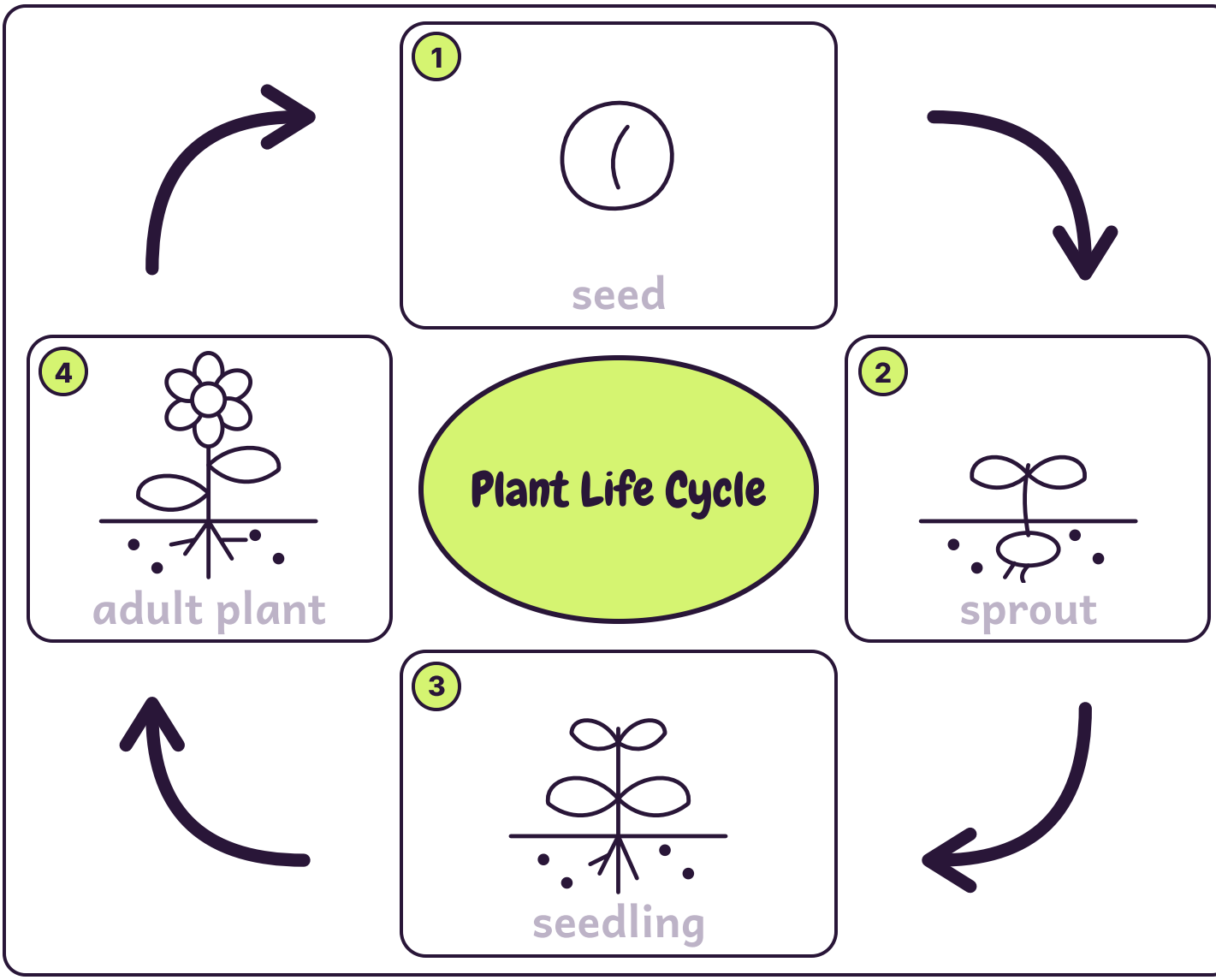
SCIENCE · PLANT LIFE CYCLE · GRADES K–1

The Life Cycle of a Plant

A four-stage plant life cycle to color, with each stage name to trace: seed, sprout, seedling and adult plant.

Name: _____ **Date:** _____





Draw a seed you have seen. (A bean? An apple seed?)

Draw your favorite stage.

Art © Kevin Coulston

SCIENCE · PLANT LIFE CYCLE · GRADES K–2

Plant Life Cycle Cut and Paste

Cut out the four pictures and glue them around the circle in order, starting with the seed.

Name: _____ **Date:** _____



Glue the pictures in order. The seed goes in box 1.

1
Start: the seed

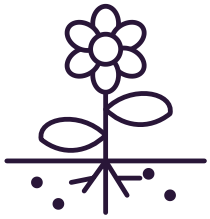
2
glue here

3
glue here

4
glue here

Plant Life Cycle

✂ Cut out the cards on the dashed lines.



adult plant



seed



seedling



sprout

Art © Kevin Coulston

SCIENCE · PLANT LIFE CYCLE · GRADES 1–3

Parts of a Plant

Label the flower, petal, leaf, stem and roots, then match each part to the job it does.

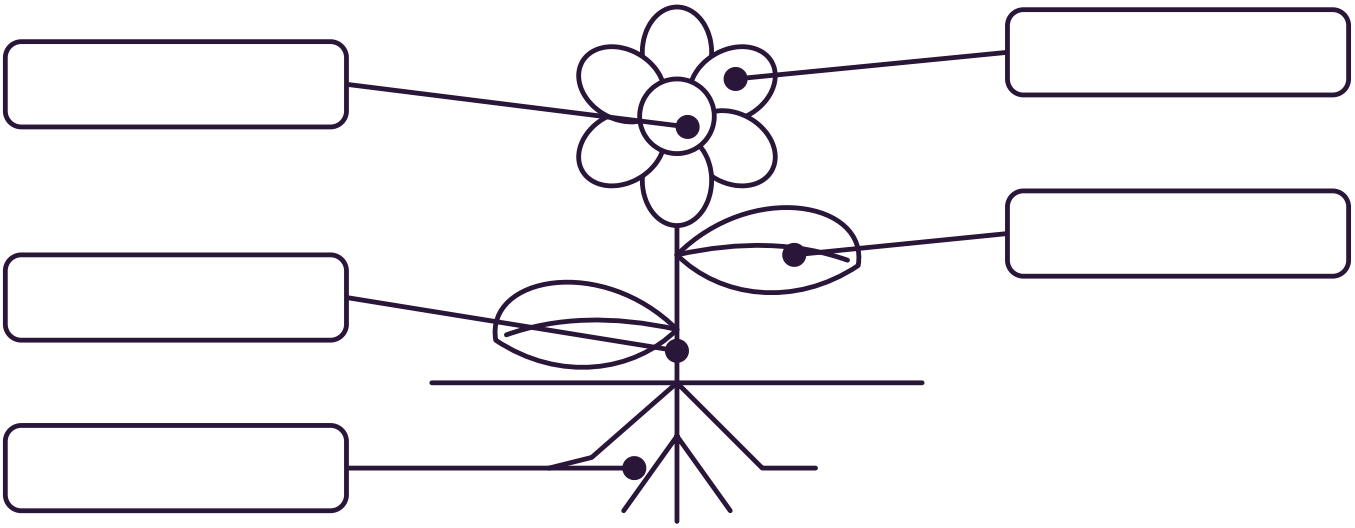


Name: _____ **Date:** _____

Word bank

flower | petal | leaf | stem | roots

Write the name of each part.



Draw a line from each part to its job.

roots ●	● makes food from sunlight
stem ●	● take in water from the soil
leaf ●	● makes seeds
flower ●	● carries water up and holds the plant up

Art © Kevin Coulston

SCIENCE · PLANT LIFE CYCLE · GRADES K–2

What Do Plants Need?

Color the five things a plant needs to grow, then predict what happens to a plant with no water.

Name: _____ **Date:** _____



Color the 5 things a plant needs to grow. Put an X on the others.

sunlight	candy	water	a toy car
shoes	air	a pillow	soil
a TV	space to grow	a book	a hat

Draw a plant that gets water every day.

Draw a plant that gets no water for two weeks.

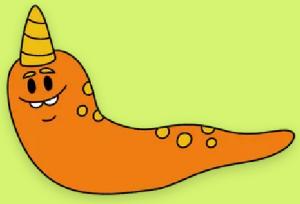
What do you think happens to the plant with no water?

Art © Kevin Coulston

SCIENCE · PLANT LIFE CYCLE · GRADES 1–3

Bean Plant Journal

Grow a bean in a bag and draw, measure and describe it six times over two weeks.



Name: _____ **Date:** _____

Set it up: fold a wet paper towel into a zip bag, slide a dry bean between the towel and the plastic, and tape the bag to a sunny window. Keep the towel damp.

Day 1

Height: _____ cm

I see: _____

Day 3

Height: _____ cm

I see: _____

Day 5

Height: _____ cm

I see: _____

Day 7

Height: _____ cm

I see: _____

Day 10

Height: _____ cm

I see: _____

Day 14

Height: _____ cm

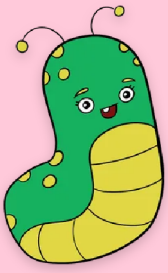
I see: _____

Art © Kevin Coulston

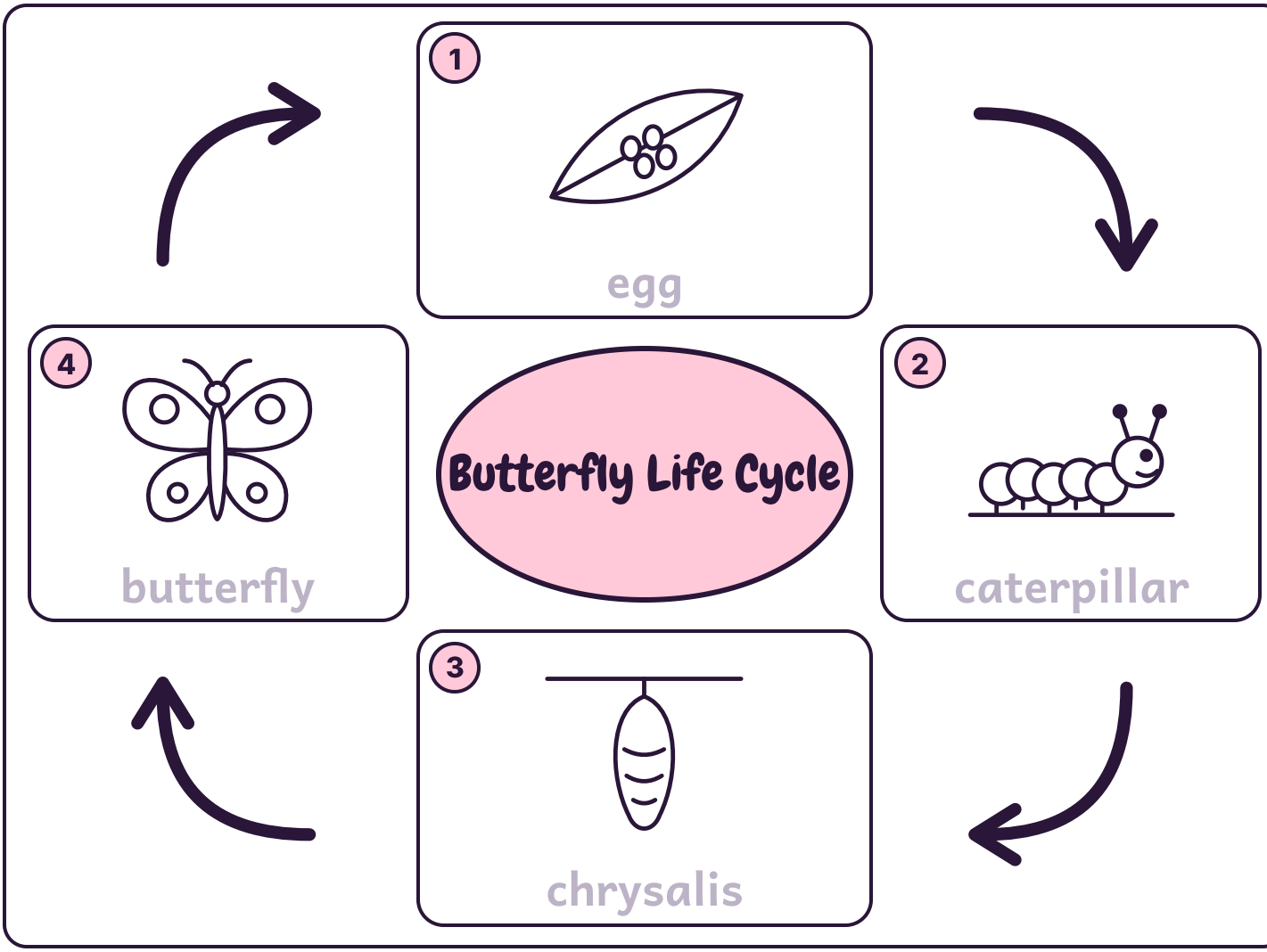
SCIENCE · BUTTERFLY AND FROG LIFE CYCLES · GRADES K–2

The Life Cycle of a Butterfly

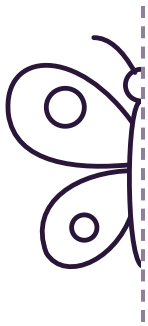
Egg, caterpillar, chrysalis and butterfly to color and trace, plus a butterfly with matching wings to draw.



Name: _____ **Date:** _____



A butterfly's wings match on both sides. Finish the butterfly so both wings match, then color it.



