples that you’d like to see included?

- *Going into school to see how their peers react to their projects*
- *This is a great time to incorporate how might others use my findings. Why might others invest in furthering my project.*
- *Always good to show supportive community. So when girls do not have this, they see this does not happen.*
- *Which will make more sense - is the information learned benefiting a community*
- *Community asking questions.*
- *Community knowing we all can learn from one another.*
- *Maybe they will ask more questions because they don't know what all went into the science of it.*
- *The girls can solve community problems and share the knowledge!*
- *This shows how the coding projects impact others in the community*

0/10 (0%) – No. Why do you prefer that the scenes not incorporate families, friends or members of the community more?

What kinds of sharing experiences and locations would make a good ending?

	N	%
NASA	7	64%
A museum	7	64%
A part	2	18%
A school	6	55%
A neighborhood	4	36%
Other	1	9%

Other described: Library

Part 2: Feedback on *SciGirls* Role Model Videos

<https://vimeopro.com/user10550772/scigirls-in-space>

Overall appeal of role model video 1: Abby, a college student

Think about the role model video you just viewed. How much did you like the following aspects of the video?

Rate from 1 (didn't like at all) to 5 (liked a lot)	Mean Rating
Learning about the girl's studies	4.8/5
Learning about the girl's life outside of school	4.1
Learning how the girl got interested in STEM learning / career path	4.9
Hearing the girl's advice for others	4.8
Hearing about the girl's challenges and strategies for overcoming them	4.4
The way the girl's personality was presented	4.8
The visual storytelling techniques: video photography, pacing, music, etc.	4.7
The length of the video	4.6

Overall appeal role model video 2: Abby Sofia, a high school student

Think about the role model video you just viewed: How much did you like the following aspects of the video?

Rate from 1 (didn't like at all) to 5 (liked a lot).	Mean Rating
Learning about the girl's studies	4.8/5
Learning about the girl's life outside of school	3.8
Learning how the girl got interested in STEM learning / career path	4.8
Hearing the girl's advice for others	4.8
Hearing about the girl's challenges and strategies for overcoming them	4.6
The way the girl's personality was presented	4.5
The visual storytelling techniques: video photography, pacing, music, etc.	4.8
The length of the video	4.8

What parts of the space science you saw in the episodes and role model videos was appealing to you?

- *Seeing how the girls got interested in learning*
- *It was interesting to learn about how many research experiments go up on the space shuttle.*
- *LOVED these videos. When Abby Sofia said she had ADHD and it took her so long to do her homework and when Abby said it took her a long time to do math it made me so happy you are covering different learners. Some of the strongest math and science people I know are LD and almost missed out on a career because they did not know that different learners can thrive in STEM/STEAM.*
- *Both were great. Abby Sophia was more relatable and I appreciated she told what the project was and outcome and need for further study.*
- *It was all interesting*
- *What they do now*
- *How the girls changed their minds about a subject that is difficult but then she took the challenge and ended up applying mat to her career and second girl who overcame the failure of her first-project.*
- *The wildlife camera; because we use one around our farm to keep track of coyotes in the area.*

Role Model Stories

The *SciGirls* team hopes that middle school-aged girls will see the older girls as positive role models. To help establish a cultural connection with girls who view the profiles, the team plans to include cultural values into each of the profile segments.

How do you suggest the *SciGirls* team include cultural values into these segments? What would you like to see included? Feel free to suggest ideas or examples for any or all of the parts of each video.

My studies

- *I like that Abby admitted that she hated math but yet she overcame this challenge in order to achieve her goals. I like that Abby described what it was like to move to and live in a new place.*
- *Show how they asked for help.*
- *Are cultural values really enhancing the science content. If so, yes - if not, it is a waste of content time.*
- *Don't change it. The producers already passionately demonstrate diversity with different ethnicities and religions.*
- *This is great to show students how math, science and subjects related to real world cases.*

My life outside school

- *Who are your study buddies? Are you part of a diverse study group?*
- *Sports, art, karate, etc.*
- *We all have similar and different characteristics/hobbies that make us unique.*

Challenges to being a girl in STEM studies and their solutions

- *Being able to speak up in a group of boys.*
- *Anything is possible if you put your mind to it and set goals.*

Advice to other girls

- *Are you valued as part of the team? Do you have a significant role? Are your activities respected?*
- *Supporting other girls, not seeing them as a competition.*
- *To slow down and think through all the details of a project*

Thinking about the two role model videos you watched (Abby and Abby Sofia), can you think of anything else you want to know about these girls' lives or studies that you didn't see featured?

- *I like the advancing of - do not be afraid to try new things.*
- *Learn more about why their projects failed and how they fixed it.*
- *Abby - what jobs can she get with her education? Abby Sophia - how do you plan to use your passion for computer technology in the future?*
- *Where they are now, maybe a place then can keep the girls updated (blog, vlog)*

Tell us about you!

