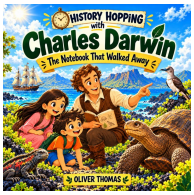
History Hopping
Teaching & Activity Pack

Isaac Newton, Charles Darwin and Vincent van Gogh | Ages 5–8







Read, talk and try

Three illustrated adventures, three 45-minute sessions, printable worksheets and the books' factual pages. Use this pack alongside the books; it is supplementary reading material.

Find what you need

Newton: pages 2–4 • Darwin: pages 5–7 • Van Gogh: pages 8–10.
Adult answers: page 11. Print worksheets 4, 7 and 10 for children.
Book extracts: Newton 12–17; Darwin 18–23; Van Gogh 24–29.

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.

Different ways to take part

Read instructions aloud. Children may speak, draw or point; an adult can write their words. Stay on the floor for paper drops and leave wildlife undisturbed.

Real people, imagined adventures

The children's visits and dialogue are fictional. Use the factual notes to discuss what really happened. New comparisons in the guide are labelled companion extensions.

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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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Darwin session

The Notebook That Walked Away | Adult guide



Aim

Use a visible clue to support an idea, then separate what was seen from what was guessed.

Materials

Book; pencils; worksheet 7; two similar potted plants, or the book's bird pictures.

Prepare

Choose visible details. Observe without touching, picking or tasting. Watch animals from a distance.

Step		Time
Read	Read the story and Explorer's Notebook activity. Pause at the moon-shaped patch and misleading trail.	15 min
Discuss	Use page 6. Ask: What helped them change their minds?	7 min
Do	First find the shell patch in the book and explain the wrong trail. Then draw three plant or bird details, with place and date. Companion extension: separate "I saw" from "I think".	17 min
Reflect	Share a guess and a safe way to check it. One meal is not enough to know what every bird eats.	6 min

Start with the notebook mystery. Observing one plant today does not demonstrate evolution.

Darwin discussion

Ask the question, then use the suggested answer if needed

1. Which clue helped Daniel recognise the tortoise?

The pale, moon-shaped patch on its shell.

2. Why was the first trail misleading?

The line between the prints was an iguana’s tail mark. Daniel then followed wider prints without that line.

3. What did Sarah add to the bird drawings?

Place and date, so the record said where and when she observed them.

4. Why did Darwin want to watch more birds?

One meal cannot tell us what every bird with that beak eats.

Make it easier

Point to the moon patch, then name or draw one plant detail. An adult writes the words.

Try more

Companion extension: observe the same subject another day. Could light or viewing angle explain a difference?

Optional family activity

Observe a plant from a window or safe path. Draw details and record place and date. Leave wildlife and plants undisturbed.

My explorer notebook

Name _____ Date _____

1 Find the story clue

Point to the tortoise’s moon-shaped patch.
Tell an adult why the first trail was wrong.

2 Look closely and draw

Choose a plant or the book’s birds.
Draw three things you can see.

Place _____ Date _____

3 Tell an adult

“I saw…” “I think…”
How could you check your guess?

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Van Gogh session

The Sky That Wouldn’t Sit Still | Adult guide



Aim

Use lines to suggest movement and turn an unexpected mark into a new picture.

Materials

Book; worksheet 10 or plain paper; blue, yellow and other crayons.

Prepare

Show the real painting reproduced in the book. Children choose their own marks. No paint is needed.

Step		Time
Read	Read the story and Turn a Smudge into a New Idea. Pause when Daniel turns his paper.	15 min
Discuss	Use page 9. Find a curve, a bright circle and a dark shape in the real painting shown in the book.	7 min
Do	Draw a circle and sweeping blue mark. Turn the sheet and add an idea. Companion extension: add curls, dashes or swoops that make the picture feel windy.	17 min
Reflect	Invite children to show a change they chose. There is no single correct picture.	6 min

Ask permission before adding to a child’s picture. Offer a fresh sheet if they want one.

Van Gogh discussion

Ask the question, then use the suggested answer if needed

1. What colours did the children notice besides black?

Sarah saw blue and purple; Daniel saw gold.

2. How did Daniel use the blue smudge?

He turned the paper and added curves. It became part of a windy sky.

3. How did Sarah change her stars?

She moved them from a straight row to a winding path towards the Moon.

4. Was their night visit real?

No. Van Gogh painted The Starry Night by day, using observation, memory and imagination.

Make it easier

Use chunky crayons or a larger sheet. Offer a starter mark only if the child agrees.

Try more

Companion extension: draw two small skies, one with straight lines and one with curves. Discuss how they feel.