Art © Kevin Coulston

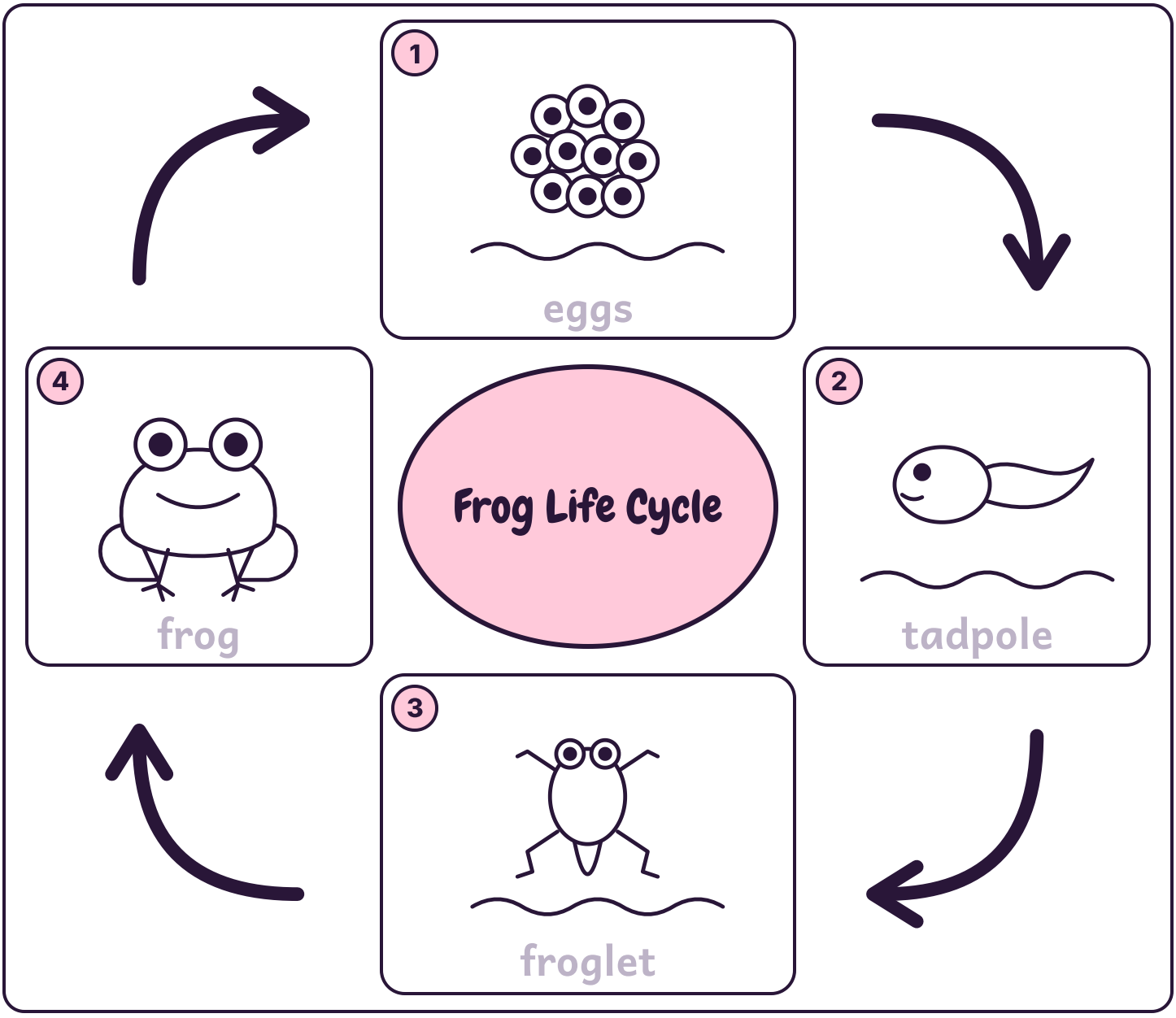
SCIENCE · BUTTERFLY AND FROG LIFE CYCLES · GRADES K–2

The Life Cycle of a Frog

Eggs, tadpole, froglet and frog to color and trace, plus two quick questions about frogs.



Name: _____ **Date:** _____



Circle the answer.

Tadpoles live in — water | sand | trees

A frog starts life as an — apple | egg | ant

Art © Kevin Coulston

SCIENCE · BUTTERFLY AND FROG LIFE CYCLES · GRADES K–3

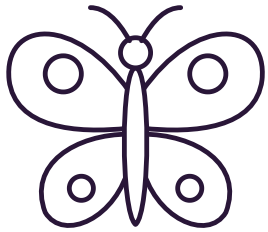
Put the Life Cycles in Order

Number the butterfly stages and the frog stages from 1 to 4.

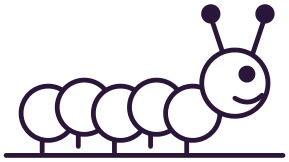
Name: _____ **Date:** _____



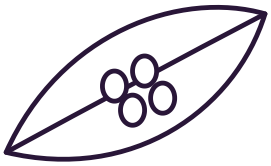
Butterfly: write 1, 2, 3 and 4 to put the stages in order.



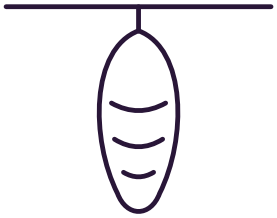
butterfly



caterpillar

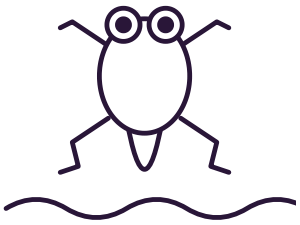


egg

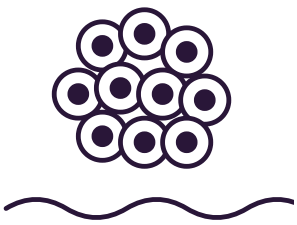


chrysalis

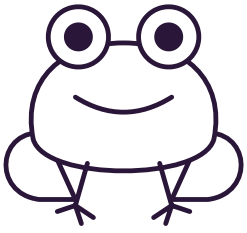
Frog: write 1, 2, 3 and 4 to put the stages in order.



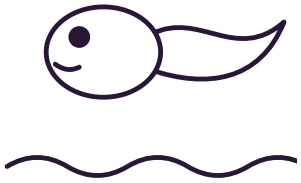
froglet



eggs



frog



tadpole

How are the two life cycles alike?

Art © Kevin Coulston

SCIENCE · BUTTERFLY AND FROG LIFE CYCLES · GRADES 1–3

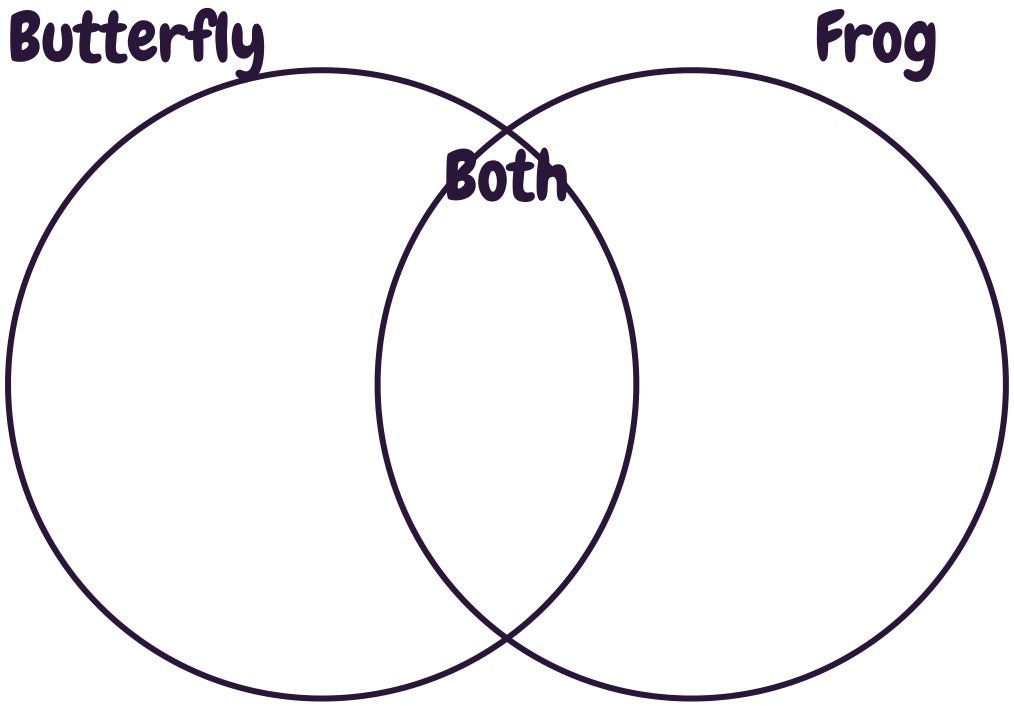
Butterfly, Frog or Both?

Sort ten facts into butterfly, frog or both: a compare and contrast sheet for two life cycles.



Name: _____ **Date:** _____

Write the number of each fact in the right part of the diagram.



1. starts life as an egg
2. lays eggs in water
3. lays eggs on a leaf
4. makes a chrysalis
5. has a tail as a baby
6. the adult has wings
7. goes through metamorphosis
8. babies breathe with gills
9. the adult has six legs
10. changes shape as it grows

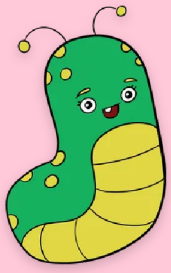
Art © Kevin Coulston

SCIENCE · BUTTERFLY AND FROG LIFE CYCLES · GRADES 2–3

Life Cycle Words

Match larva, pupa, metamorphosis, tadpole, froglet and gills to their meanings, then fill in a short life cycle story.

Name: _____ **Date:** _____



Draw a line from each word to its meaning.

larva	a baby frog with a tail that lives in water
pupa	the caterpillar stage of a butterfly
metamorphosis	body parts a tadpole uses to breathe underwater
tadpole	the stage inside a chrysalis, when the body changes
froglet	a big change in body shape as an animal grows
gills	a young frog with legs and a short tail

Word bank

egg · leaves · chrysalis · wings · larva

1. A butterfly lays an _____ on a leaf.
2. A caterpillar, or _____, hatches out.
3. The caterpillar eats lots of _____ and grows.
4. It makes a _____ around itself.
5. A butterfly with _____ comes out.

Art © Kevin Coulston

SCIENCE · WEATHER · GRADES K–2

My Weather Calendar

A month calendar for drawing the weather each day, with a symbol key for sunny, cloudy, rainy, snowy, windy and stormy.



Name: _____ **Date:** _____

Month _____

Sun	Mon	Tue	Wed	Thu	Fri	Sat

Weather key: draw the symbol for each day.



sunny



cloudy



rainy



snowy



windy



stormy

Art © Kevin Coulston

SCIENCE · WEATHER · GRADES K–2

Weather Words and Symbols

Match six weather symbols to their words, then draw what to wear on a rainy day and a snowy day.



Name: _____ **Date:** _____

Draw a line from each symbol to its word.













- snowy
- sunny
- stormy
- cloudy
- rainy
- windy

Draw what you wear on a rainy day.

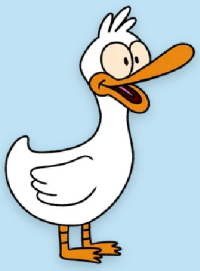
Draw what you wear on a snowy day.

Art © Kevin Coulston

SCIENCE · WEATHER · GRADES 1–3

Graph the Weather

Tally a month of weather, make a bar graph and answer questions about the data.



Name: _____ **Date:** _____

1. Each day, make a tally mark for the weather.

sunny	cloudy	rainy	snowy	windy
Total: _____	**Total:** _____	**Total:** _____	**Total:** _____	**Total:** _____

2. Color one box for each day to make a bar graph.



3. Read your graph.

The weather we had the most was _____

The weather we had the least was _____

How many more sunny days than rainy days? _____

Art © Kevin Coulston

SCIENCE · WEATHER · GRADES 2–5

Daily Weather Log

Record the temperature, sky, wind and rain or snow every school day for a week, then predict tomorrow.



Name: _____ **Date:** _____

Week of _____ **Place** _____

Day	Temperature (°F)	Sky: draw it	Wind: calm, breezy or windy	Rain or snow?
Monday				
Tuesday				
Wednesday				
Thursday				
Friday				

Highest °F _____ **Lowest °F** _____ **Difference °F** _____

My forecast for tomorrow, and why:

_____

_____

Art © Kevin Coulston

SCIENCE · WEATHER · GRADES 3–5

Weather Tools

Match the thermometer, rain gauge, wind vane, anemometer and barometer to what they measure, and read four thermometers.

Name: _____ **Date:** _____

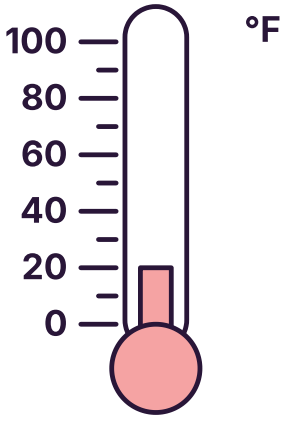


1. Draw a line from each tool to what it measures.

thermometer ●	● which way the wind blows
rain gauge ●	● air pressure
wind vane ●	● temperature (how hot or cold)
anemometer ●	● how much rain falls
barometer ●	● how fast the wind blows

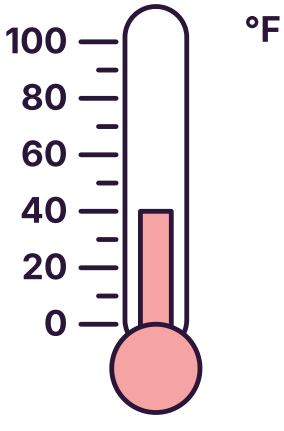
2. Read each thermometer. Write the temperature.