The final few questions ask for background information to further help the *SciGirls* team understand more about the people who are giving feedback. Thanks for helping us to learn a little more about you!

Please check one or more boxes to describe your racial identity:	N	%
African American/Black	2	18%
Asian Indian, Chinese, Filipino, Japanese, Korean, Vietnamese, other Asian	0	0
Native American Indian or Alaskan Native	0	0
Native Hawaiian or Pacific Islander	0	0

White	7	64%
Other	0	0
Do you identify as Hispanic, Latino, or Spanish?		
	N	%
Yes	2	28%
No	8	73%
No Response	1	9%
What is your current gender identity? (Check all that apply)?		
	N	%
Woman	9	84%
Man	1	9%
Trans woman	0	0
Trans man	0	0
Gender non-conforming	0	0
Prefer to self-identify	0	0
No Response	1	9%
Before today, had you seen any <i>SciGirls</i> television shows or videos before?		
	N	%
Yes	4	36%
No	6	54%
Can't remember	0	0
No response	1	9%

***SciGirls* in Space Feedback – Advisors**

The Advisory Board members were asked to complete a front-end evaluation of a NASA themes *SciGirls* episode from Season 5, as well as two near-peer role model videos, and provide suggestions for the new NASA-themed Season 6.

- Feedback from 11 advisors was on Space Squads (27%) and Super Sensors (73%).
- All the responding advisors (100%) liked the videos “quite and bit” or “a lot.”
- Advisors felt the videos were enjoyable, had a nice diversity of girls, showed failure as part of the process, had role models, were engaging, felt natural, and were appropriately paced.
- Advisors were interested in episodes about Mars, life on other planets, how NASA benefits other industries, missions, and adding more science content to the episodes.
- Advisors felt it was important to see girls visiting an actual NASA center/lab/work space while also being interested in seeing them visit national parks, museums, science centers, aerospace companies, or working in more natural environments like their homes.
- All the advisors (100%) felt the girls were positive role models.
- Advisors felt the most important aspects were having the girls make mistakes (91%), working tougher (82%), and asking questions and exploring (64%).
- For additional ways of doing STEM, the *SciGirls* team could include creating community, more girls sharing knowledge and communicating, how the shadowing experience changed the girls, following the scientific method, featuring technology, and how their work can make a difference.

- To improve the mentor-girl relationship, advisors suggested showing a developing relationship, seeing a diversity of skills, and mentors talking about their own careers and interests.
- For the video diaries, 80% of advisors recommended including family members in the videos and offered suggestions including having the girls talk about their family support, including families to help the audience relate to the girls, considering it on a case-by-case basis, keeping the vignettes short, and asking the families about being included. Those that felt families should not be included (20%) suggested letting the girls make their own decisions and simply highlighting the family relationship.
- For the *SciGirls in Space* shows, 91% of the advisors recommended including family members, friends, and members of the community similar to the video diaries.
- Sharing experiences that would make a good ending included a neighborhood (100%), a museum (91%), a school (91%), and NASA (82%).
- Advisors like the different aspects of the role model video “Abby, a college student” and the video “Abby Sofia, a high school student” similarly.
- My studies – Suggestions were to include cultural values by findings connections between what is being studied and cultural values, diversity in the STEM field, experiences in life that lead to their interests, and overcoming stereotypes.
- My life outside school – Suggestions were to look at their cultural traditions and/or cultural activities, how they help at home, and bring their culture into the open.
- Challenges – Suggestions were to show them facing challenges in relation to their culture, how ethnicity or race added to their challenges, community and family influences, and who they go to for support.
- Advice to other girls – Suggestions were that role models offer specific advice related to their culture and background, describe adults who were their role models, encourage all girls to persevere, and add text to help this stand out.

Part 1: Feedback on *SciGirls* episode

	N	%
Space Squad	3	27%
Super Sensors	7	73%

Overall appeal

Overall, how much did you like the video?

- Mean response = 4.5/5
- 100% liked it “quite and bit” or “a lot”

Please explain your rating. Also, please feel to suggest how the production team could make this episode more appealing to you.

- *I really enjoyed this episode. I appreciated how many different STEM disciplines/ activities were included: space study, wildlife study, technology, engineering, etc. I thought the mentors were both fantastic and really loved seeing the girls' personalities and how they worked together.*
- *I liked the diversity of the girls featured in the episode, that they are (presumably) close in age to the primary audience, and that they were the main storytellers. I liked the personal glimpse into their lives, that the role models were both male and female, that they learned about neat tech concepts and applications - and then built and tested their own, weren't hugely successful at first, that they made revisions and were more successful,*

and then that they shared what they learned and encouraged others in their community to build similar projects. I also liked the camaraderie shown among the girls, and that it showed the success they felt in the end from hard work and a job well done.

