LESSON PLAN

GRAVITY PULLS THINGS DOWN
GRADES K-2

SUMMARY
Students explore the effects of the pull of gravity on an object. Duration: 15-30 minutes.

CORRELATION
K-PS2-1. Plan and conduct an investigation to compare the effects of different strengths or different directions of pushes and pulls on the motion of an object.

Science & Engineering Practices | Connections to Classroom Activity
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**Planning and Carrying Out Investigations**
Planning and carrying out investigations to answer questions or test solutions to problems in K–2 builds on prior experiences and progresses to simple investigations, based on fair tests, which provide data to support explanations or design solutions.
With guidance, plan and conduct an investigation in collaboration with peers. (K-PS2-1)

- Students plan and carry out an investigation on the pull of gravity affecting a falling object.

Disciplinary Core Ideas | Connections to Classroom Activity
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**PS2.A: Forces and Motion**
Pushes and pulls can have different strengths and directions.
Pushing or pulling on an object can change the speed or direction of its motion and can start or stop it.

- Students learn about gravity with an emphasis of forces (pushes and pulls).
Any set of small classroom objects - 1 per student: such as counting cube, ball, tens block, counters, etc.

A larger object for demonstration – such as a beach ball

One apple

DIY Activity

Large clear container

Very long string of party beads

Weight like a marker or pen

EXPLORE

Steps
1. Have students stand near a desk or table.
2. Give each student one of the set of classroom objects you prepared (such as a counting cube).
3. Ask students to start with the counting cube in the middle of the table or desk.
4. Ask students to push the cube to the edge of the desk without it falling.
5. Describe the push as a force acting upon the cube. Tell students, “Forces can push or pull an object.”
6. Have students brainstorm other pushes or pulls they have seen or done – such as pushing a chair under a table.
7. Have students push the cube off the edge of the desk, causing it to fall on the floor.
8. Ask students to brainstorm – what force pulled the cube to the floor?
9. Instruct students to sit on the floor at their seat and throw the cube up into the air a little bit. Where does the cube go? What pulls it back to the ground?

EXPLAIN

Gravity is the invisible force that draws objects towards Earth. As the cubes leave the surface of the desk, gravity pulls them towards the Earth. All objects on Earth are pulled towards the ground by gravity. When we throw an object into the air, such as the counting cube – gravity is still pulling the cube and eventually pulls it back to the ground. Gravity is a constant force that is acting on every object on Earth.
ELABORATE

WATCH THE GENERATION GENIUS GRAVITY PULLS THINGS DOWN VIDEO AS A GROUP

Facilitate a discussion using the discussion questions before and after the video.

EVALUATE

Students can play the online Kahoot! quiz game located below the video which provides downloadable scores at the end of the quiz game. Alternatively, you can use the paper quiz or the exit ticket questions. All these resources are located below the video in the Assessment section.

EXTENSION

For advanced students, have students research the pull of gravity on other planets – is it weaker or stronger? What is outer space’s gravity like? What happens to astronauts in space or on the moon – can they float? Students can research information, videos, and demonstrations online to show how objects behave on different planets or in space.

Suggestions for additional books to read:

• How Do We Stay on Earth? by Amy S. Hansen and Korey Scott
• Gravity by Robin Nelson