A



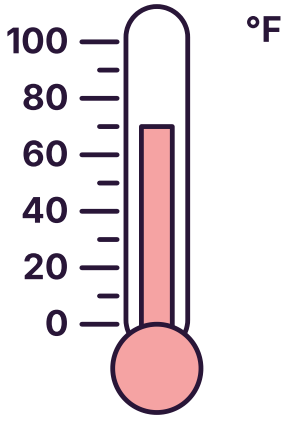
_____ °F

B



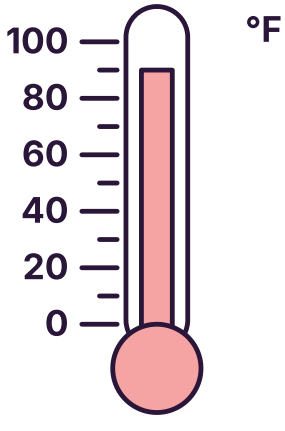
_____ °F

C



_____ °F

D



_____ °F

3. Which thermometer shows freezing weather (below 32 °F)? Letter: _____

Art © Kevin Coulston

SCIENCE · SOLAR SYSTEM · GRADES 1–3

The Planets in Order

Label the eight planets in order from the sun, with a word bank and a sentence to remember the order.

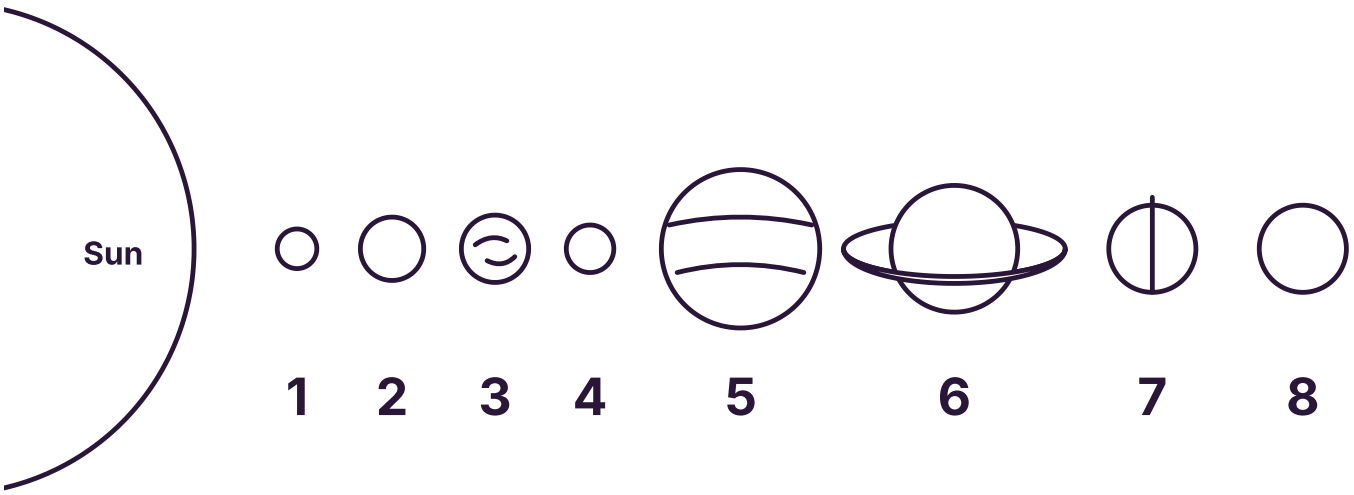


Name: _____ **Date:** _____

Word bank

Jupiter | Earth | Uranus | Mercury | Mars | Venus | Neptune | Saturn

Write the name of each planet in order from the sun.



1. _____ 2. _____ 3. _____ 4. _____

5. _____ 6. _____ 7. _____ 8. _____

Remember the order: My **V**ery **E**asy **M**ethod **J**ust **S**peeds **U**p **N**aming. Each word starts with the same letter as a planet.

The planet we live on is _____

The biggest planet is _____

The planet closest to the sun is _____

Art © Kevin Coulston

SCIENCE · SOLAR SYSTEM · GRADES 2–4

Rocky Planets and Giant Planets

Sort the planets into rocky planets and giant planets, then answer five questions about them.



Name: _____ **Date:** _____

The four planets closest to the sun are small and **rocky**. The four planets farther out are **giant planets** made mostly of gas and ice.

Write each planet in the right box.

Rocky planets	Giant planets

Circle the answer.

Which planet is the Red Planet? **Mars** **Venus** **Neptune**

Which is a giant planet? **Earth** **Saturn** **Mercury**

Which giant planet is the biggest? **Jupiter** **Uranus** **Neptune**

Where would you find a solid surface to stand on? **Mars** **Jupiter** **Uranus**

Which planet is farthest from the sun? **Saturn** **Uranus** **Neptune**

Art © Kevin Coulston

SCIENCE · SOLAR SYSTEM · GRADES 3–5

Phases of the Moon

Label the eight phases of the moon, then answer questions about how the moon seems to change.

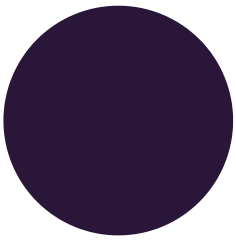
Name: _____ **Date:** _____

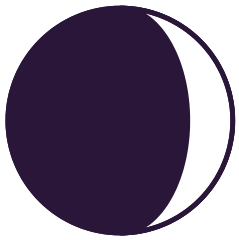


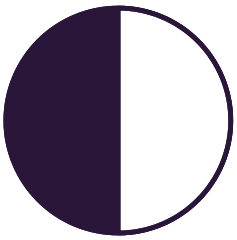
Word bank

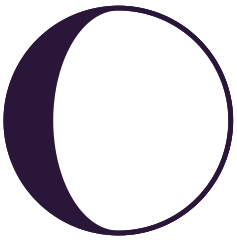
new moon | waxing crescent | first quarter | waxing gibbous | full moon | waning gibbous | third quarter | waning crescent

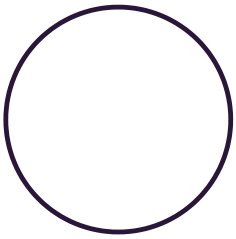
Label each phase. The moon goes through all eight in about 29½ days.

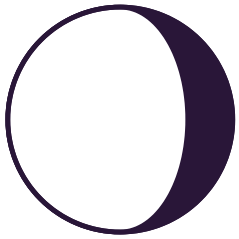
1 

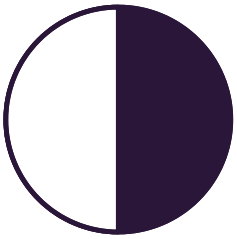
2 

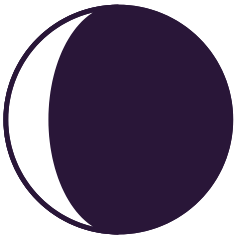
3 

4 

5 

6 

7 

8 

Circle the answer.

The moon shines because it

(makes its own light) (reflects light from the sun)

"Waxing" means the lit part is (getting bigger) (getting smaller)

A full moon looks like (a whole bright circle) (a thin sliver)

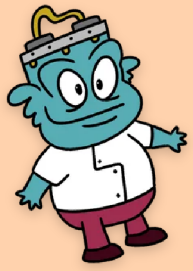
Art © Kevin Coulston

SCIENCE · SOLAR SYSTEM · GRADES 2–5

Space: True or False?

Ten facts about the sun, moon and planets to mark true or false, then fix two false ones.

Name: _____ **Date:** _____



Circle True or False.

The sun is a star.	True	False
Earth is the third planet from the sun.	True	False
The moon makes its own light.	True	False
Jupiter is the biggest planet.	True	False
Mars is called the Red Planet.	True	False
Saturn is the only planet with rings.	True	False
Earth takes about 365 days to go around the sun.	True	False
Venus is the hottest planet.	True	False
Earth spins around once every week.	True	False
Neptune is the closest planet to the sun.	True	False

Pick two false sentences and fix them so they are true.

_____

_____

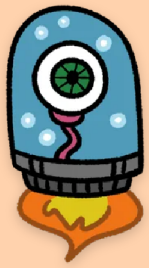
_____

Art © Kevin Coulston

SCIENCE · SOLAR SYSTEM · GRADES 2–5

My Planet Report

A research template for one planet: a drawing, its order from the sun, moons, length of a year and fun facts.



Name: _____ **Date:** _____

Draw your planet.

My planet _____

Number from the sun _____

Rocky or giant? _____

Number of moons _____

One year there lasts _____

Three facts about my planet:

_____

_____

_____

Would you visit it? Why or why not?

_____

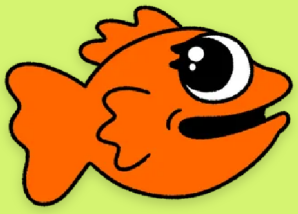
_____

Where I found my facts _____

Art © Kevin Coulston

SCIENCE · HABITATS AND ADAPTATIONS · GRADES 1–3

Animal Habitat Sort



Cut out twelve animals and glue each one under its habitat: ocean, desert, arctic or rainforest.

Name: _____ **Date:** _____

Glue each animal under its habitat.

Ocean	Desert	Arctic	Rainforest

✂ Cut out the cards on the dashed lines.

arctic fox	walrus	poison dart frog	octopus	sea turtle	polar bear
camel	toucan	roadrunner	sloth	scorpion	shark

Art © Kevin Coulston

SCIENCE · HABITATS AND ADAPTATIONS · GRADES 1–3

What Does an Animal Need?

Pick an animal and draw its habitat, showing where it finds food, water, shelter and space.



Name: _____ **Date:** _____

My animal _____ **Its habitat** _____

Draw your animal at home in its habitat.

Food: what does it eat?

Water: where does it drink?

Shelter: where does it stay safe?

Space: how much room does it need?

Art © Kevin Coulston

SCIENCE · HABITATS AND ADAPTATIONS · GRADES 2–5

Animal Adaptations Match

Match seven animals to the adaptation that helps them live where they do.

Name: _____ **Date:** _____



An **adaptation** is a body part or a behavior that helps an animal live in its habitat.

Draw a line from each animal to the adaptation that helps it.

polar bear ●	● big eyes see in the dark
camel ●	● webbed feet push through water
duck ●	● sharp quills keep enemies away
giraffe ●	● thick fur and fat keep it warm
owl ●	● changes color to hide
chameleon ●	● a long neck reaches high leaves
porcupine ●	● a hump stores fat for long trips

Pick one animal. How would it do in a different habitat?

_____

Art © Kevin Coulston

SCIENCE · HABITATS AND ADAPTATIONS · GRADES 3–5

Physical or Behavioral?

Sort ten adaptations into physical (body parts) and behavioral (things animals do).

Name: _____ **Date:** _____



Physical adaptations are body parts, like a beak or fur. **Behavioral** adaptations are things an animal does, like sleeping all winter.

Write each adaptation in the right column.

colors that blend in | hunting at night | a long, sharp beak | flying south for winter | sharp claws | sleeping all winter (hibernating) | webbed feet | living in a herd | playing dead | thick fur

Physical	Behavioral

Name one adaptation people have. Is it physical or behavioral?

_____

_____

Art © Kevin Coulston

SCIENCE · HABITATS AND ADAPTATIONS · GRADES 3–5

Design an Animal

Pick a habitat, invent an animal that could live there, draw it and label three adaptations.



Name: _____ **Date:** _____

My animal lives in the: ☐ ocean ☐ desert ☐ arctic ☐ rainforest ☐ grassland ☐ pond

Draw your animal in its habitat. Label three adaptations.

My animal's name _____

How do the three adaptations help it live there?

_____

_____

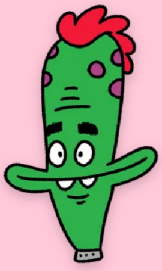
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Art © Kevin Coulston

SCIENCE · FIVE SENSES · GRADES K–1

My Five Senses

Match the eye, ear, nose, tongue and hand to see, hear, smell, taste and touch.



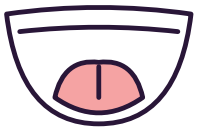
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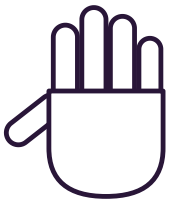
Draw a line from each body part to its sense.











- smell
- touch
- see
- hear
- taste

Trace the sentence.

I have five senses.

Art © Kevin Coulston

SCIENCE · FIVE SENSES · GRADES 1–2

Which Sense Would You Use?

Cut out ten things and sort them by the sense you would use most: see, hear, smell, taste or touch.

Name: _____ **Date:** _____



Glue each card under the sense you would use most.

see	hear	smell	taste	touch

✂ Cut out the cards on the dashed lines.

a rainbow	a dog barking	a sour lemon	cookies baking	the stars
soft kitten fur	a drum	a flower	salty popcorn	a prickly cactus

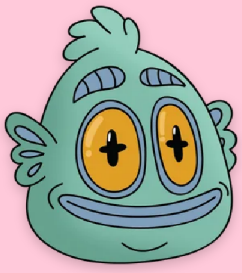
Art © Kevin Coulston

SCIENCE · FIVE SENSES · GRADES K–2

Five Senses Walk

Take a walk outside and draw what you see, hear, smell and feel.

Name: _____ **Date:** _____



I see...

I hear...

I smell...

I feel...

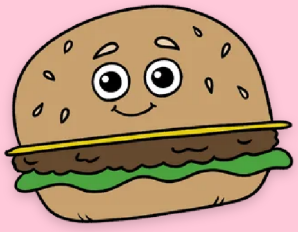
Safety first: use your eyes, ears, nose and hands on a senses walk, but never taste anything you find outside.

Art © Kevin Coulston

SCIENCE · FIVE SENSES · GRADES K–2

Popcorn with My Five Senses

Describe popcorn with all five senses, with a word bank of describing words.