- *Fabulous video - included role models, was engaging, discussed usefulness of the technology and excitement about understanding our world. Background on student and supporting family helps youth identify with the students in the story. Also nice level of detail on the technical activity and shows trial and error and how best to learn from initial failure and don't give up. Great messages about inspiring and helping others too! My only concern was in the accompanying activity guide (Keep Out!) - I was concerned that a teacher/mentor/guide might not have enough information to ensure that they can make at least one working prototype on their own. Would it be possible to include one example that they could keep to themselves in case the girls really DID need some guidance?*
- *The material engineer interacted well with the four middle school girls. She's a great role model and mentor for the curious Latina. The caption actually helped me follow the story well.*
- *Fun animated story line supporting an interesting real-life experience integrating engineering, coding, and even a bit of wildlife biology.*
- *Felt natural and that the conversation and excitement was not forced*
- *I have watched several SciGirls episodes in the past but this one is one of my favorites. Stephanie did a fantastic job on camera by being energetic and dynamic. The different engineering concepts flew very well and the girls' activity was very unique.*
- *Quickly and visually engaging; pacing is appropriate*
- *This episode covered multiple topics (i.e Cassini mission; mountain lions, rovers) but tied the scientific concepts together seamlessly.*

Space Science

What parts of the space science you saw in the episodes was appealing to you?

- *I think the focus of this episode was not on space science itself but using space science (IR cameras) in another realm, which was great.*
- *Starting with a Mars connection was great - a good hook.*
- *Loved the references to Cassini and the camera operations remotely. Also the Enceladus water discovery*
- *The textile lab and microscope lab were interesting and relevant to the learners. DIY and testing of various materials looked like a lot of fun and educational to the young ladies.*
- *The tie to the Cassini mission was very nicely done*
- *I like that they got to use their own creativity to come up with solutions to real-world problems*
- *How satellites work*
- *The presentation of space materials and how they are used in spacesuits and their applications here on Earth.*
- *The failure! Ok...perseverance*
- *Having Janelle explain her work on the Cassini mission allowed for the girls (and the viewers) to form a baseline understanding that it is possible to take pictures of something far away and not need to be right in front of something to learn more about it - specifically, her pictures of Saturn and its moon Enceladus. Given that the satellite launched in 1997 (prior to many viewers birth), Janelle did an amazing job making the 14 years of the Cassini mission timely and relevant and the structure of the episode laid the groundwork for the three girls to move forward to "help" Miguel because they now understand that pictures can help scientists form hypothesis' and make new discoveries; and they have a preliminary understanding that writing code is needed to take those pictures.*

What about space science do you think girls want to learn more about?

- *Students I work with are very interested in Mars right now.*
- *The bulk of the episode didn't seem directly connected to space for me. Yes, we use lots of cameras in space! But not a whole lot of wildlife on other planets we've found so far.*
- *Might be nice to add some material about how scientists make sense of, interpret, color code, etc. data that they can collect from different types of remote cameras?*
- *Besides human flights, how would various materials help protect other NASA assets (e.g., spacecraft, balloons)?*
- *More info on remote sensing would be great*
- *Launching satellites, other instruments, how satellites don't collide with each other*
- *I would say that it would be neat to add more science content to the episodes. For instance, the mentor could have explained the materials properties in a little more detail and how they are investigated. Interactive and digital sketches or drawings on the screen could be used to aid the viewer understand the concepts.*
- *Missions, exploration*
- *I would like to see an episode on the impact of space debris on astronauts in space, on spacecrafts, on other satellites and if there is work being done to "capture" or clean up space debris.*

Have your children/students participated in any other NASA or space science activities? If yes, please describe.

Yes = 6 (55%)

- *Yes, my daughter helps out each year at Goddard's International Observe the Moon Night event. Her favorite station to support is the Oreo cookie phases activity, which she leads visitors through. She also participates in quality assurance of the sandwich cookie product.*
- *Yes, interns have job shadowed mentors and even exhibited at events.*
- *Prior to my job at NASA's Solar System Exploration Research Virtual Institute, I worked in the NASA Education Office and served as the E/PO Lead for two robotic lunar missions. I've worked with thousands of students in mission-related activities.*
- *Microgravity flight experiments, Earth CubeSats for environmental monitoring of the stratosphere, weather balloon experiments, nanotechnology applied to space materials.*
- *The National Girls Collaborative Project is involved in several NASA grants.*
- *Yes. My students have participated in Zero Robotics, a computer coding program that allows students to write code to control autonomous free flying satellites aboard the International Space Station.*

How important is it to see girls visiting an actual NASA center/ lab/ work space? Are there other settings for doing space science outside of NASA that you or your daughters or students would find interesting?

- *I think it is pretty important, but not all of the work needs to be done there (as shown in the episodes). It was exciting that the girls got to visit NASA and JPL and it makes the work and what they are learning very authentic. I did appreciate, though, that they applied what they were learning outside of that setting which makes it more accessible to other girls/viewers.*
- *I think showing the girls in a NASA facility is important - it is a neat place for the girls and the audience to see, and for the audience to see how excited the girls in the episode are to visit it. Another place that could be featured is a planetary analog site, where space scientists do space science research on Earth in environments*

similar to environments found on other planets. And, in places like many National Parks that have spectacular dark skies (and analog environments).