Optional family activity

Each person turns a mark into a picture on their own sheet. Ask before drawing on someone else's work.

What could this mark become?

Name _____ Date _____

Draw a circle and a sweeping blue mark.
Turn your sheet. Add your idea.

Tell someone what your mark became.

Companion extension

Show a line that makes your picture feel windy.

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Adult answers and teaching notes

Use evidence, accept uncertainty and let children explain

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.

Darwin worksheet

The story clue is the pale moon-shaped patch. The wrong trail had an iguana’s tail line. Nature drawings depend on the subject. “I see a pointed leaf” is an observation; “an insect ate it” is a guess needing evidence.

Keep observation distinct from evolution

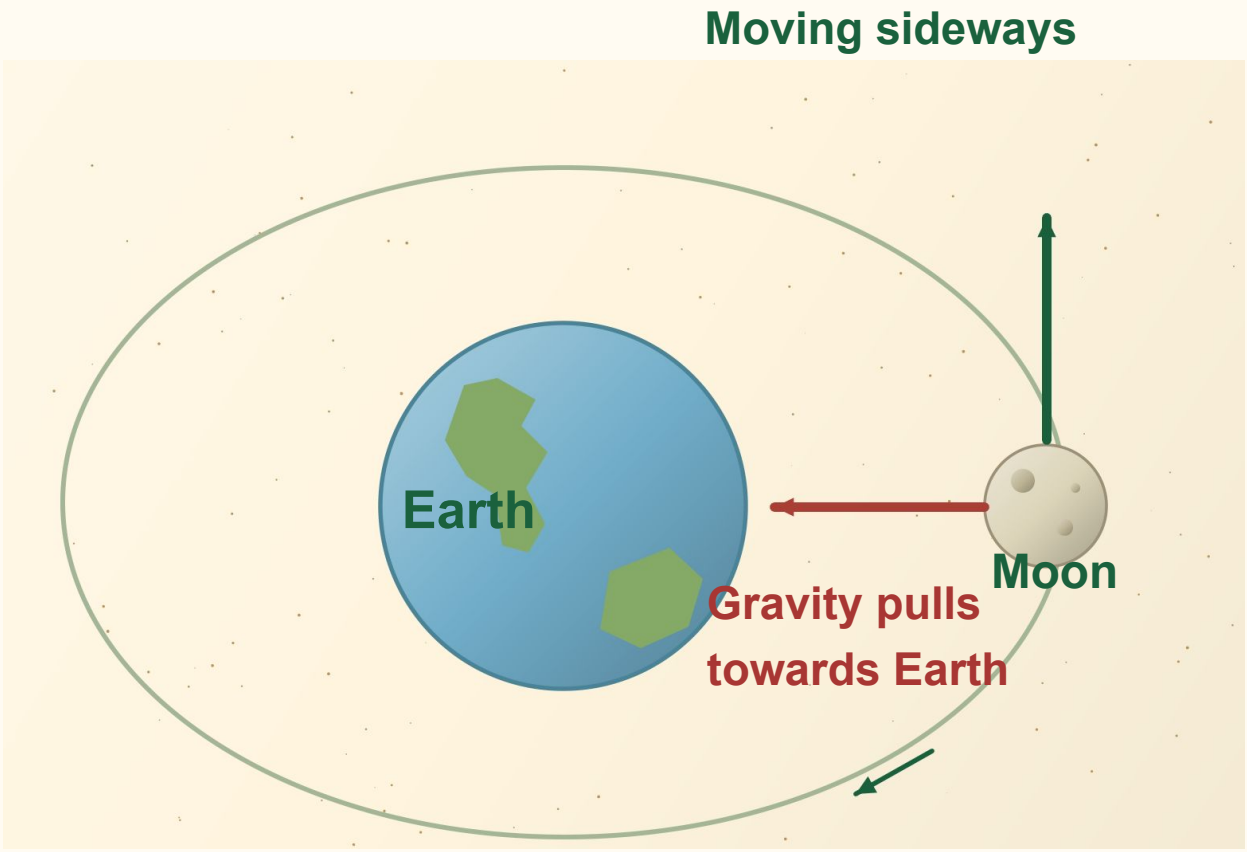
One meal cannot establish every bird’s diet. Inherited differences may become more common over many generations. Birds do not choose new beaks. This short activity does not test natural selection.

Van Gogh worksheet

There is no required picture. Ask the child to show how a mark became an idea, or point to a line that suggests wind. A still drawing can suggest movement. Children may answer by pointing, drawing or speaking.