Name: _____ **Date:** _____

Word bank

fluffy | crunchy | salty | white | popping | warm | buttery | bumpy | yummy | light



Popcorn looks _____



Popcorn sounds _____



Popcorn smells _____



Popcorn feels _____



Popcorn tastes _____

Art © Kevin Coulston

SCIENCE · FIVE SENSES · GRADES K–2

Sense Detective: Mystery Bag

Feel four mystery objects without looking, describe them, guess and check.

Name: _____ **Date:** _____



How to play: a grown-up hides one object in a bag. Reach in without looking. Use only your sense of touch, then make a guess. Take it out to check!

Bag	It feels…	My guess	It really was…
1	☐ soft ☐ hard ☐ smooth ☐ bumpy ☐ heavy ☐ light		
2	☐ soft ☐ hard ☐ smooth ☐ bumpy ☐ heavy ☐ light		
3	☐ soft ☐ hard ☐ smooth ☐ bumpy ☐ heavy ☐ light		
4	☐ soft ☐ hard ☐ smooth ☐ bumpy ☐ heavy ☐ light		

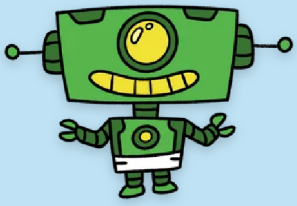
How many did you guess right? _____

Art © Kevin Coulston

SCIENCE · STATES OF MATTER · GRADES 2–3

Solid, Liquid or Gas?

Cut out twelve things and sort them into solids, liquids and gases.



Name: _____ **Date:** _____

Glue each card in the right column.

Solid	Liquid	Gas

✂ Cut out the cards on the dashed lines.

a book	an ice cube	steam from a pot	air in a balloon	bubbles in soda	rain
juice	milk	the air we breathe	a rock	honey	a pencil

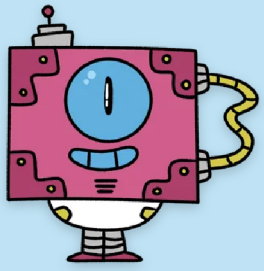
Art © Kevin Coulston

SCIENCE · STATES OF MATTER · GRADES 3–5

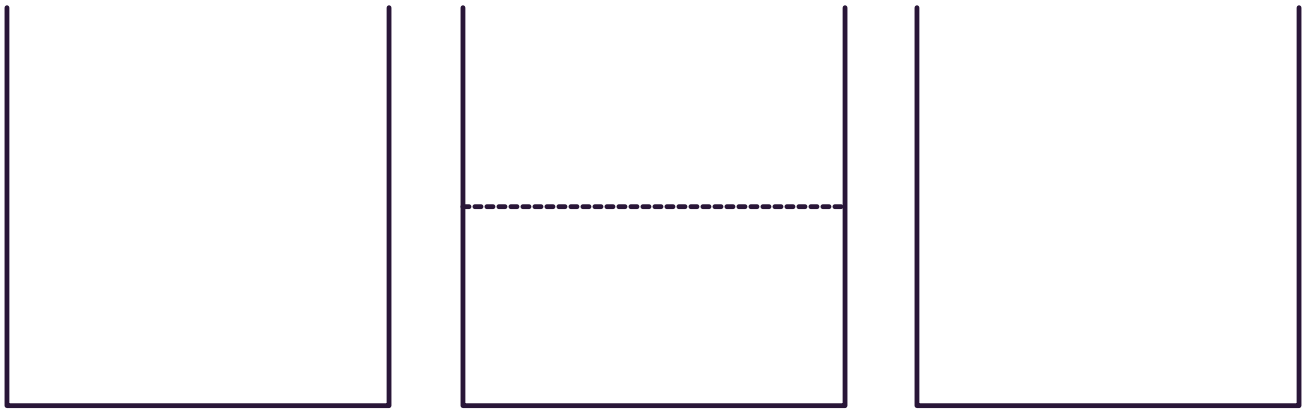
Matter Up Close

Draw the particles in a solid, a liquid and a gas, then check the facts that are true for each state.

Name: _____ **Date:** _____



Draw the particles. Solid: packed tight in rows. Liquid: close together but able to slide. Gas: spread far apart.



Solid Liquid Gas

Check each box that is true.

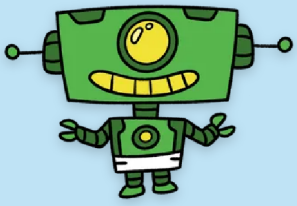
	Solid	Liquid	Gas
keeps its own shape			
takes the shape of its container			
spreads out to fill the whole container			
can be poured			
particles are packed tightly			
particles are far apart			

Art © Kevin Coulston

SCIENCE · STATES OF MATTER · GRADES 3–5

Changes of State

Label melting, freezing, evaporation and condensation on the water diagram, then fill in five sentences.

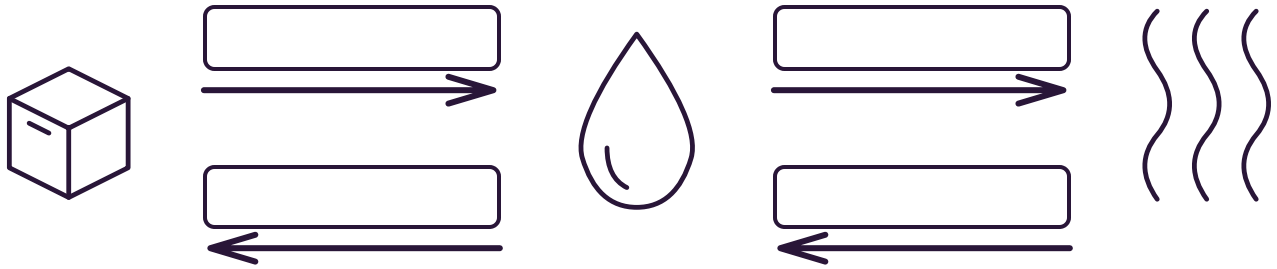


Name: _____ **Date:** _____

Word bank

melting | freezing | evaporation | condensation | liquid

Write the name of each change on its arrow.



ice (solid) water (liquid) water vapor (gas)

1. When ice gets warm, it starts _____.

2. A puddle drying up in the sun is _____.

3. Water drops on the outside of a cold glass come from _____.

4. Water turning into ice in the freezer is _____.

5. Heating makes matter change from solid to _____ to gas.

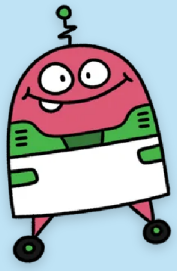
Art © Kevin Coulston

SCIENCE · STATES OF MATTER · GRADES 2–4

Matter Scavenger Hunt

Find four solids, four liquids and four gases at school or at home.

Name: _____ **Date:** _____



Solids	Liquids	Gases
1. _____	1. _____	1. _____
2. _____	2. _____	2. _____
3. _____	3. _____	3. _____
4. _____	4. _____	4. _____

Which state of matter was hardest to find? Why?

_____

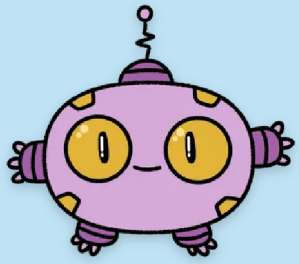
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Art © Kevin Coulston

SCIENCE · STATES OF MATTER · GRADES 2–5

Ice Cube Melt Race

An experiment: predict where ice melts fastest, time three ice cubes and write a conclusion.



Name: _____ **Date:** _____

You need: 3 ice cubes the same size, 3 small plates, a timer. Put one plate in a sunny spot, one in a shady spot and one in the fridge (not the freezer).

I predict the ice cube in this spot will melt first: _____

Every few minutes, write: solid, half melted or all water.

Time	Sunny spot	Shady spot	Fridge
Start			
10 minutes			
20 minutes			
30 minutes			
45 minutes			
60 minutes			

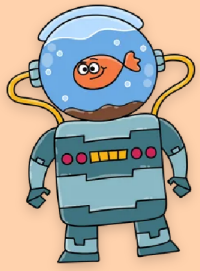
Conclusion: which ice cube melted first? Was your prediction right? Why do you think so?

Art © Kevin Coulston

SCIENCE · SIMPLE MACHINES AND ENGINEERING · GRADES 2–4

The Six Simple Machines

Label the lever, pulley, wheel and axle, inclined plane, wedge and screw.



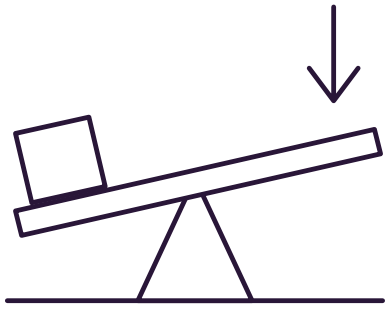
Name: _____ **Date:** _____

Word bank

wheel and axle | inclined plane | screw | pulley | lever | wedge

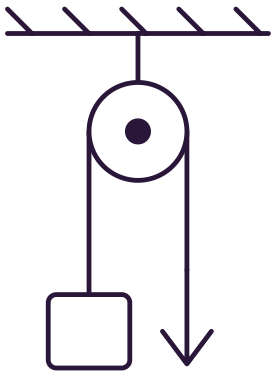
Write the name of each simple machine.

1



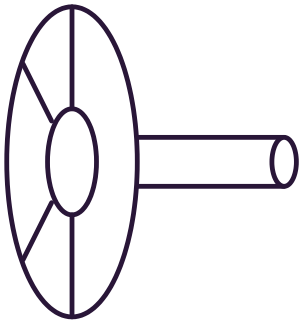
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2



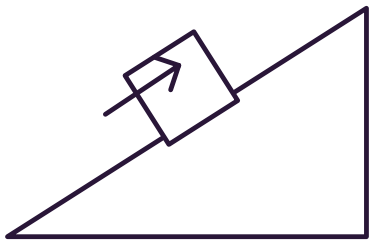
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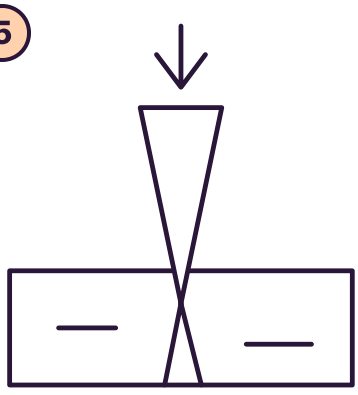
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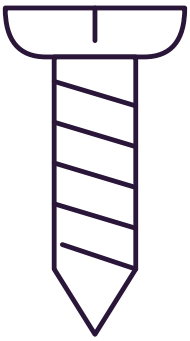
_____

5



_____

6



_____

A simple machine makes work easier. Which one would you use to lift a heavy box onto a truck?

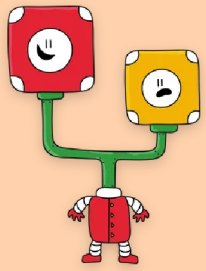
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Art © Kevin Coulston

SCIENCE · SIMPLE MACHINES AND ENGINEERING · GRADES 2–5

Simple Machines All Around

Name the simple machine in ten everyday things, from a seesaw to a jar lid.



Name: _____ **Date:** _____

Word bank

lever | pulley | wheel and axle | inclined plane | wedge | screw

Write the simple machine you find in each thing.

a seesaw _____

a wheelchair ramp _____

a flagpole rope _____

a doorknob _____

an axe _____

a jar lid _____

a bottle opener _____

a zipper _____

a light bulb base _____

a steering wheel _____

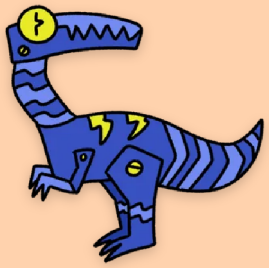
Find a simple machine in your classroom or home. Draw it and name it.

Art © Kevin Coulston

SCIENCE · SIMPLE MACHINES AND ENGINEERING · GRADES 2–5

Paper Tower Challenge

An engineering challenge: plan, build, test and improve the tallest tower from ten sheets of paper.



Name: _____ **Date:** _____

The challenge: build the tallest tower that stands on its own for 10 seconds. **You get:** 10 sheets of paper, 1 meter of tape, scissors and 20 minutes.

1. Ask

What makes a tower strong and tall?

2. Imagine

List two ideas.

3. Plan

Draw your best idea.

4. Create

Build it. Height:

5. Test

Did it stand 10 seconds?

6. Improve

What will you change?

Try	Height (cm)	Stood 10 seconds?
1		
2		
3		

Art © Kevin Coulston

SCIENCE · SIMPLE MACHINES AND ENGINEERING · GRADES 2–5

Paper Bridge Challenge

An engineering challenge: fold a paper bridge between two stacks of books and see how many pennies it holds.



Name: _____ **Date:** _____

The challenge: make two stacks of books 20 cm apart. Build a bridge from one sheet of paper (no tape!) that holds as many pennies as it can in the middle.

Design 1: draw how you fold the paper.

Design 2: try a new fold.

Design	Pennies it held	What happened?
1		
2		
3		

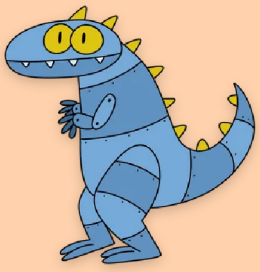
Which fold was strongest? Why do you think it worked?

Art © Kevin Coulston

SCIENCE · SIMPLE MACHINES AND ENGINEERING · GRADES 3–5

Ramp and Car Experiment

Roll a toy car down a ramp at three heights, measure how far it goes, graph it and explain.



Name: _____ **Date:** _____

Question: does a higher ramp make a toy car roll farther? Lean a board on 1, then 2, then 3 books. Let the car go from the top (no pushing) and measure from the end of the ramp to where it stops.

My hypothesis: If the ramp is higher, then _____

Ramp height	Try 1 (cm)	Try 2 (cm)	Try 3 (cm)
1 book			
2 books			
3 books			

Graph your best try for each height. First write a scale up the side, like 0, 20, 40, 60 cm.