- *Great to have female role models. How about bringing in women at commercial partners? Is that out of the NASA funding scope?*
- *Very important - that NASA labs and NASA employees are accessible to young ladies. Other places outside of NASA will include museums and science centers, and aerospace companies such as Lockheed Martin and Boeing.*
- *Very important. NASA has many facilities and people that can be quite inspirational. Too often, young girls have never imagined themselves being able to be at a NASA facility. They tend to be amazed and enthusiastic when they do show up though. Local observatories could be another good option.*
- *I fund a lot of analog studies, where people go to places on Earth that are similar in some ways to other planets, to test out instruments and operations for future missions, some of them are listed here: <https://www.nasa.gov/analogs>, but some are smaller operations that are led by researchers out of universities that happen in national parks and other places that are not as remote and might be a cool opportunity.*
- *Not sure, I think it might add but I also enjoyed seeing other more natural work environments like their home*
- *Yes, there are several non-profit organizations (e.g., Project PoSSUM, MDRS) and spaceflight companies (e.g., Blue Origin, Virgin Galactic, NASTAR Center) that focus on various space science fields and human spaceflight. Given that NASA is interested in building a space economy and opening the ISS for private business (including private astronauts), featuring the commercial spaceflight sector can broaden the student's view about the myriad of options and opportunities to pursue a space science career. Project PoSSUM for instance is engaged with NASA through its Flight Opportunities Program. Blue Origin is already flying NASA payloads in suborbital flights. NSF-funded graduate school programs (ICECube project, University of Wisconsin-Madison) send teachers to the South Pole station to study subatomic particles, such as the neutrinos generated from violent astronomical events. Several young teachers could be featured as role models in the program. Other great filming options for Moon and Mars themes could be done at space analogs such as HI-SEAS (Hawaii Space Exploration Analog and Simulation) and MDRS Mars Analog (Utah Desert).*
- *Very. Also key to see strong women @NASA. NASA=pinnacle of science and discovery*
- *Certainly engaging, but not important. There are many environments, and role models that can be used to get kids excited about space.*
- *It is extremely important for the girls to not just visit exhibits at museums but to be immersed in a work environment where they can conceptualize space in a "grounded" environment. Outside of NASA Centers and NASA laboratories, the girls would benefit tremendously from visiting a college laboratory where they see university students working on space related experiments.*

SciGirls as Role Models

When making *SciGirls*, the production team aims to show girls that viewers can identify with and see as positive role models.

Thinking about the *Space Squad* or *Super Sensors* episode:

Did you see the girls as positive role models for your daughter or other girls? Why or why not?

Yes = 11/11 (100%)

- *Definitely. They were smart, curious, collaborative and wanted to do something to benefit their community.*

- *Yes. Again, the diversity and age proximity to the audience were great. I also like how they weren't fully successful at first, but persevered, were pleased with their result, and shared their result - and encouraged others to get involved.*
- *These girls were amazing! I loved that they talked about their challenges and their enthusiasm. I also loved that they set a good example by giving back. They showed self-confidence and perseverance. They also shared that they had outside interests as well.*
- *Yes, I think so, as they observed, learned, experimented and succeeded in building a project of their own choosing. And the results benefit not only them but potentially become SBIR.*
- *Yes. They were inquisitive, enthusiastic, bright, and personable.*
- *Yes, I liked that they each got to talk about their hobbies and interests outside of science, it is nice to see them represented as whole people and not just "future STEM professional"*
- *Yes, they were curious*
- *Yes, very much! The girls were extremely inspiring. Down-to-earth and authentic. The students did a great job encouraging the audience to be curious and not afraid of learning new things.*
- *Yes, well-spoken, well-rounded, multi-dimensional young women*
- *Yes. Ribhigna, Karen and Trinity seemed inquisitive and kind. They asked interesting questions and they worked well together.*

Please check those that you think are most important.	N	%
Working together	9	82%
Making a difference	3	27%
Asking questions and exploring	7	64%
Being creative and unique	5	45%
Making mistakes	10	91%
Motivating others	4	36%
Using STEM to solve community problems	4	36%

Please explain why you checked these ways of doing STEM as most important.

