Isaac Newton
Teaching & Activity Pack

The Apple and the Invisible Pull | Ages 5–8



Read, discuss and try

Use alongside *History Hopping with Isaac Newton*. This pack contains a session plan, discussion prompts, a child worksheet, adult answer guidance and six original learning pages from the book.

Find what you need

Session plan: page 2. Discussion: page 3. Child worksheet: page 4.
Adult guidance: page 5. Original book learning pages: pages 6–11.
Print page 4 for each child; display or share the book extracts as needed.

One session: 45 minutes

Read for 15 minutes, discuss for 7, try the activity for 17 and share for 6. Split or extend the session to suit your group.

Every child can take part

Read instructions aloud. Children can answer by speaking, drawing or pointing. An adult may write down their words. Follow the preparation and supervision instructions on page 2.

Real people, imagined adventures

The children’s visit and dialogue are fictional. Factual notes explain the history and ideas. Activities supplement the story; they are not a complete curriculum.

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Newton session

The Apple and the Invisible Pull | Adult guide



Aim

Explain that gravity pulls both sheets down while air slows their falls differently.

Materials

Two matching paper sheets per pair; pencils; worksheet 4; clear floor.

Prepare

Leave one sheet flat and crumple the other. Stay on the floor. Drop only paper from waist height.

Step		Time
Read	Read the story and Falling Paper Test. Pause when Sarah notices that weight AND shape changed.	15 min
Discuss	Use the four prompts on page 3. Ask children to point to the story evidence.	7 min
Do	Predict. Release both sheets together, flat sheet horizontal. Repeat three times and circle results. Companion extension: compare with another pair.	17 min
Reflect	Ask: What changed? What stayed the same? Gravity pulls both down; air usually slows the flat sheet more.	6 min

Same paper, different shape. This test does not prove that heavier things fall faster.

Newton discussion

Ask the question, then use the suggested answer if needed

1. Why did Daniel think heavier things always win?

The pebble landed before the leaf. But weight and shape both differed.

2. What made him question his rule?

The small and bigger stones landed at almost the same time.

3. Why did Sarah use matching sheets?

To change shape while keeping the amount and type of paper the same.

4. What bends the Moon’s path around Earth?

Gravity pulls it towards Earth while it moves sideways. Its path is an orbit.

Make it easier

Adult drops; child watches, points or circles. Scribe the child’s explanation.

Try more

Companion extension: fold one of two new matching sheets. Predict and repeat, keeping height and release method the same.

Optional family activity

Repeat the paper test with an adult. Share one result and one question the test did not answer.

My falling paper test

Name _____ Date _____

1 Circle your guess

Which will land first?

Flat sheet Paper ball Together Not sure

2 Drop together three times

Stay on the floor. Drop from waist height with an adult.

Drop	Flat first	Ball first	Together	Not sure
1				
2				
3				

Circle what you saw in each row.

3 Tell an adult

What changed? What stayed the same?
Point to the sheet the air slowed more.

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Adult answers and teaching notes

Newton worksheet

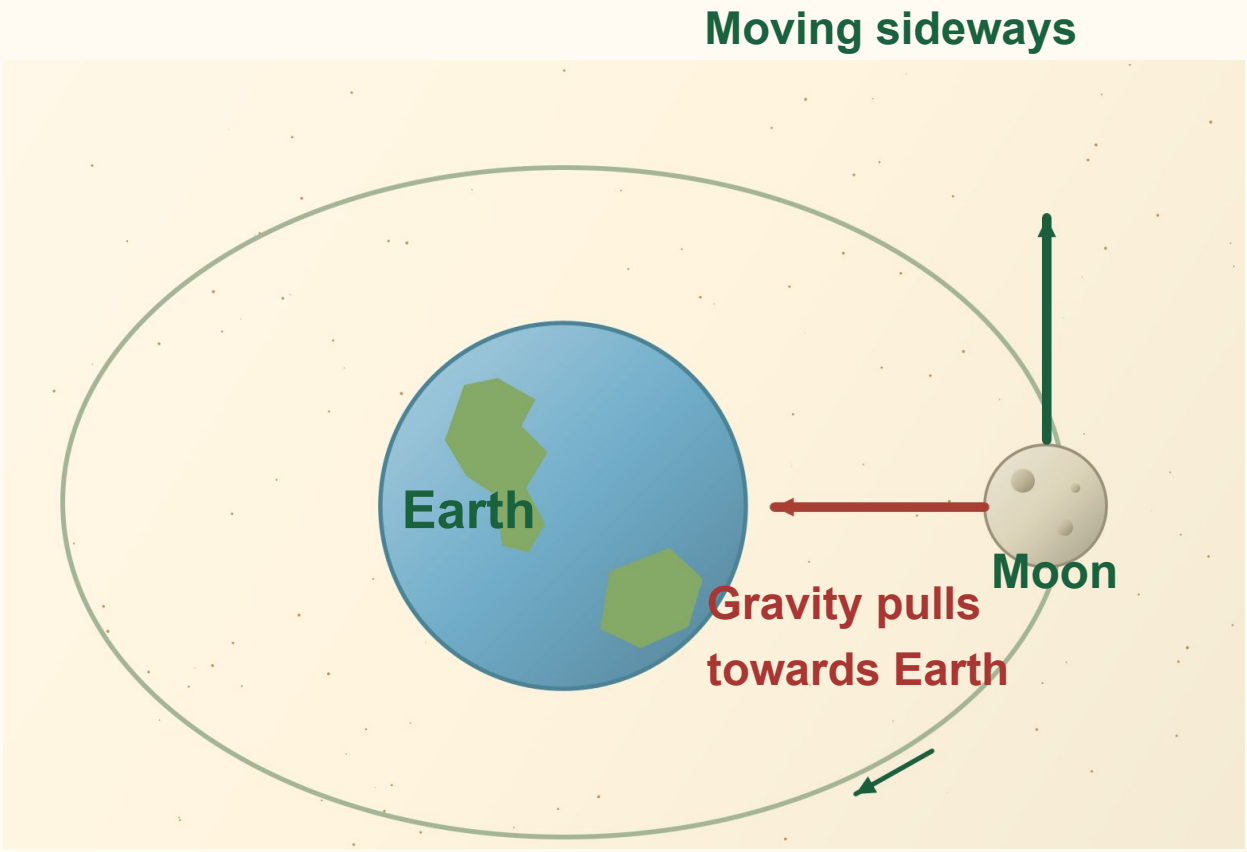
Predictions can differ. Record each observed result. The ball usually lands first; ?together? and ?not sure? are distinct answers. Shape changed. Paper type, starting amount and drop height stayed the same.