1 book 2 books 3 books

Conclusion: what happened, and which simple machine is a ramp?

Art © Kevin Coulston

SCIENCE · SCIENTIFIC METHOD · GRADES 2–4

Steps of the Scientific Method

Number the seven steps of the scientific method in order, then match three words to their meanings.

Name: _____ **Date:** _____



Write 1 to 7 to put the steps of the scientific method in order.

- [ ] Make a hypothesis: a guess you can test.
- [ ] Share your results.
- [ ] Ask a question.
- [ ] Record and look at the data.
- [ ] Do some research.
- [ ] Draw a conclusion.
- [ ] Test it with an experiment.

Draw a line from each word to its meaning.

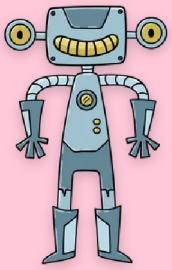
hypothesis ●	● facts and measurements you record
data ●	● what you learned from the experiment
conclusion ●	● a guess you can test

Art © Kevin Coulston

SCIENCE · SCIENTIFIC METHOD · GRADES 2–5

Science Experiment Recording Sheet

A lab sheet for any experiment: question, hypothesis, materials, steps, data, results and conclusion.



Name: _____ **Date:** _____

Question: _____

Hypothesis: I think _____

Materials

- _____
- _____
- _____
- _____

Steps

1. _____
2. _____
3. _____
4. _____

Data

	Trial 1	Trial 2	Trial 3

Results: draw or graph what happened.

My hypothesis was: ☐ correct ☐ not correct ☐ partly correct

Conclusion: what I learned

_____

_____

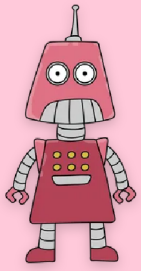
Art © Kevin Coulston

SCIENCE · SCIENTIFIC METHOD · GRADES 3–5

Hypotheses and Variables

For three experiments, name what you change, what you measure and what stays the same, then write an if-then hypothesis.

Name: _____ **Date:** _____



In a fair test, you **change** one thing, **measure** one thing and keep **everything else the same**.

1. Does a higher ramp make a toy car roll farther?

I change: _____

I measure: _____

I keep the same: _____

If-then hypothesis: _____

2. Do bean plants grow taller with more sunlight?

I change: _____

I measure: _____

I keep the same: _____

If-then hypothesis: _____

3. Does salt make ice melt faster?

I change: _____

I measure: _____

I keep the same: _____

If-then hypothesis: _____

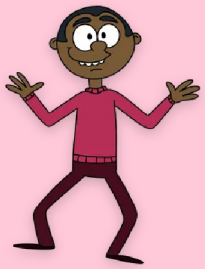
Art © Kevin Coulston

SCIENCE · SCIENTIFIC METHOD · GRADES 2–5

Science Observation Journal

Look closely at one object: draw it as if under a magnifying glass, describe it and ask a question.

Name: _____ **Date:** _____



Look closely. Draw every detail you see.

Object _____

Color _____

Shape _____

Size (cm) _____

Texture _____

Smell _____

I notice…

_____

_____

It reminds me of…

_____

_____

A question I have:

_____

_____

Art © Kevin Coulston

SCIENCE · SCIENTIFIC METHOD · GRADES 3–5

Observation or Inference?

Ten sentences to mark as an observation (what you notice) or an inference (what you figure out).



Name: _____ **Date:** _____

An **observation** is something you notice with your senses. An **inference** is something you figure out from what you notice.

Circle O for observation or I for inference.

The leaf is green and yellow.	O	I
The leaf fell because it is fall.	O	I
The sidewalk is wet.	O	I
It rained last night.	O	I
The dog is wagging its tail.	O	I
The dog is happy to see us.	O	I
The ice cube is getting smaller.	O	I
The ice is melting because the room is warm.	O	I
The rock has three gray stripes.	O	I
Someone ate the last cookie.	O	I

Write one observation and one inference about your classroom.

_____

_____

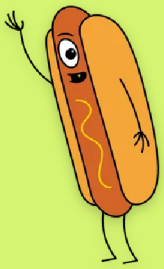
Art © Kevin Coulston

SCIENCE · FOOD CHAINS AND ECOSYSTEMS · GRADES 3–4

Put the Food Chains in Order

Write three food chains in order, from the producer to the top predator.

Name: _____ **Date:** _____



A food chain shows who eats what. It starts with a **producer**, a plant that makes food from sunlight. The arrow points to the animal that eats it.

Meadow: snake, grass, frog, grasshopper

☀ → ☐ → ☐ → ☐ → ☐

Forest: hawk, acorns, snake, mouse

☀ → ☐ → ☐ → ☐ → ☐

Ocean: seal, krill, algae, penguin

☀ → ☐ → ☐ → ☐ → ☐

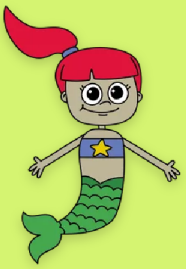
Where does the energy in every food chain first come from?

_____

Art © Kevin Coulston

SCIENCE · FOOD CHAINS AND ECOSYSTEMS · GRADES 3–5

Producers, Consumers and Decomposers



Sort twelve living things into producers, consumers and decomposers.

Name: _____ **Date:** _____

Producers make their own food from sunlight. **Consumers** eat other living things. **Decomposers** break down dead plants and animals.

Write each living thing in the right column.

deer · frog · oak tree · earthworm · rabbit · bacteria · mushroom · owl · algae · sunflower · mold · grass

Producers	Consumers	Decomposers

What would happen to a forest with no decomposers?

_____

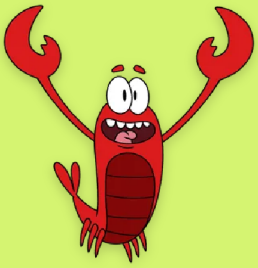
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Art © Kevin Coulston

SCIENCE · FOOD CHAINS AND ECOSYSTEMS · GRADES 3–5

Herbivore, Carnivore or Omnivore?

Sort twelve animals by what they eat: plants, meat or both.



Name: _____ **Date:** _____

Herbivores eat only plants. **Carnivores** eat only meat. **Omnivores** eat plants and meat.

Write each animal in the right column.

wolf · owl · deer · raccoon · lion · chicken · bear · shark · rabbit · giraffe · people · cow

Herbivores	Carnivores	Omnivores

Are you an herbivore, carnivore or omnivore? How do you know?

_____

_____

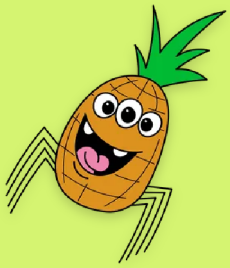
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SCIENCE · FOOD CHAINS AND ECOSYSTEMS · GRADES 4–5

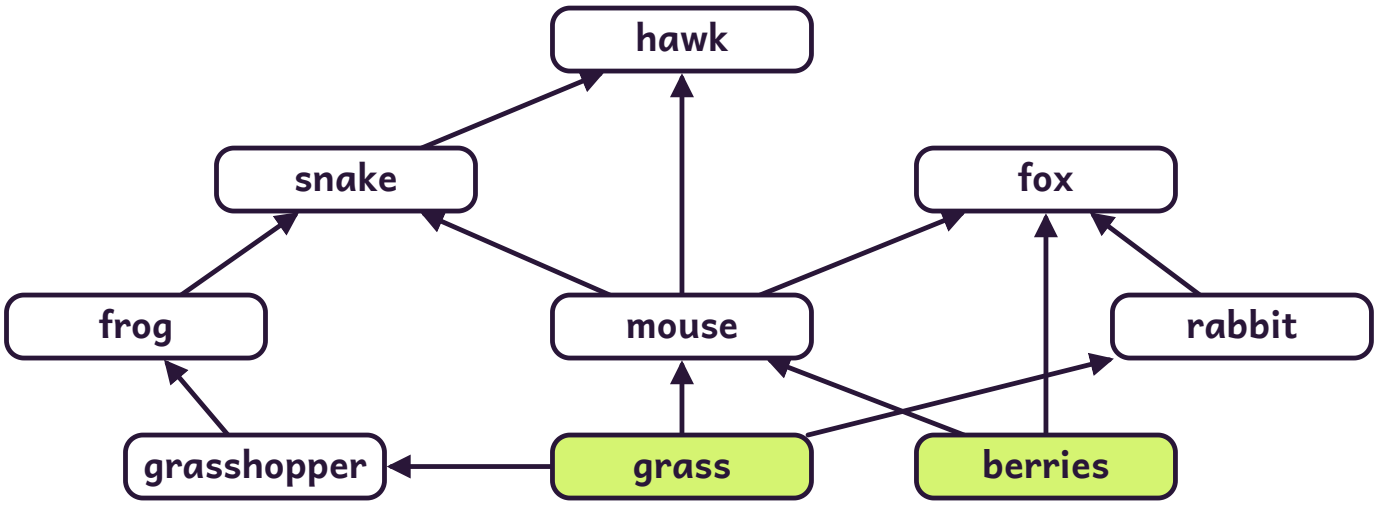
Read a Food Web

Answer six questions about a meadow food web with nine living things.

Name: _____ **Date:** _____



Arrows point from the food to the animal that eats it.



1. Name a producer. _____

2. What does the frog eat? _____

3. Which animals eat mice? _____

4. Write a food chain with four living things. _____

5. If the grasshoppers disappeared, what would happen to the frogs? _____

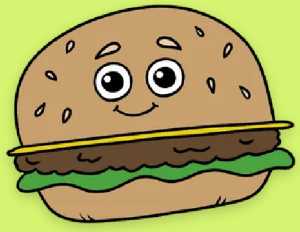
6. Which animal is the top predator? _____

Art © Kevin Coulston

SCIENCE · FOOD CHAINS AND ECOSYSTEMS · GRADES 3–5

Build a Food Chain

Draw a four-link food chain for a habitat you choose, then label the levels of an energy pyramid.



Name: _____ **Date:** _____

My habitat: ☐ ocean ☐ forest ☐ desert ☐ pond ☐ grassland

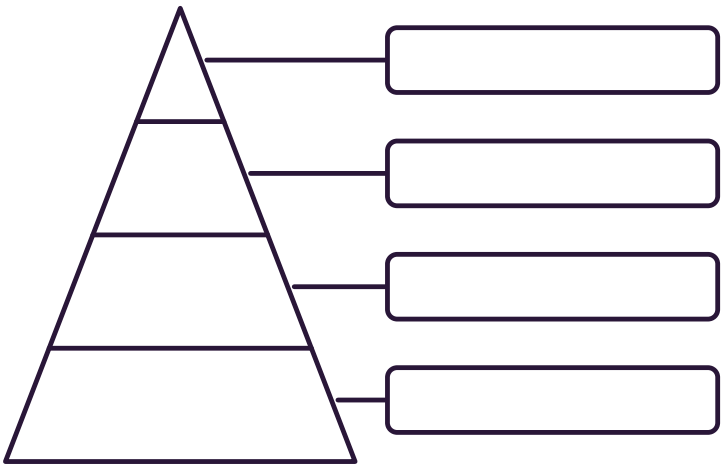
Draw a food chain with four living things. Label each one: producer or consumer.

	→	→	→
_____	_____	_____	_____

Word bank

producers · primary consumers · secondary consumers · tertiary consumers

Label the energy pyramid.



Only about **one tenth** of the energy at each level moves up to the next. That is why there are lots of plants, fewer plant eaters and only a few top predators.

Art © Kevin Coulston

SCIENCE · HUMAN BODY · GRADES K–1

Parts of the Body

Label the head, arm, hand, leg, knee and foot with a word bank, then trace a sentence.

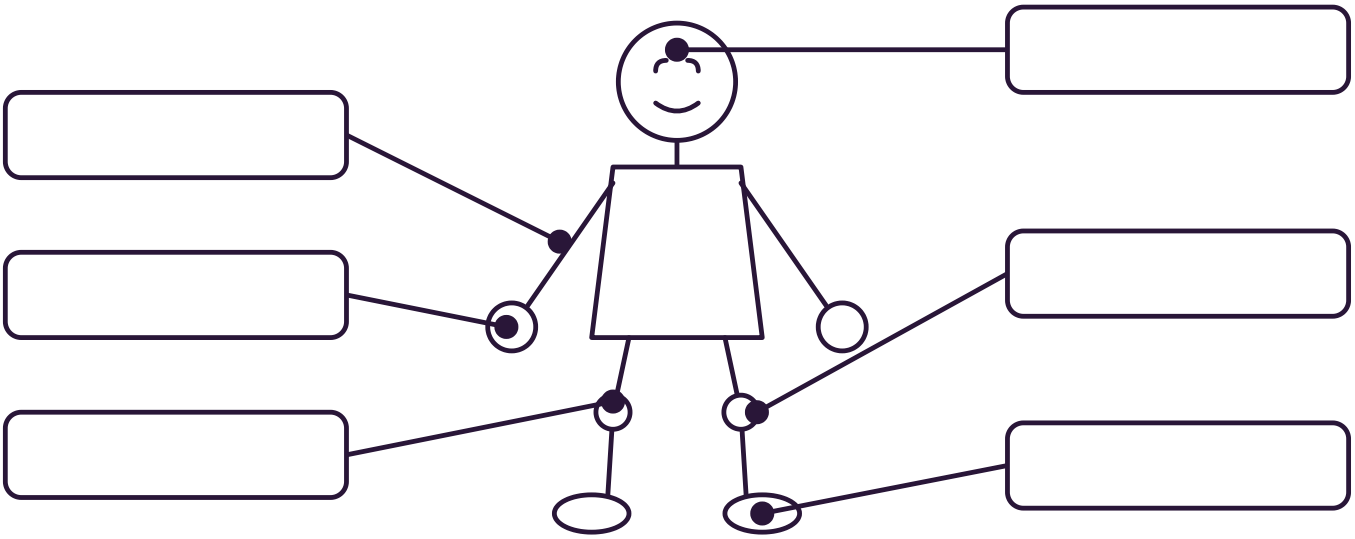


Name: _____ **Date:** _____

Word bank

head | arm | hand | leg | knee | foot

Write the name of each body part.