- *I think making mistakes continues to be a significant issue with students, especially girls. Being afraid to make mistakes can inhibit risk-taking and challenging oneself. Making a difference/ solving community problems is very important to many young people and I think this is a way to show girls the relevancy of STEM to their own lives and appeal to their desire to make a difference. Finally, asking questions and exploring is the basis for all STEM activities and work and should be encouraged. :-)*
- *Think all of the options above are important. However, I chose the ones I did because I feel like they are most easily tangible, and most easily practiced in the broadest number of places. Everyone can ask a question. Starting small might seem more manageable to kids just getting into this - and then build up to things that really make a big difference.*
- *Narrowing down from this list is nearly impossible. I think that team work going forward will be an essential skill (working together). I also think that showing STEM being used in a relevant way is important (Solving community problems, but also making a difference.) I think with the coming of more automation replacing human workforce, creativity is essential. The wonderful process of scientific inquire - boldly asking questions and not being afraid to be genuinely interested is important. Learning and not fearing mistakes and sharing your experiences with others is also essential.*

- *1. Working together -- A team is more than the sum of its parts. 2. Asking questions -- Curiosity is the mother of invention/ discovery. 3. Using STEM to solve community problems -- answers the so what -- relevance leads to motivation*
- *Science, and space exploration, is a community effort requiring collaboration. It is driven by inquisitiveness - asking the big questions. But space is hard. Things go wrong. Launches fail. Mistakes happen, but only result in failure if you learn nothing from them.*
- *As someone that occasionally suffers from impostor syndrome, I think normalizing the idea that making mistakes is part of the process is wonderful. Too often people only show the successes, not the failures, and it makes it seem like science is easy and if you are failing it's because you aren't cut out for it, when in reality failure is an integral part of the process.*
- *Working together, being creative, motivating, and learning from mistakes are all great 21st century skills.*
- *Yes, very much! The girls were extremely inspiring. Down-to-earth and authentic. The students did a great job encouraging the audience to be curious and not afraid of learning new things.*
- *Resilience in STEM is key. So many young women leave STEM fields in less than 3 years*
- *All of these are important (and contained with the SciGirls strategies).*
- *Working Together: Space Exploration is a collaborative process. No mission is completed by just one individual. Often there are multiple scientists/ astronauts across multiple organizations working together, collaborating and communicating clearly to achieve singular tasks - as well as overall missions. Asking Questions and Exploring: It can be very empowering for a young girl of 11 years to know that a 35 or 70-year-old scientist is asking the same question as she. Highlight the questions scientist ask. Highlight the simple questions even astronauts ask while on station. Making Mistakes: As girls become young women, they face tremendous social pressure to "be perfect". Focusing on mistakes can alleviate some of the underlying stress girls can feel. Mistakes are also a realistic component of science/ research. Furthermore, in space exploration, mistakes can and will most likely happen. Coping with mistakes and "working a problem" is a critical skill in space science/ exploration.*

Can you think of additional ways of doing STEM the *SciGirls* team should add to this list when producing the new *SciGirls* episodes for girls and their families?

- *Possibly expanding 'working together' to be more about creating community (as described in the new Strategies). Something else that is important (and not on the list) is addressing STEM stereotypes.*
- *Naturally, I will think about stressing how the girls communicate about their STEM topics and experiences, especially as they share their knowledge with younger girls or maybe publicly at school or in their community. Future scientists and engineers need to know how to talk about the importance of their work, now more than ever, and the act of summarizing and explaining/ teaching to others helps one to understand her own work better and gain perspective on her own research. It's a great skill to emphasize, as well as the demonstration of knowledge of facts, analytical processes, and experimental approaches.*
- *Whether the shadowing experience has changed the girls' aspirations and career choices.*
- *Disseminating results. Following the scientific method. Questioning, testing, and revising hypotheses*
- *I believe featuring the use and application of more technology tools is important for exposure and knowledge about which tools are used when doing science or engineering. Programming, software tools, prototyping (e.g., 3D printing), excel, are a few examples.*
- *The making a difference is also important. Young women gravitate toward medical fields to make a difference. Show how engineering makes a difference*
- *No. SciGirls is very thorough.*

- *Space is attainable and space will need leaders! A degree or career in space and space exploration is not just working for NASA, there are many new public and private universities developing labs for under/graduate study of space; there are a growing number of industry partners working in space - literally; and there are high schools and middle schools sending experiments into space. Space is within their reach and we need them!*

The SciGirls Mentor relationship

Each *SciGirls* episode features girls interacting with STEM professional women mentors.

Thinking ahead to the new *SciGirls in Space* episodes, did you notice anything in the mentor-girl relationship that could be improved? Please suggest where and how ideas and experiences might be added to the mentor-girl interactions.

