

Gravity & Noncontact Forces

Gravity Drop Gorge with Zoomling

Learning target

Distinguish a force acting at a distance from contact.



Before you begin

Use the reference page and discussion prompts on their own, or open the optional browser adventure. No earlier lesson or physical kit is required.

For online play: use an internet-connected current browser with local storage enabled. Read the three-part Gemling briefing, answer the quick check, and apply the evidence at three checkpoints. Retry feedback supports review; results are not a secure test or gradebook.

Use for teacher-led review, science centers or partner practice. Independent readers may need support with the vocabulary below. The design target is grades 3-5; choose support based on the learner.

Vocabulary and concepts to discuss

Earth's downward pull; falling; magnetic forces as comparison; contact versus noncontact

Open Gravity Drop Gorge - direct lesson link

Scan the QR code or use the clickable link. This guide is usable offline; the adventure runs on an external educational website.



Gravity & Noncontact Forces - key ideas

1. The first clues

Gravity is an attractive force. Near Earth's surface, unsupported objects are pulled toward Earth.

2. How the clues connect

Some forces act without direct contact. Gravity and magnetic attraction are examples; a hand pushing a cart is a contact force.

3. Our evidence record

Our digital model releases a ball and shows it falling toward the ground. The player does not need to drop real objects or approach a dangerous height.

Keep the science accurate

Keep force and speed comparisons qualitative or simple. No formal Newton-law algebra or momentum calculations.

Apply the evidence

Use a specific observation from this lesson to explain one choice. Point to a clue, then connect that clue to a scientific idea.

Curriculum reference: <https://www.nextgenscience.org/dci-arrangement/3-ps2-motion-and-stability-forces-and-interactions>

Talk through the evidence

1. Which force explains the falling ball?

Expected answer: Gravity

Reasoning: Some forces act without direct contact. Gravity and magnetic attraction are examples; a hand pushing a cart is a contact force.

2. Which is a contact force?

Expected answer: A hand pushing a cart

Reasoning: Some forces act without direct contact. Gravity and magnetic attraction are examples; a hand pushing a cart is a contact force.

3. Can a magnetic force act without touching?

Expected answer: Yes

Reasoning: Some forces act without direct contact. Gravity and magnetic attraction are examples; a hand pushing a cart is a contact force.

4. Which direction does Earth's gravity pull the model ball?

Expected answer: Toward Earth

Reasoning: Gravity is an attractive force. Near Earth's surface, unsupported objects are pulled toward Earth.

Guide the discussion

Ask learners to name the evidence that supports their answer. If an answer differs, revisit the matching key idea on page 2 and invite a revised explanation.

Online rewards: this lesson grants one fixed digital Expedition Discovery. Five saved digital Gemling friends become available only after all six distinct subject lessons are complete, in any order. Digital rewards do not establish physical ownership.