

# Exploring Gravity

**Ages:** 5–11 (Grades 1–6)

**Duration:** 20–30 minutes

**Materials needed:**

- Pencil
- Markers/crayons

**Introduction:**

Have you ever wondered why you land back on the ground after you jump up high in the air? Or questioned what causes all the planets to **orbit** around the Sun? The answer is **gravity**! Gravity is the invisible force that pulls objects towards each other. Every object with **mass** has gravity (even you!), but what causes gravity to have the strength to pull other objects towards its center is the size of its mass and the distance between the two objects. The mass of the Earth is large enough to pull people, animals, and even heavy rocks and buildings down to the surface. The mass of the Sun is significant enough to not only pull the Earth, but all the planets in the solar system towards its center, causing the planets to orbit around the Sun instead of floating off into space.

Why do **astronauts** “float” when they are in space? Gravity is still pulling on them, but a spacecraft in flight is *moving with* the pull of gravity, and so are the astronauts, whether they are orbiting the Earth or moving between planets. Standing on a planet, what we really feel is the ground *pushing up* on us, keeping us from falling, as the Earth is pulling us down.

Watch this [short video](#) explaining gravity from Crash Course Kids. To learn more about gravity, follow this [link](#) to NASA for Kids.

**Procedure:**

1. Watch [this video](#) of an astronaut making a peanut butter and jelly sandwich on the International Space Station.
2. Imagine what your home would look like if there were no gravity. How would some of the tasks you do every day look different? What are some possible solutions to the problems this would cause?
3. Complete the worksheet below.

**Share your work:**

Take a photo of your picture and post it to Instagram using the hashtags #MuseumFromHome and #DailyPlanet, and tag the Museum.



*Breakfast Without Gravity* by Bridget McCormick

# Worksheet: Exploring Gravity

Name / Class / Date:

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What would it be like in your home if there were no gravity?

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Draw a picture to show what your home would be like without gravity.