- *Believe this is always the case in SG episodes, but I loved seeing the mentor when the girls presented their work. They were clearly very happy she was there. I know it's challenging with limited time, but anything to help show the girls becoming familiar with the mentor, getting to know her, would be helpful. I also really liked when she asks them questions... that made it feel more like a role model relationship and not just someone who was talking to the girls about their work.*
- *I thought it was a little interesting that the female mentor helped the girls with the coding for their camera, when the male mentor was the one who specialized in these devices. But, maybe good to see you might be an expert in one area, but that your expertise/ skills can be applied more broadly. Otherwise, I thought the mentors in the episode did a great job.*
- *I don't recall whether mentors did/will talk about their own challenges along the way? If so, that would be a good addition.*
- *1. While I appreciate the young and good looking mentors in the episodes, I don't 2. Some girls showed an interest in musical instruments and others may be in sports or paintings. If the mentor happens to be interested in similar hobbies, perhaps show particularly care for dressing up, especially in heels in the labs (unpractical!) them work together (e.g., making a space quilt together, or talking a little about the*
- *Both quite good. Janelle, being a black female at NASA helped overcome stereotypes. Just as an individual, she was very engaging and has a really cool job. She communicated her enthusiasm quite well. Miguel, being Hispanic, also helped combat stereotypes. He had a very effective way of explaining concepts and seems like he would make a good teacher too!*
- *The girls got to talk about their hobbies/families/etc. it would be nice to see the mentors also talk about their lives outside of work*
- *It would be nice to also see a more personal side of the mentor, not just the girls.*
- *I would love to see the mentor interact more (or being featured more) with the girls during the design and execution of the activity. I think the Super Sensors episode featured the mentored more than Space Squad and I liked the Super Sensors for that.*
- *I think Janelle (and Miguel) did a great job with Karen, Ribighna and Trinity. While it was good to see the girls doing coding in one of their living rooms, it might be nice to see some more "lab time" (although most of the space engineers I know have labs that look like a messy garage ;-)). Janelle was enthusiastic, supportive and she was very clear with her explanations and instructions.*

Girls Video Diaries

Each *SciGirls* episode features segments wherein the girls talk about their home lives and interests, sometimes showing pets, musical instruments, sports, and bedrooms. For the new *SciGirls in Space* shows, the *SciGirls* team wants your advice on how to make them more interesting.

Do you recommend including family members in these video diaries?

8/10 (80%) – Yes, encourage girls to include family members.

How do you suggest the *SciGirls* team help girls to do this? Can you give specific ideas or examples that you'd like to see included?

- *We learned during the development of Latina SciGirls that it can be very beneficial to include families and this might make the episodes more appealing to a wider range of girls. That said, if they don't want to be included, that would be okay... sometimes they look as if they are uncomfortable. But pictures of family members could still be shown and discussed. I think it is helpful when girls mention something about their family members... 'they helped me to not give up' or 'encouraged me to do this...', etc. rather than just say 'this is my family'.*
- *I think anything that can help audience members see themselves as similar to the girls in the episode is great - and everyone is raised by someone. It might be nice to include girls from non-traditional families. That said, I think whatever the girls think is most important to them would be what to focus on in their clip - though non-science-y things are good, to show color and make additional connection opportunities. (I'm also think of some cultures where families are especially important - there it is great to connect. I also liked seeing supportive family members. But - not everyone has supportive families. So maybe don't feature the family members of every girl, especially if this is not something they immediately request to show.)*
- *This can be tricky, but if done right, could be very powerful. It ought to be considered on a case by case basis. Not every SciGirl will have a family member that "understands" their STEM interests, but if they are lucky, they will have family that is supportive any way. footage of that interaction can be a powerful message to other adults who view these films - that they too should be supportive of their girls' dreams. Also, in some cases, the family member may be a good role model for perseverance, courage, etc. That could be helpful too. HOWEVER, in some cases, it will be tricky, because not every girl will have a supportive family. I would discourage showing footage of the family in that case, because that will detract from the positive energy of the video. I would encourage some reference to "overcoming challenges" in the videos though, since it is very helpful to empower young girls to be strong, confident, and persistent....because they need to know that EVERYONE has challenges along the way, even the women that they sometimes idolize and think must have had a perfect life.*
- *A provisional yes. These vignettes should remain short. Including family members could add value, but not at the expense of significantly lengthening these features.*
- *I think it's good to show different family connections. Maybe ask instead share about one of your family members.*
- *It should be up to the girls if they want their families to be a part of it but if they feel comfortable the program can explain to the girls that the audience identifies more with them when they learn about their families, culture, and upbringing.*
- *Family support is important. Having family involved normalizes the girl's interests and goals*
- *This may be an opportunity for SciGirls to highlight different types of families (i.e. foster families; same-sex parent families; grandparent led households; etc). Intergenerational perspective can be good for promoting the show, supporting the girls, and giving viewers/girls tools to engage their parents at home in deeper discussions about their future and their goals.*

2/10 (20%) – No, these should just focus on the girls themselves or be completely up to the girls to decide. Please explain your answer.

- *Let the girls make their own decisions -- they may include family members if they have good relationships.*

- *If family is important to them, then that is great and should be highlighted, but families come in all shapes and sizes and not all of them are supportive and/or able to be present, and that doesn't mean you can't be a scientist.*

Story & Science Conclusion: Communicate Findings/ Share Results

Toward the end of each *SciGirls* show the girls communicate their findings with other students. In other *SciGirls* shows, however, the girls may share their findings with people of all ages that often includes family members and/or friends.

For the new *SciGirls in Space* shows, the production team is considering including families, friends, and members of the community in these final sharing scenes. Do you agree with this approach?

10/11 (91%) – Yes. Can you give specific ideas or examples that you'd like to see included?