How Gravity Keeps the Moon in Orbit

The Moon keeps moving



Gravity bends the Moon's path into an orbit.

26

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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.

Original book page numbering retained. Read factual notes with an adult.

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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.

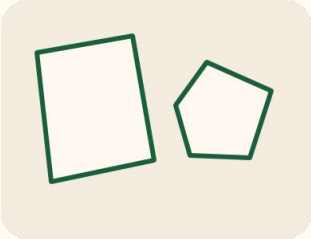
33

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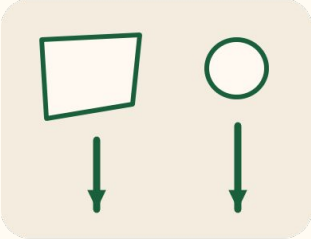
Explore Gravity and Air

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.

36

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7 Amazing Facts About Charles Darwin

1. Darwin was 26 when he visited the Galápagos in 1835.
2. HMS Beagle's voyage lasted from 1831 to 1836.
3. Birds called mockingbirds looked different on different islands. Darwin wanted to know why.
4. Darwin studied earthworms for years. He even wrote a whole book about them!
5. As a student at Cambridge, Darwin loved collecting beetles and other insects.
6. Darwin and Alfred Russel Wallace had similar ideas. Their work was shared together in 1858.
7. Darwin's famous book, On the Origin of Species, came out in 1859.

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Charles Darwin: A Life of Discovery

1809	Born in Shrewsbury, England.
1825-1831	Studies in Edinburgh, then Cambridge. Loves exploring nature.
1831-1836	Sails around the world aboard HMS Beagle.
1835	Visits the Galápagos. Spots differences between island animals.
1838	Works out his idea of natural selection.
1858-1859	Shares his idea with Wallace in 1858. His famous book comes out in 1859.
1882	Dies aged 73. His ideas help us understand life today.

REAL HISTORY, IMAGINED ADVENTURE

Darwin was real. Our missing notebook adventure is made up. His big idea took years of study after the voyage.

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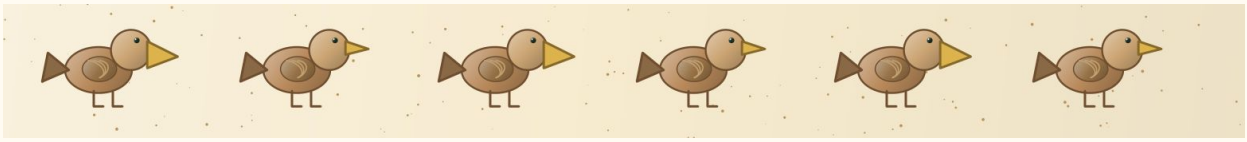
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How Natural Selection Works

Darwin’s idea after the voyage

1 Different beaks

Some birds have small beaks. Others have strong beaks.



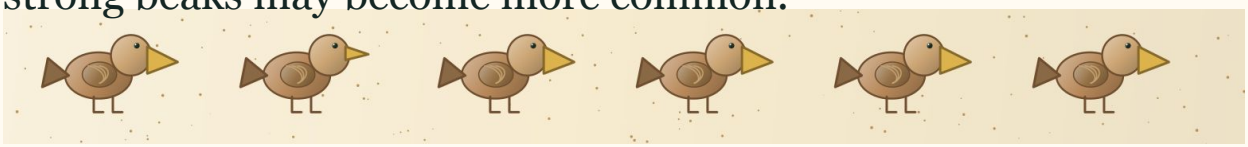
2 Hard seeds are common

Strong beaks can help birds eat hard seeds, survive and raise more chicks.



3 Many generations later

Chicks can inherit beaks from parents. Over many generations, strong beaks may become more common.



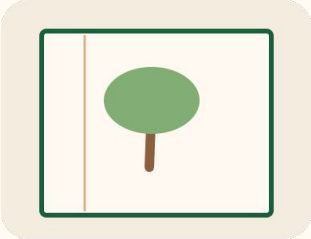
This example is made up. Groups change over generations: evolution. Birds cannot choose new beaks.

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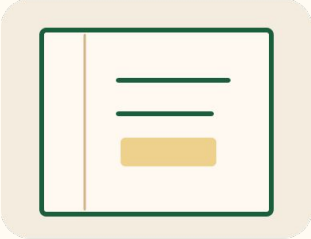
Observe Nature Like Darwin

Your Explorer's Notebook
You need: paper, a pencil and an adult to explore with.



