Lego Man Jump!

What is the challenge? Design and build a parachute that safely transports a Lego® figure to the ground.

What you need:

- Variety of household materials that may include:
  - Parchment paper
  - Rubber bands
  - Balloons
  - Plastic bags
  - Tin foil
- Tape
- Yarn/string
- Lego® figure (or other similar-weighted object)
- Paper and pencil

What to do:

- Take your Lego® person (or other object), toss it in the air, and let it fall to the ground.
  - Notice: How fast did it fall?
- Ask yourself how you could prevent the object from falling too quickly.
- Take 2-3 minutes to sketch out your ideas using the paper and pencil.
- Gather the household materials you would like to create your parachute with.
- Time to build! Use your materials to engineer the best parachute you can.
- Once you're finished building, attach your Lego® person to the bottom.
- Once again, toss your Lego® person in the air and let it fall to the ground.
  - Did it fall faster or slower than the first time?

Notes for adults:

- Adult supervision is advised when using sharp objects.
- Encourage learners to test and redesign as they build. They might pull/tug on their parachute to evaluate sturdiness or drop it to the floor to see how well it catches air.

STEM connection:

- Parachutes help safely lower people and other objects to the ground from great heights. Although they are so big, they are very light in weight.
- A *force* is a push or a pull on an object. The force that keeps people and objects on the ground is called *gravity*. When you tossed your Lego® person in the air, it fell right back down instead of floating away to outer space. That was all the work of gravity!

Take it further:

- Use an egg in place of the Lego® figure.
    - Can you design a parachute that transports the egg to the ground without it breaking?