- *I think including the community in particular can be powerful. It shows that others are interested in the work the girls have done and also makes linkages to how their work might impact their community. It might be episode specific - depending on what the project is/who the results are most relevant to?*
- *Yes - to some extent. Again, some girls will have very supportive families and siblings they can share their results with. But as not all girls have this support structure, it might be nice to either have some episodes where there is just a community-centered sharing scene, or not have all girls with their families. You certainly don't want to give the impression that a supportive family is required to becoming successful in STEM.*
- *Yes! Students AND family or some of them in at least a few videos if not both in all. Showing a parent or sibling how their experiment works, something they made, why it is important, etc. would be awesome.*
- *Do some show and tell in family science nights, or feature students with mentors in public events.*
- *Include feedback from family members showing how impressed they are with what their girls have discovered and how they've opened the eyes of the family members to some facet of the universe they may have been unaware of.*
- *I'm not completely against it but it would be nice to really see how the girls inspired or taught their peers*
- *Outreach events at their school, local museum (e.g. Air and Space Museum and interview its Director Dr. Ellen Stofan former NASA planetary scientist). Also I think it would be great for the girls to use social media (Facebook Live, Instagram Live, Twitter) as part of the dissemination efforts. The day the episode is launched, girls can also participate in social media campaigns led by the SciGirls team and invite the public to ask questions about the science, their experience in the program, aspirations, and peer advice.*
- *Tie it all together. Science is everywhere. Discovery is every day. Family and friends support inquiry and the inquiring mind*
- *Including community and families connects to the world the girls are living in.*
- *If I understand your question correctly, I am equating this "final sharing scenes" to the presentation Karen, Ribighna and Trinity did at the end of this episode. If I am correct, then YES. Presenting your findings, displaying your research and sharing in your process and discoveries is a big factor in being part of the scientific community. Presenting your research to a group allows girls to develop this skill (SciGirls may even want to consider having girls present their findings/ research at the next ISS R&D Conference in Seattle!!)*

1/11 (9%) – No. Why do you prefer that the scenes not incorporate families, friends or members of the community more? *No response*

What kinds of sharing experiences and locations would make a good ending?

	N	%
NASA	9	82%
A museum	10	91%
A part	8	73%
A school	10	91%
A neighborhood	11	100%
Other	3	27%

Other described - Start at inspirational locations

Part 2: Feedback on *SciGirls* Role Model Videos <https://vimeopro.com/user10550772/scigirls-in-space>

Overall appeal of role model video 1: Abby, a college student

Think about the role model video you just viewed. How much did you like the following aspects of the video? Circle one number in each row using the scale from 1 (didn't like at all) to 5 (liked a lot).

	Mean Rating
Learning about the girl's studies	4.4/5
Learning about the girl's life outside of school	4.6
Learning how the girl got interested in STEM learning / career path	4.6
Hearing the girl's advice for others	4.6
Hearing about the girl's challenges and strategies for overcoming them	4.8
The way the girl's personality was presented	4.4
The visual storytelling techniques: video photography, pacing, music, etc.	4.5
The length of the video	4.4

Overall appeal role model video 2: Abby Sofia, a high school student

Think about the role model video you just viewed: How much did you like the following aspects of the video? Circle one number in each row using the scale from 1 (didn't like at all) to 5 (liked a lot).

	Mean Rating
Learning about the girl's studies	4.1/5
Learning about the girl's life outside of school	4.6
Learning how the girl got interested in STEM learning / career path	4.8
Hearing the girl's advice for others	4.6
Hearing about the girl's challenges and strategies for overcoming them	4.8
The way the girl's personality was presented	4.5
The visual storytelling techniques: video photography, pacing, music, etc.	4.3
The length of the video	4.4

What parts of the space science you saw in the episodes and role model videos was appealing to you?

- *The scenes at JPL were fascinating, especially when the mentor talked about/ showed her work. The fact that the role models had sent experiments to space was very exciting. I appreciated how they talked about learning from the disappointment of the explosions before experiencing success.*

- *I like that the space science was an experiment for the ISS that students could build - including students in the audience watching the episode. It was accessible. I would have liked to see more diversity in the role model episodes in terms of the focal story - having three members of the same team profiled was interesting, but I think there is potential for other types of STEM stories. Off the top of my head, a profile of a student field assistant - we had high school students accompany us on planetary analog field expeditions who would be great to profile.*
- *Episodes - Images of ISS life, Cassini footage and images of Saturn. Role model videos - bacterial imagery, blue and red light projections, the launch imagery.*
- *1. Setbacks, perseverance and then success. 2. The young faces with exuberant joy!*
- *Particularly important was the theme of overcoming obstacles, in this case in the form of launch vehicle failures. Liked Abby overcoming her initial dislike of math. She made an important statement saying that she is still slow at doing math problems but that doesn't mean she's not good at it. Abby Sofia's overcoming her problems with ADHD was inspirational.*
- *I liked that they had to deal with failures that were outside of their control, a good reminder that space is hard and requires resilience and perseverance.*
- *Why is the location of space so interesting for experiments?*
- *Microgravity, materials, applied mathematics, using Arduino to model sensors use for imaging.*
- *Blend studies and life outside school to create 3D women*
- *It was great to hear from both of them about how they coped with their experiments exploding. This was important. I would have like to see more and learn more about their actual experiments in space (i.e. less stock footage of ISS and more of their experiment on station).*

Role Model Stories

The *SciGirls* team hopes that middle school-aged girls will see the older girls as positive role models. To help establish a cultural connection with girls who view the profiles, the team plans to include cultural values into each of the profile segments.