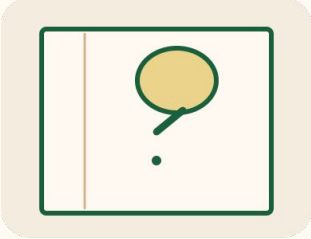
1 Look closely

Choose a tree, flower or bird. Draw three details you notice.



2 Keep a record

Add the place and date. Find another of its kind. What differs?



3 Ask a question

Write or tell an adult one thing you want to find out.

Watch animals from a distance. Leave their food, nests and homes alone.

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3 Questions to Explore Together



1 The shell clue

What detail helped the children find the right tortoise? Point to it.



2 A changing guess

Why did the first trail lead to the wrong animal? What changed their minds?



3 A careful record

Why did Darwin record which island each bird came from?

Find picture clues. Talk, draw or act out your answers together.

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Sources and Useful Reading

Explore these with an adult. These sources support the facts.

Natural History Museum
What is natural selection?

Natural History Museum
Charles Darwin: History’s most famous biologist

Darwin Online
Darwin’s notes on the geology of Galápagos

Galápagos Conservation Trust
Marine iguana

Darwin Online
Darwin’s book about earthworms

Our visit and dialogue are made up.

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7 Amazing Facts About Vincent van Gogh

1. Vincent van Gogh was born in the Netherlands in 1853. He later lived and worked in France.
2. He decided to become an artist at 27. He spent years practising drawing and painting.
3. He painted The Starry Night in June 1889, in Saint-Rémy-de-Provence, France.
4. He made around 150 paintings during his year at the hospital in Saint-Rémy.
5. Van Gogh made more than 35 self-portraits. That means pictures of himself.
6. His letters often included little sketches. Many were written to his brother Theo.
7. Sometimes his paint was so thick it stood up from the canvas. That is called impasto.

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Vincent van Gogh: A Life in Art

1853	Born in Zundert, in the Netherlands.
1880	Decides to become an artist, aged 27.
1885	Paints The Potato Eaters.
1886	Moves to Paris. Tries brighter colours.
1888	Moves to Arles, in southern France.
1888-1889	Paints his famous Sunflowers pictures.
1889	In Saint-Rémy, paints The Starry Night.
1890	Dies in France, aged 37.

Our night-time visit is invented. Van Gogh painted The Starry Night during the day, using observation, memory and imagination.

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Look at the real painting



Vincent van Gogh, The Starry Night, June 1889.
Oil on canvas. Museum of Modern Art, New York.

Find a curve, a bright circle and a dark shape.

Public-domain painting. Reproduction: Google Art Project / Wikimedia Commons.

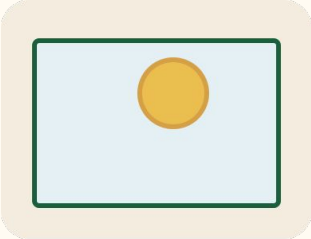
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Make Art Like an Explorer

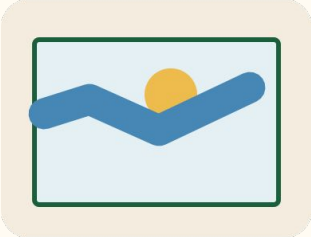
Turn a Smudge into a New Idea

You need: paper, crayons and an adult to join you. Ready to turn a stray mark into something new?



1 Make a mark

Draw a big circle. Add one sweeping blue mark across the page.



2 Look again

Turn the paper. What could your mark become: wind, water or a path?



3 Add your idea

Draw around it. Show someone how your picture changed.

There is no single right picture. You can change the marks and colours.

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3 Questions to Explore Together



1 The changing night sky

Which colours did the children find in the dark sky? What colours would you use for yours?



2 The blue smudge

What did Daniel try after his paper escaped? Can you think of two different ways to change an accidental mark?



3 Vincent's night sky

Find something Vincent saw, remembered or imagined. What did we make up for our adventure?

Talk, draw or act out your answers together.

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Sources and Useful Reading

Explore with an adult. Tap a title in the digital edition. These sources support the facts, not the fictional visit.

The Museum of Modern Art
Vincent van Gogh: The Starry Night
The painting, observation and imagination.

Van Gogh Museum
The Life of Vincent van Gogh 1853-1890
His life and decision to become an artist.

Van Gogh Museum
Hospitalization 1889-1890
His stay and artistic work in Saint-Rémy.

Van Gogh Museum
Van Gogh's Self-Portraits
His pictures of himself.

Van Gogh Museum
Van Gogh's Letters
Correspondence and sketches.

37

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