Trace the sentence.

I take care of my body.

Art © Kevin Coulston

SCIENCE · HUMAN BODY · GRADES 1–3

My Bones

Match the skull, ribs, spine and femur to their jobs, then mark six bone facts true or false.



Name: _____ **Date:** _____

You have **206 bones**. Together they are your **skeleton**. Bones hold you up, let you move and protect the soft parts inside you.

1. Draw a line from each bone to its job.

skull ●	● holds you up and lets you bend
ribs ●	● protects your brain
spine (backbone) ●	● the longest, strongest bone, in your leg
femur (thigh bone) ●	● protect your heart and lungs

2. Circle True or False.

Bones are alive and can grow.	True	False
A broken bone can heal itself.	True	False
Babies have fewer bones than grown-ups.	True	False
Milk and cheese have calcium that makes bones strong.	True	False
Your skull is made of one single bone.	True	False
Bones meet at joints like your elbow and knee.	True	False

Art © Kevin Coulston

SCIENCE · HUMAN BODY · GRADES 2–3

Organs and Their Jobs

Fill in the brain, heart, lungs, stomach and bones in five sentences, then draw where your heart is.



Name: _____ **Date:** _____

Word bank

brain | heart | lungs | stomach | bones

Fill in the missing organ.

1. Your _____ pumps blood around your whole body.
2. Your _____ fill with air every time you breathe in.
3. Your _____ thinks, remembers and tells your body what to do.
4. Your _____ mixes up food so your body can use it.
5. Your _____ hold you up and protect your organs.

Draw yourself. Mark your heart with a red X and your lungs with blue.

Put your hand on your chest. What do you feel? What do you hear?

Art © Kevin Coulston

SCIENCE · HUMAN BODY · GRADES K–2

Healthy Habits

Color the healthy habits and put an X on the rest, then write your own healthy habit.



Name: _____ **Date:** _____

Color the healthy habits. Put an X on the others.

brush your teeth	candy for breakfast	drink water	stay up all night
run and play	never wash hands	eat vegetables	sit still all day
sleep 10 hours	skip breakfast	wash your hands	eat fruit

One healthy habit I will do this week:

_____

_____

Draw yourself doing it.

Art © Kevin Coulston

SCIENCE · HUMAN BODY · GRADES 2–3

Feel Your Heartbeat

Count your pulse sitting still, after jumping jacks and after a rest, then explain what changed.



Name: _____ **Date:** _____

Find your pulse: press two fingers on the inside of your wrist, just under your thumb, or on the side of your neck. Each bump is one heartbeat. Count the beats for 15 seconds, then multiply by 4.

I predict my heart will beat fastest after _____

What I did	Beats in 15 seconds	× 4 = beats per minute
Sitting still		
10 jumping jacks		
1 minute of running in place		
Resting for 2 minutes after		

Conclusion: when did your heart beat fastest? Why do you think your heart speeds up when you move?

_____

_____

_____

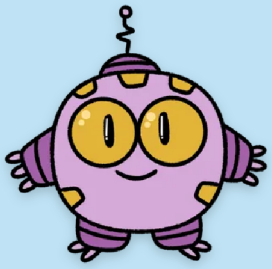
Art © Kevin Coulston

SCIENCE · MAGNETS · GRADES K–2

Magnetic or Not?

Write ten things under magnetic or not magnetic, then finish a sentence about what magnets pull on.

Name: _____ **Date:** _____



A magnet pulls on things made of **iron** or **steel**. It does not pull on wood, plastic, paper, rubber or glass.

Write each thing in the right column.

refrigerator door · wooden block · metal scissors · crayon · steel nail · rubber band · safety pin · plastic cup · sheet of paper · paper clip

Magnetic	Not magnetic

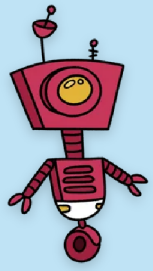
Magnets pull on things made of _____

Art © Kevin Coulston

SCIENCE · MAGNETS · GRADES 1–3

Magnet Predict and Test

Guess whether eight objects will stick to a magnet, test them and write what you found out.



Name: _____ **Date:** _____

You need: a magnet and eight objects from around the room. Write each object, make a guess, then touch the magnet to it. Were you right?

Object	My guess: will it stick?	Test: did it stick?	Was I right?
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			

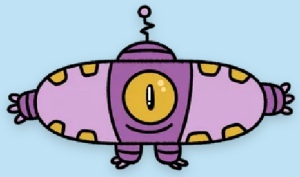
What did the things that stuck have in common?

Art © Kevin Coulston

SCIENCE · MAGNETS · GRADES 2–3

North and South Poles

Attract or repel? Circle what happens when two magnet poles meet, then mark four facts true or false.



Name: _____ **Date:** _____

Every magnet has a **north pole** (N) and a **south pole** (S). Poles that are different **attract** (pull together). Poles that are the same **repel** (push apart).

1. Two magnets come close. Circle what happens.

N meets S	attract	repel
N meets N	attract	repel
S meets S	attract	repel
S meets N	attract	repel

2. Circle True or False.

A magnet has two poles.	True	False
If you cut a magnet in half, each half has only one pole.	True	False
Earth acts like a giant magnet.	True	False
A compass needle is a tiny magnet that points north.	True	False

Try it: hold two magnets so they push apart. What did you feel?

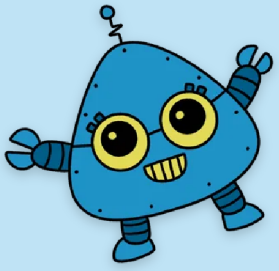
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Art © Kevin Coulston

SCIENCE · MAGNETS · GRADES K–2

Magnet Hunt

Walk around with a magnet and list five things it sticks to, five it does not and five to test.



Name: _____ **Date:** _____

Take a magnet for a walk around the room. Touch it gently to things and write what you find. Stay away from computers, phones and TVs.

Sticks	Does not stick	Not sure: test it!
1.	1.	1.
2.	2.	2.
3.	3.	3.
4.	4.	4.
5.	5.	5.

The most surprising thing I found:

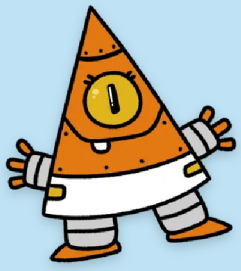
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Art © Kevin Coulston

SCIENCE · MAGNETS · GRADES 2–3

How Strong Is a Magnet?

An experiment: how many sheets of paper can a magnet pull a paper clip through?



Name: _____ **Date:** _____

Question: how many sheets of paper can a magnet pull a paper clip through? Put a paper clip on the table, cover it with paper, then hold the magnet on top and lift slowly.

My hypothesis: I think the magnet will work through this many sheets: _____

Sheets of paper	Did the paper clip lift?	What I noticed
0 sheets		
1 sheet		
2 sheets		
4 sheets		
6 sheets		
8 sheets		
10 sheets		

Most sheets it worked through _____ **Was my hypothesis right?** _____

Conclusion: does a magnet work through paper? What happens as the paper gets thicker?

_____

_____

Art © Kevin Coulston

SCIENCE · LIGHT AND SHADOWS · GRADES 1–2

Where Does Light Come From?

Sort eight light sources into natural light and light made by people, then answer a question about the dark.



Name: _____ **Date:** _____

Some light is **natural**: it comes from nature. Some light is **made by people** with electricity or fire.

Write each light source in the right column.

the stars · a firefly · a flashlight · lightning · a lamp · a candle · a TV screen · the sun

Natural light	Made by people

Circle True or False.

The moon makes its own light. **True** **False**

We need light to see. **True** **False**

What could you see in a room with no light at all?

_____

Art © Kevin Coulston

SCIENCE · LIGHT AND SHADOWS · GRADES 2–4

Track a Shadow

Measure the shadow of one object four times in a day, draw it at noon and at three, and explain the change.



Name: _____ **Date:** _____

Set it up: on a sunny morning, stand a stick or a toy on the sidewalk and mark where it sits. Every two hours, trace its shadow with chalk and measure it.

Time	Shadow length (cm)	Which way does it point?	Long or short?
9:00			
11:00			
1:00			
3:00			

Draw the object and its shadow at noon.

Draw the object and its shadow at 3:00.

When was the shadow longest? Why do you think it changed?

Art © Kevin Coulston

SCIENCE · LIGHT AND SHADOWS · GRADES 2–4

Transparent, Translucent or Opaque?

Sort nine materials by how much light gets through, then circle what makes a shadow.

Name: _____ **Date:** _____



Transparent: light goes right through and you can see clearly. **Translucent**: some light gets through, but things look blurry. **Opaque**: no light gets through.

Write each material in the right column.

a wooden door | a thin tissue | clear plastic wrap | wax paper | a brick wall | frosted glass | water in a glass | a book | a clear window

Transparent	Translucent	Opaque

Circle the answer.

A dark shadow forms when light is blocked by a — transparent | translucent | opaque

You can read a sign through a — transparent | translucent | opaque

Art © Kevin Coulston

SCIENCE · LIGHT AND SHADOWS · GRADES 2–4

Mirrors and Reflections

Six facts about light and mirrors to mark true or false, then write your name the way a mirror shows it.

Name: _____ **Date:** _____



Light **reflects**, or bounces, off things. Smooth, shiny things like mirrors reflect light so well that you can see a picture in them.

1. Circle True or False.

A mirror reflects light.	True	False
Light travels in straight lines.	True	False
Rough, dark things reflect more light than shiny things.	True	False
We see the moon because it reflects sunlight.	True	False
A mirror image is flipped left to right.	True	False
Light bends a little when it goes from air into water.	True	False

2. Write your name. Then write it the way it looks in a mirror.

_____

_____

_____

3. Draw your face as you see it in a mirror.

Art © Kevin Coulston

SCIENCE · LIGHT AND SHADOWS · GRADES 1–3

Colors of the Rainbow



Number the seven rainbow colors in order, fill in two sentences about prisms and raindrops, then draw a rainbow.

Name: _____ **Date:** _____

Sunlight looks white, but it is really all the colors mixed together. Raindrops and glass prisms split it into a rainbow, always in the same order.

1. Write 1 to 7 to put the colors in rainbow order, from the outside in.

- ☐ green
- ☐ violet
- ☐ blue
- ☐ indigo
- ☐ red
- ☐ yellow
- ☐ orange

Word bank

prism · bends · rain · seven

1. A _____ is a piece of glass that splits light into colors.
2. Light _____ when it passes through a raindrop.
3. A rainbow has _____ colors.

2. Draw a rainbow and color it in order.

Art © Kevin Coulston

SCIENCE · SOUND · GRADES 1–3

What Makes Sound?

Eight facts about vibrations and sound to mark true or false, then feel your own voice.



Name: _____ **Date:** _____

Sound is made when something **vibrates**: it moves back and forth very fast. The vibrations travel through the air to your ears.

Circle True or False.

Sound is made when something vibrates.	True	False
Sound can travel through air.	True	False
Sound cannot travel through water.	True	False
Louder sounds have bigger vibrations.	True	False
A guitar string makes sound while it is still.	True	False
A drum makes sound when its top vibrates.	True	False
Light travels faster than sound.	True	False
Sound can travel through a wall.	True	False

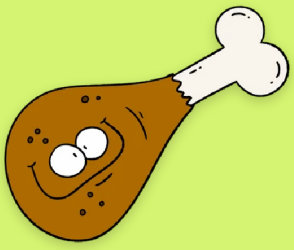
Try it: put your hand on your throat and hum. What do you feel? What is vibrating?

Art © Kevin Coulston

SCIENCE · SOUND · GRADES K–2

Loud and Soft

Sort eight sounds into loud and soft, then draw the loudest sound you heard today.



Name: _____ **Date:** _____

Write each sound in the right column.

a big drum | a jet plane | a whisper | thunder | a cat purring | leaves rustling | a ticking clock | a fire truck siren

Loud	Soft

Draw the loudest sound you heard today.

Draw the softest sound you heard today.

Art © Kevin Coulston

SCIENCE · SOUND · GRADES 2–4

High and Low Sounds

Circle high or low for eight sounds, then explain why a big drum sounds low.

Name: _____ **Date:** _____



Pitch is how high or low a sound is. Fast vibrations make **high** sounds. Slow vibrations make **low** sounds. Small, short, tight things vibrate fast.

Circle high or low.

a tiny bell	high	low
a big bass drum	high	low
a bird chirping	high	low
a lion roaring	high	low
a short, thin guitar string	high	low
a long, thick guitar string	high	low
a mouse squeaking	high	low
a tuba	high	low

Why do you think a big drum sounds lower than a small drum?

Art © Kevin Coulston

SCIENCE · SOUND · GRADES K–2

Sound Walk

Listen for six sounds, write what made each one and whether it was loud or soft, high or low.

Name: _____ **Date:** _____



Sit quietly for one minute, inside or outside, and listen. Write down six sounds you hear.

Sound I heard	What made it?	Loud or soft?	High or low?
1.			
2.			
3.			
4.			
5.			
6.			

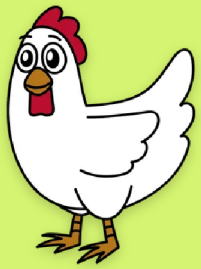
The most interesting sound was… because…

Art © Kevin Coulston

SCIENCE · SOUND · GRADES 2–4

Rubber Band Guitar

An experiment: stretch rubber bands around a box and find out what changes the pitch.