How do you suggest the *SciGirls* team include cultural values into these segments? What would you like to see included? Feel free to suggest ideas or examples for any or all of the parts of each video.

My studies

- *Are there connections between culture and what is being studied? Something that might be impacting their community? Maybe a connection between their culture/background and why they are interested in the subject?*
- *It's nice to see different STEM topics featured here - shows diversity of STEM field*
- *What is interesting and why. Experiences through life that lead to these interests.*
- *Changing courses/majors is OK -- keep an open mind to learn.*
- *In each of these areas in this section, emphasize overcoming stereotypes. That does not just apply to how others see you, but also to how you see yourself!*
- *Highlight international students; and/ or a video that highlights a student collaborating via conference call with another student in another country and/ or of a different race.*

My life outside school

- *Include a look into any cultural activities they do or traditions they have. They can talk about where they are from, what their cultural heritage is. Does their culture influence how they spend their time outside of school?*

- *This is great - again, more potential connections to the audience, makes the featured girls seem more like regular people, more relate-able and interesting.*
- *Hobbies, cultural community/family activities, enrichment activities, interests, passions, reading, writing, etc. An enriched, passionate, curious life that includes STEM but is not always solely STEM.*
- *Helping parents with chores, or helping to raise siblings*
- *Family, hobbies*
- *Address it head-on where appropriate*
- *Possibly highlight religion(s) and/or services if applicable.*

Challenges to being a girl in STEM studies and their solutions

- *They can talk about their challenges in relation to their culture if appropriate... are they 1st in their family to go to college? Do they feel their race/ethnicity is an added challenge or strength in addition to being a girl?*
- *I would feature this one a little lightly - my (young) daughter does not yet know that girls can't do anything. You don't want to feature this too hard for girls who may not have experienced these challenges yet. Maybe just emphasize that this is for everyone.*
- *Talk about family and community influences, but incorporate positive spin as much as possible.*
- *No role model at home.*
- *No one talked about who they go to for support, who are their mentors?*

Advice to other girls

- *Have role models include specific advice related to their culture/ background and encourage them to have an inclusive message when giving advice to other girls.*
- *I really like this part. Great motivation from someone close to their age, who hopefully they have come to feel that they have something in common with.*
- *Persevere. Confidence. Don't be afraid. Don't take no for an answer. Curiosity. Show working with other girls and communicating. Maybe even working with adults too!*
- *Identify an adult as a role model/mentor, and stay in touch with him/ her through the college years and beyond.*
- *I think this is the weakest part, maybe because it only comes across as one short statement. Maybe in videography make this part bold or stand out somehow.*

Thinking about the two role model videos you watched (Abby and Abby Sofia), can you think of anything else you want to know about these girls' lives or studies that you didn't see featured?

- *Nothing in particular, but it might be helpful to have them show a little more vulnerability. It's a fine balance between showing confident young women doing STEM and still showing someone girls can identify with even if they don't feel they have it quite all together.*
- *Abby should talk about her journey more about going from "hating" math to "loving it." I'd like to know more about Abby Sophia overcoming ADHD. Her tools.*
- *Perhaps talk about people or role models who inspired them.*
- *I don't remember hearing anything about their future plans (career or personal), that might be interesting to hear.*
- *Who are their mentors, how did they find them?*

Tell us about you!

The final few questions ask for background information to further help the *SciGirls* team understand more about the people who are giving feedback. Thanks for helping us to learn a little more about you!

Are you: check all that apply	N	%
Parent	3	27%
Advisor	11	100%
Educator	2	18%

Please check one or more boxes to describe your racial identity:	N	%
African American/Black	1	9%
Asian Indian, Chinese, Filipino, Japanese, Korean, Vietnamese, other Asian	1	9%
Native American Indian or Alaskan Native	1	9%
Native Hawaiian or Pacific Islander	0	0
White	10	91%
Other	0	0

Do you identify as Hispanic, Latino, or Spanish?	N	%
Yes	2	18%
No	9	82%

What is your current gender identity? (Check all that apply)?	N	%
Woman	10	91%
Man	1	9%
Trans woman	0	0
Trans man	0	0
Gender non-conforming	0	0
Prefer to self-identify	0	0

Before today, had you seen any <i>SciGirls</i> TV shows or videos before?	N	%
Yes	9	82%
No	2	18%
Can't remember	0	0