Activity 2

Parachute Parade

DESIGN A PARACHUTE TO GIVE A TOY FIGURE A SAFE LANDING.

Skydivers rely on parachutes to slow them down as they fall from frightening heights. Parachutes catch air and create drag, a force that works against gravity. Parachutes are usually large and made of lightweight materials, so they create the most drag possible without adding a lot of weight.

You'll Need (per small group):

- several items from this list: plastic wrap, tissues, paper towels, plastic bags, tissue paper, coffee filters, handkerchiefs
- 1 toy minifigure (LEGO, for example)
- string or thread
- scissors
- tape
- paper and pencil
- optional: stopwatch

Here's how:

1. **Introduce parachutes.** Ask your girls to get into small groups [1] and then deliver the **SciGirls Challenge:** Construct a parachute that helps a toy minifigure reach the ground slowly and safely. Briefly discuss parachutes. Has anyone ever seen a parachute before? Can they describe or draw one? [2] (Think of the different shapes, sizes and uses of parachutes.)

2. **Brainstorm and build.** Challenge girls to construct a parachute using only the materials provided to help their toy minifigure reach the ground slowly and safely. Give groups 10 minutes to brainstorm and agree on a design before they construct their parachutes. [3]

3. **Plan.** Reconvene all the girls. Ask them to discuss how to test their designs against each other to see which design provides the most drag. Discuss how they will set up the tests so the designs can be usefully compared (use a stopwatch, compare two at a time, make sure the parachutes are dropped from the same height). [4]

POINTER: This activity is great for practicing a very important STEM skill—changing only one variable at a time as you redesign. Some variables to consider: material choice, parachute size, and length of string. Encourage girls to think of other variables, but remind them to keep everything the same except the one variable they are testing. [6]

4. **Predict.** Before implementing the tests, ask the girls to make predictions about which parachute will drop to the ground the slowest. Why?

5. **Interpret.** After the tests, ask the girls to consider the results. Were they in line with their predictions? Why did one parachute fall slower than another? Allow your girls to come up with and present possible explanations. [4] [6]