Name: _____ **Date:** _____

You need: an empty tissue box or shoebox and four rubber bands, some thick and some thin. Stretch them around the box and pluck them.

My hypothesis: the ___ rubber band will make the highest sound. _____

Rubber band	Thick or thin?	Tight or loose?	High or low sound?
1			
2			
3			
4			

Conclusion: what makes a rubber band sound higher? What happens if you pinch the band shorter while you pluck it?

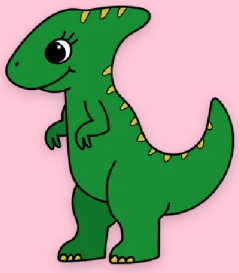
Art © Kevin Coulston

SCIENCE · ROCKS, SOIL AND FOSSILS · GRADES 3–5

Three Kinds of Rocks

Match igneous, sedimentary and metamorphic to how they form, then sort six rocks.

Name: _____ **Date:** _____



1. Draw a line from each kind of rock to how it forms.

igneous ●	● layers of sand, mud and shells get pressed together
sedimentary ●	● a rock is changed by heat and pressure deep underground
metamorphic ●	● melted rock (magma or lava) cools and hardens

2. Write each rock in the right column.

limestone · sandstone · marble · obsidian · slate · granite

Igneous	Sedimentary	Metamorphic
_____	_____	_____
_____	_____	_____

Which kind of rock might have a fossil in it? Why?

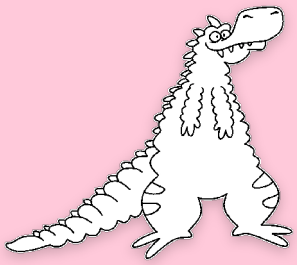
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Art © Kevin Coulston

SCIENCE · ROCKS, SOIL AND FOSSILS · GRADES 2–4

Rock Detective

Look at four rocks: color, shine, texture and a scratch test, then draw your favorite up close.



Name: _____ **Date:** _____

Find four rocks. Look at each one closely. For the **scratch test**, try to scratch it with your fingernail, then with a penny. Soft rocks scratch easily.

Rock	Color	Shiny or dull?	Smooth or rough?	Scratch test: hard or soft?
1				
2				
3				
4				

Draw your favorite rock up close.

Where did you find it? What do you think it is made of?

Art © Kevin Coulston

SCIENCE · ROCKS, SOIL AND FOSSILS · GRADES 2–4

Layers of Soil

Label humus, topsoil, subsoil and bedrock on the diagram, then fill in three sentences.

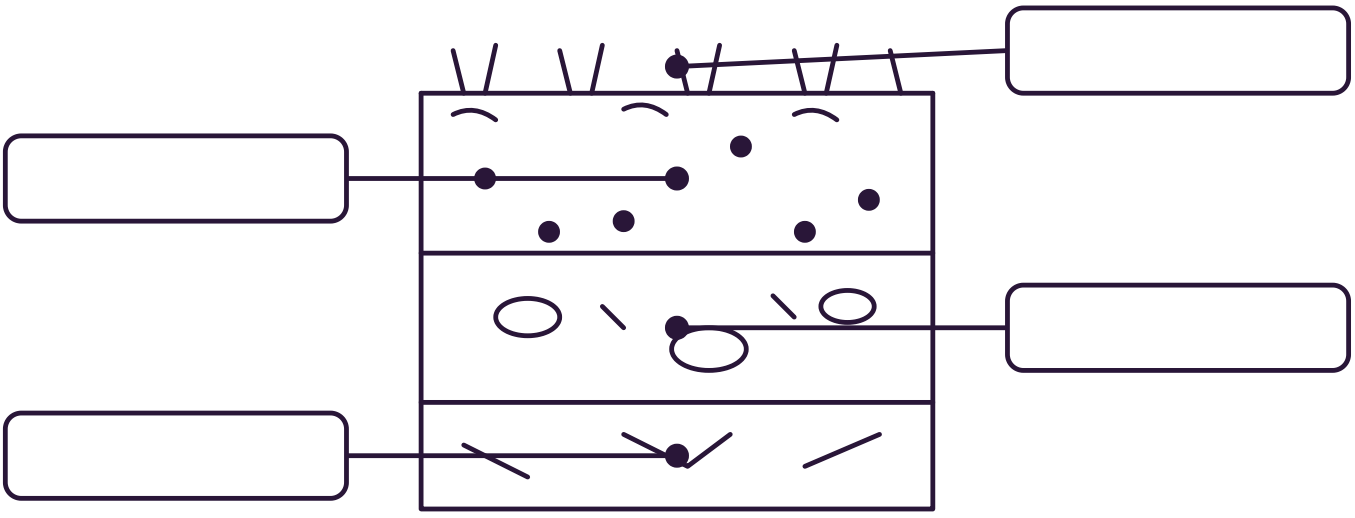
Name: _____ **Date:** _____



Word bank

humus | topsoil | subsoil | bedrock

1. Label the layers of soil.



2. Fill in the blanks.

1. Dead leaves rot into dark, rich _____ on top.

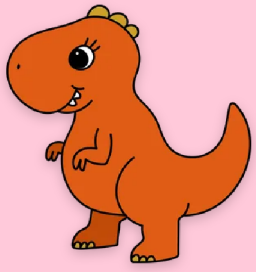
2. Plant roots grow in the _____, the richest layer.

3. Solid rock at the very bottom is called _____.

Art © Kevin Coulston

SCIENCE · ROCKS, SOIL AND FOSSILS · GRADES 3–5

How a Fossil Forms



Number the five steps that turn a dead animal into a fossil, then draw a fossil you would like to find.

Name: _____ **Date:** _____

A **fossil** is what is left of a plant or animal that lived long ago, kept in rock. Most fossils form on the bottom of a sea or lake.

1. Write 1 to 5 to put the steps in order.

- [ ] Mud and sand slowly cover the body.
- [ ] The rock wears away and someone finds the fossil.
- [ ] An animal dies and sinks to the bottom of the sea.
- [ ] More layers press down and turn to rock over millions of years.
- [ ] The soft parts rot away. The bones and shell stay.

2. Draw a fossil you would like to find.

3. What can a fossil tell us about the past?

_____

_____

_____

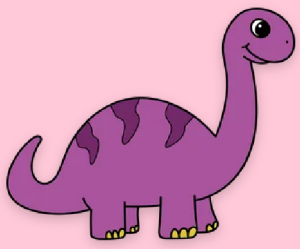
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SCIENCE · ROCKS, SOIL AND FOSSILS · GRADES 3–5

Layers of the Earth

Label the crust, mantle, outer core and inner core, then answer three questions.

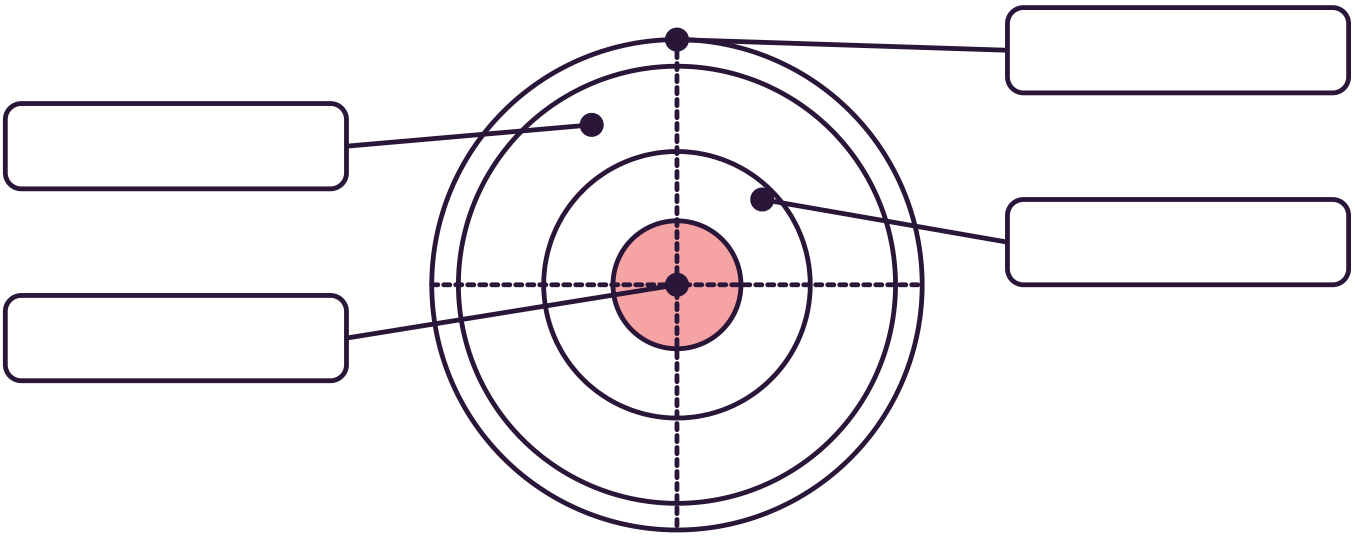


Name: _____ **Date:** _____

Word bank

crust | mantle | outer core | inner core

1. Label the layers of the Earth.



2. Circle the answer.

Which layer do we live on? crust | mantle | core

Which layer is the hottest? crust | mantle | inner core

Which layer is made of hot rock that flows very slowly? crust | mantle | inner core

Art © Kevin Coulston

SCIENCE · WATER CYCLE · GRADES 2–5

The Water Cycle

Label evaporation, condensation, precipitation and collection on the diagram.

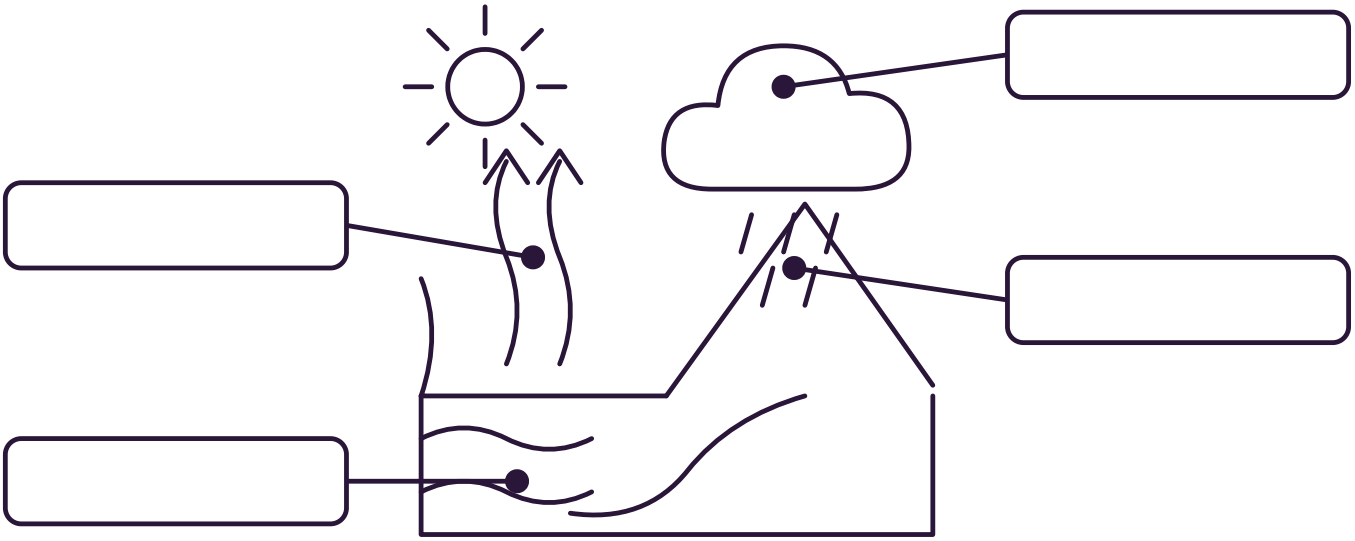


Name: _____ **Date:** _____

Word bank

evaporation | condensation | precipitation | collection

Write the name of each step of the water cycle.



The **sun** heats water in oceans, lakes and rivers until it turns into water vapor and rises (**evaporation**). High up, the vapor cools into clouds (**condensation**). Rain or snow falls (**precipitation**) and runs back into the water (**collection**). Then it starts again!

What powers the water cycle?

_____

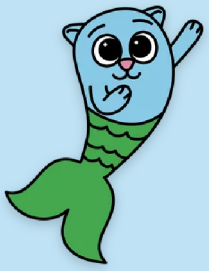
Art © Kevin Coulston

SCIENCE · WATER CYCLE · GRADES 3–5

Water Cycle Words

Match six water cycle words to their meanings, then fill in four sentences.

Name: _____ **Date:** _____



1. Draw a line from each word to its meaning.

evaporation ●	● water in the form of a gas
condensation ●	● liquid water turns into a gas and rises
precipitation ●	● rain that flows over the ground into rivers
collection ●	● rain, snow, sleet or hail falling from clouds
water vapor ●	● water vapor cools and turns into drops that make clouds
runoff ●	● water gathering in oceans, lakes, rivers and the ground

Word bank

vapor · clouds · sun · ocean

2. Fill in the blanks.

1. The _____ heats the water and makes it evaporate.
2. Water that evaporates is a gas called water _____.
3. When water vapor condenses, it forms _____.
4. Most of the rain that falls ends up back in the _____.

Art © Kevin Coulston

SCIENCE · WATER CYCLE · GRADES 2–5

Water Cycle in a Bag

Tape a bag of water to a sunny window and record what happens for four days.



Name: _____ **Date:** _____

Set it up: draw a sun and a cloud on a zip bag with a marker. Pour in a cup of water and a drop of blue food coloring. Seal it and tape it to a sunny window.

My prediction: I think the water will _____

Day	What I see on the bag	Where is the water now?
Day 1		
Day 2		
Day 3		
Day 4		

Draw your bag on day 3.