Explain gravity and air separately

Gravity pulls both sheets towards Earth. Air usually slows the flat sheet more. An unexpected result invites another careful drop, checking release timing and draughts.

How Gravity Keeps the Moon in Orbit

The Moon keeps moving



Gravity bends the Moon’s path into an orbit.

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7 Amazing Facts About Isaac Newton

1. Newton began studying at Trinity College, Cambridge, in 1661.
2. He was about 23 in 1666. He was already exploring light, maths and gravity!
3. In 1668, Newton built a telescope that used mirrors to gather light.
4. He wrote Principia, a famous book about motion and gravity.
5. Newton also worked at the Royal Mint, helping oversee England’s coins.
6. He showed that white light can split into colours.
7. Newton said an apple inspired his ideas. He worked on gravity for years.

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Isaac Newton: A Life of Discovery

1643	Born at Woolsthorpe, England.
1661	Begins studying at Trinity College, Cambridge.
1665-1667	Studies maths, light and gravity at Woolsthorpe.
1668	Builds a telescope that uses mirrors.
1687	Publishes Principia, explaining motion and gravity.
1696	Moves to London to work at the Royal Mint.
1704	Publishes Opticks, a book about light.
1727	Dies in London, aged 84.

Our meeting is fiction. His ideas developed over years. Newton's birth year is disputed - some accounts say 1642.

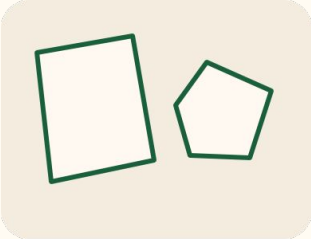
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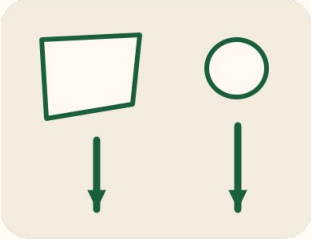
Explore Gravity and Air

Try the Falling Paper Test
You need: two equal paper sheets, a clear floor and an adult.



1 **Predict**

Leave one sheet flat. Crumple the other. Which will land first?



2 **Drop together**

Hold one sheet in each hand at waist height. Drop them together.



3 **Try again**

Repeat three times. Air slows the flat sheet more. Gravity pulls both.

Stay on the floor. Keep the starting height the same each time.

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3 Questions to Explore Together



1 Daniel's changing rule

Daniel said heavier things always fall faster. What made him change his mind? Why did Sarah change only the paper's shape?



2 The sideways Moon

What does gravity do to the Moon's path? What is the name for a path around Earth?



3 The imagined afternoon

Which parts really happened? Which are made up? Use the history boxes to help you decide.

Talk, draw or test your ideas together.

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Sources and Useful Reading

Explore these with an adult. They support the factual notes, not the fictional adventure.

Trinity College, Cambridge
Historical Overview
Newton's years at the college.

Trinity College, Cambridge
Illuminating Newton’s Discoveries
Newton's work and the Woolsthorpe apple story.

The Newton Project, University of Oxford
The Life and Work of Isaac Newton at a Glance
A timeline of his life and discoveries.

NASA Space Place
What Is Gravity?
A guide to gravity for curious children.

Tap the reading titles in the digital edition.

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