



SciGirls

pbskids.org/scigirls

Dare to be a SciGirl!



This book belongs to:

Produced By:



Made Possible By:



Additional Funding Provided By:



PPG
Industries
Foundation

Cargill

NXP
Semiconductors

The
Schulze Family
Foundation

The
Donaldson
Foundation

What Is a SciGirl?

SciGirls:

Work Together

Make a Difference

Ask Questions & Explore

Are Creative & Unique

Aren't Afraid To Make Mistakes

Motivate Others

Use STEM (Science, Technology, Engineering and Math) to Change the World



Try Out Fun Activities!

What are you interested in?



Indoor Ideas

- Caring for pets
- Solving puzzles and brain teasers
- Building robots
- Designing tech-savvy fashion
- Reusing and recycling
- Making how-to videos
- Creating games



Outdoor Ideas

- Looking at the stars
- Hiking and exploring nature
- Gardening and composting
- Building rockets, kites, and airplanes
- Collecting rocks, seashells and fossils
- Investigating the physics of sports
- Building forts and shelters



SciGirls can be whatever they want to be. Think it. Do it!

Head to pbskids.org/scigirls for more ideas!

Build the tallest structure you can...using water.



You'll Need:

- a large mixing bowl
- a kitchen mixer or whisk
- different types of soap (dishwashing liquid, hand soap, liquid laundry soap, body wash, shampoo)
- water
- plate
- ruler



Here's How:

1. Before you start decide how long you will mix each batch and how much water and soap you will use.
2. Choose your first soap and mix until time is up. Pile your bubbles on a plate until you make the tallest tower of bubbles you can. Measure the height of the tower.
3. Continue testing with each type of soap. Which soap makes the tallest tower?
4. What if you changed the amount of soap, amount of water or time spent mixing? How would those changes affect your tower's height? What is the best combination of soap, water and time?



SciGirls:

Ask questions and Explore
Are Creative and Unique



Design and build an arm to give a small item a lift!



You'll Need:

- foam, cardboard or heavy paper
- popsicle sticks, wooden dowels
- plastic drinking straws
- string
- scissors
- rubber bands
- tape
- ruler
- paper cup



Here's How:

1. Research mechanical arms. What are the different styles? What problems do they solve? How are they similar/different?
2. Your arm must lift an empty paper cup from one foot away with the following rules: only one person can operate the arm at a time, the arm is the only thing that can touch the cup, the cup must be set back down and the arm removed when done, the cup can't be damaged in the process.
3. Draw out your design before starting to build.
4. Build and test your design. If your design isn't successful revise it until you've lifted the cup.
5. Adapt your arm to solve other problems (lift a full cup, pick up smaller and larger items).



SciGirls:

Are not Afraid to Make Mistakes
Make a Difference
Use STEM to Change the World



What kind of SciGirls are you?

Go to pbskids.org/scigirls to play games and watch your favorite SciGirls moments again!



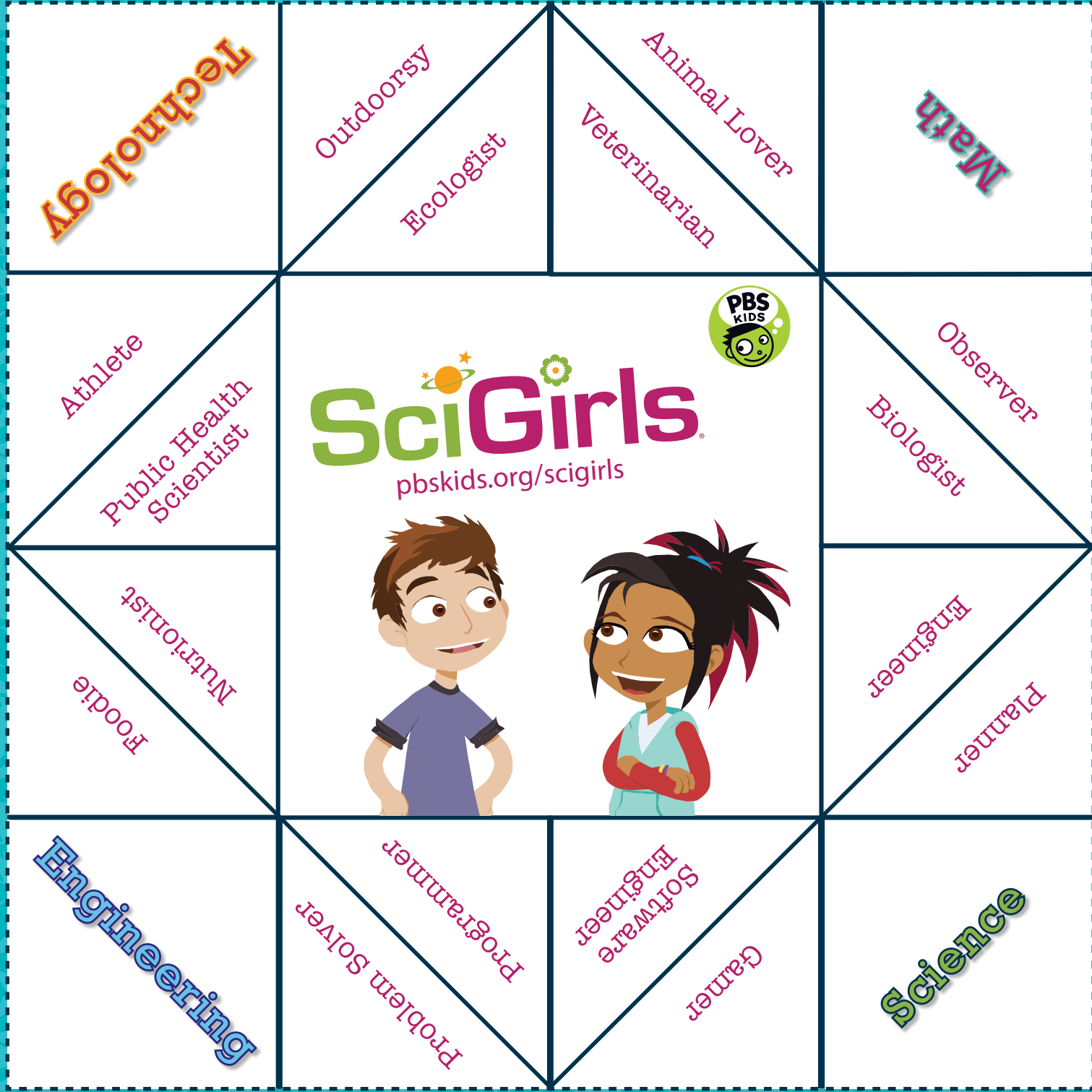
There are all kind of SciGirls out there, what kind are you? Customize your profile and play Rule the Roost to find out!



SciGirls:

Work together
Ask Questions and Explore
Are Creative and Unique
Motivate Others





MAKE YOUR FORTUNE TELLER

1. Cut out the square above following the dashed lines.
2. Start with the English side facing down. Fold two opposite corners together to form a triangle. Unfold. Do this with the other two corners. Unfold.
3. Using the lines you created in step two, fold all four corners into the center.
4. Flip the fortune teller over so the flaps are underneath. Fold the corners into the center.
5. Fold the square in half to form a rectangle, unfold it and do it again from the other side.
6. Flip it over so that Science, Technology, Engineering and Math are facing up. Stick your thumbs and fingers under the squares.
7. Have fun!