Which step of the water cycle made drops on the inside of the bag? What made them slide down?

_____

_____

_____

Art © Kevin Coulston

SCIENCE · WATER CYCLE · GRADES 3–5

Where Is Earth's Water?

Six facts about salt and fresh water to mark true or false, then sort eight places into salt water and fresh water.



Name: _____ **Date:** _____

About **97 out of every 100** drops of water on Earth are salty ocean water. Only 3 are fresh water, and most of that is frozen in ice caps and glaciers.

1. Circle True or False.

Most of Earth's water is in the oceans.	True	False
Ocean water is good to drink.	True	False
Most fresh water is frozen in ice.	True	False
Rivers and lakes hold most of Earth's water.	True	False
There is water under the ground.	True	False
Fresh water is something we should take care of.	True	False

2. Write each place in the right column.

a glacier · a pond · a lake · a river · the sea · rain · a salt marsh · the ocean

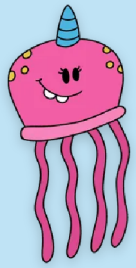
Salt water	Fresh water
_____	_____
_____	_____
_____	_____
_____	_____

Art © Kevin Coulston

SCIENCE · WATER CYCLE · GRADES 2–4

Save Water at Home

Tally how often you use water in a day, write one way to save it each time, then make a family plan.



Name: _____ **Date:** _____

Make a tally mark every time you use water today. Then think of one way to use a little less each time.

How I used water	Tally marks	Total	One way to save water
Brushing teeth			
Shower or bath			
Washing hands			
Drinking			
Flushing			
Other			

Our family water-saving plan:

_____

_____

_____

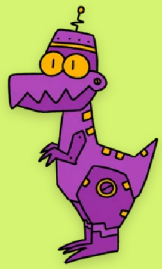
Art © Kevin Coulston

SCIENCE · ELECTRICITY AND CIRCUITS · GRADES 3–5

Parts of a Circuit

Label the battery, wire, bulb and switch on a simple circuit.

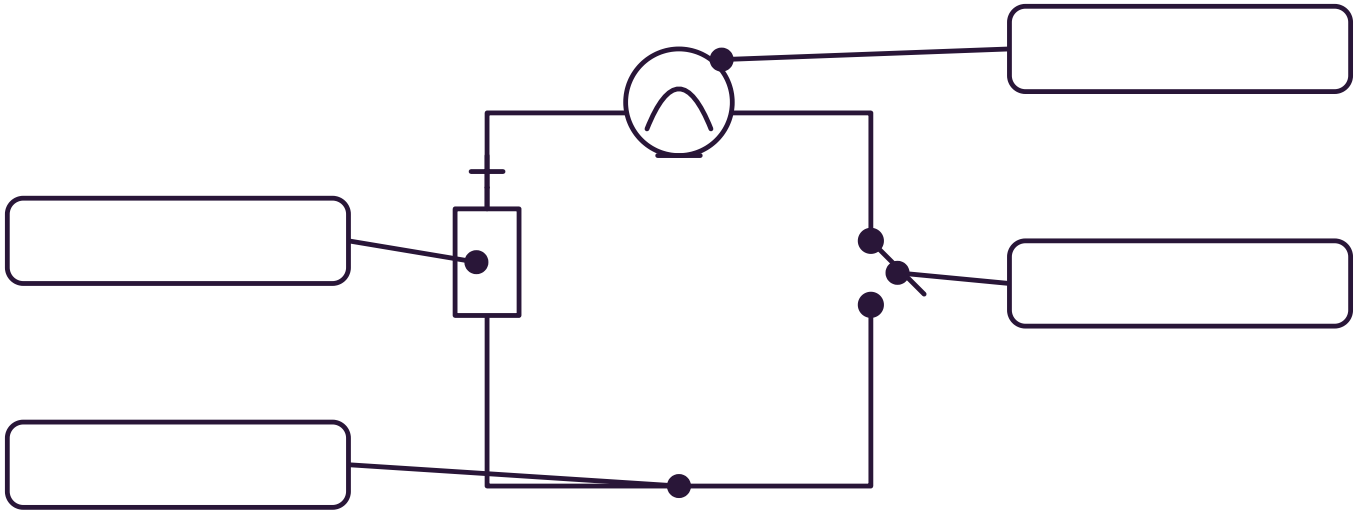
Name: _____ **Date:** _____



Word bank

battery | wire | bulb | switch

1. Label the parts of the circuit.



Electricity flows from the **battery** through the **wire**, lights the **bulb** and comes back to the battery. The loop is called a **circuit**. The **switch** opens or closes the loop.

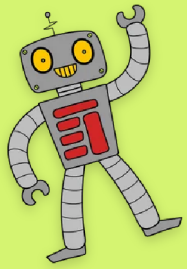
2. What gives the circuit its power? _____

3. What happens to the bulb when the switch opens the loop? _____

Art © Kevin Coulston

SCIENCE · ELECTRICITY AND CIRCUITS · GRADES 3–5

Will the Bulb Light?



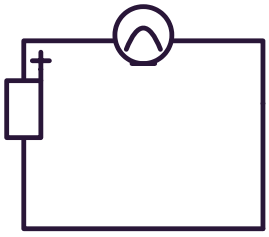
Look at four circuits, circle yes or no, then explain why an open circuit does not work.

Name: _____ **Date:** _____

A bulb lights only when the circuit is **closed**: a complete loop from the battery, through the bulb and back. A gap anywhere means an **open** circuit.

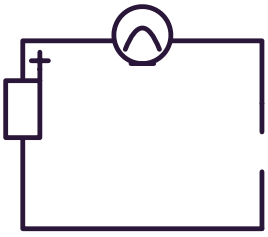
1. Will the bulb light? Circle Yes or No.

1



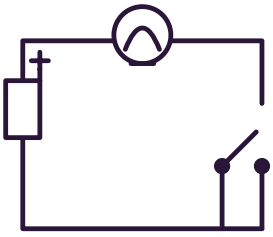
Yes No

2



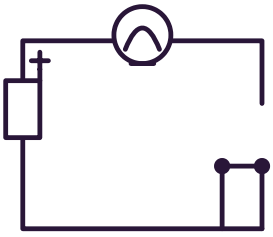
Yes No

3



Yes No

4



Yes No

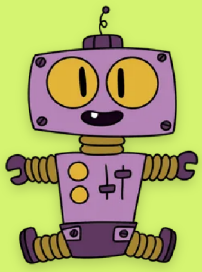
2. Why does a bulb go out when the circuit is open? Why does a light switch in your house work the same way?

Art © Kevin Coulston

SCIENCE · ELECTRICITY AND CIRCUITS · GRADES 3–5

Conductors and Insulators

Sort ten materials into conductors and insulators, then explain why wires are covered in plastic.



Name: _____ **Date:** _____

A **conductor** lets electricity flow through it. Metals are good conductors. An **insulator** stops electricity. Plastic, rubber, glass and wood are insulators.

1. Write each material in the right column.

a penny · wooden spoon · a metal key · rubber glove · aluminum foil · plastic ruler · steel paper clip · glass · a dry cotton sock · copper wire

Conductors	Insulators

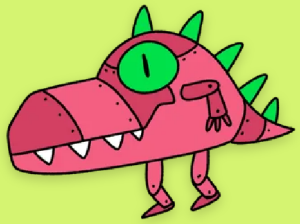
2. Why are electrical wires covered in plastic?

Art © Kevin Coulston

SCIENCE · ELECTRICITY AND CIRCUITS · GRADES 3–5

Static Electricity Balloon

An experiment: rub a balloon on your hair and test what it pulls on.



Name: _____ **Date:** _____

You need: a blown-up balloon, tiny bits of torn paper, a wall and a sink. Rub the balloon on your hair or a wool sweater 20 times. Now it has a **static charge**. Hold it close to each thing below.

My hypothesis: the charged balloon will _____

What I held the balloon near	My guess	What happened
Tiny bits of paper		
Your hair		
A wall (let go!)		
A thin stream of water from the tap		
An empty soda can on its side		

Conclusion: what did rubbing the balloon do? Did the balloon push or pull on things?

_____

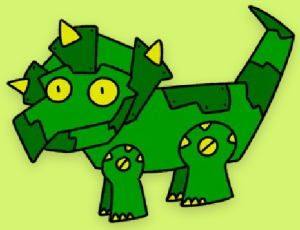
_____

Art © Kevin Coulston

SCIENCE · ELECTRICITY AND CIRCUITS · GRADES 3–5

Electrical Safety

Color the safe choices and put an X on the dangerous ones, then write a safety rule for your home.



Name: _____ **Date:** _____

Color the safe choices. Put an X on the dangerous ones.

dry your hands before touching a plug	fly a kite near power lines	pull the plug, not the cord
poke a fork into a toaster	keep radios away from the bathtub	stick things into an outlet
tell a grown-up about a frayed cord	climb a power pole	stay away from fallen wires

Write one electrical safety rule for your home.

_____

_____

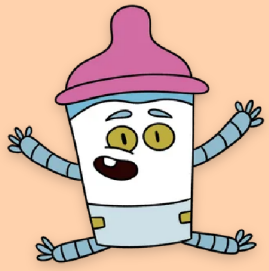
Art © Kevin Coulston

SCIENCE · FORCES AND MOTION · GRADES 1–3

Push or Pull?

Sort eight actions into pushes and pulls, then draw a push and a pull you did today.

Name: _____ **Date:** _____



A **force** is a push or a pull. A **push** moves something away from you. A **pull** moves something toward you.

1. Write each action in the right column.

closing a drawer · rolling a bowling ball · opening a drawer · walking a dog on a leash · ringing a doorbell · playing tug of war · zipping up a coat · kicking a ball

Push	Pull

2. Draw a push you did today.

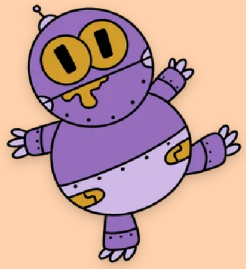
3. Draw a pull you did today.

Art © Kevin Coulston

SCIENCE · FORCES AND MOTION · GRADES 3–5

Friction Test

Slide a block down a ramp onto four surfaces, measure how far it goes and find the most friction.



Name: _____ **Date:** _____

Friction is a force that slows things down when two surfaces rub together. **Set it up:** lean a book to make a short ramp. Slide a block or toy car down it onto each surface and measure how far it goes.

My hypothesis: the block will slide farthest on _____

Surface	Try 1 (cm)	Try 2 (cm)	Try 3 (cm)
Smooth table			
Carpet			
Sandpaper			
Towel			

Most friction (shortest slide) _____ **Least friction (longest slide)** _____

Conclusion: when is friction helpful? When is it a problem?

_____

_____

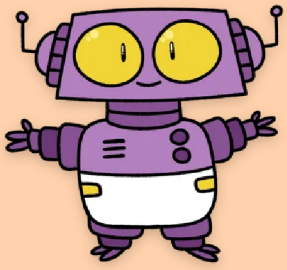
Art © Kevin Coulston

SCIENCE · FORCES AND MOTION · GRADES 2–4

Gravity: True or False?

Eight facts about gravity to mark true or false, then draw your classroom with no gravity.

Name: _____ **Date:** _____



Gravity is the force that pulls things toward each other. Earth's gravity pulls everything toward the ground.

1. Circle True or False.

Gravity pulls things toward the ground.	True	False
Gravity pulls a feather too, even though it is light.	True	False
Gravity keeps the moon going around Earth.	True	False
Gravity only works outdoors.	True	False
Without gravity, you would float.	True	False
The sun's gravity keeps the planets in their orbits.	True	False
Gravity pulls things up into the sky.	True	False
A ball you throw comes back down because of gravity.	True	False

2. Draw your classroom with no gravity.

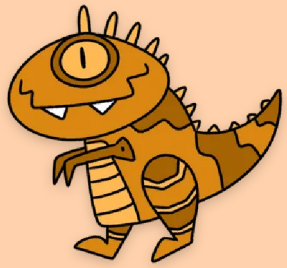
Art © Kevin Coulston

SCIENCE · FORCES AND MOTION · GRADES 3–5

Balanced or Unbalanced?

Circle balanced or unbalanced for six situations, then explain what unbalanced forces do to motion.

Name: _____ **Date:** _____



When forces are **balanced**, they cancel out and the object stays still or keeps moving the same way. When forces are **unbalanced**, the object speeds up, slows down or changes direction.

1. Circle balanced or unbalanced.

Two teams pull a rope and nobody moves.	balanced	unbalanced
A soccer ball starts rolling after a kick.	balanced	unbalanced
A book sits still on a desk.	balanced	unbalanced
A sled speeds up going down a hill.	balanced	unbalanced
A bike slows down when you stop pedaling.	balanced	unbalanced
A kite hangs still in a steady wind.	balanced	unbalanced

2. When forces are unbalanced, what happens to the way an object moves?

_____

_____

Art © Kevin Coulston

SCIENCE · FORCES AND MOTION · GRADES 3–5

Paper Airplane Test

Fold two designs, fly each three times, measure the distance and name the forces at work.



Name: _____ **Date:** _____

The challenge: fold two different paper airplanes. Throw each one three times from the same line, the same way. Measure how far each flight went.

Design A: draw your plane.

Design B: draw your plane.

Design	Flight 1 (m)	Flight 2 (m)	Flight 3 (m)	Longest
A				
B				

Conclusion: which design flew farther? Why? Name two forces that act on a flying paper airplane.

Art © Kevin Coulston

SCIENCE · ANIMAL CLASSIFICATION · GRADES 1–3

Animal Groups

Write fifteen animals under mammals, birds, fish, reptiles and amphibians.



Name: _____ **Date:** _____

Write each animal under its group.

shark · turtle · bat · toad · goldfish · lizard · eagle · cow · snake · penguin · chicken · tuna · frog · salamander · dog

Mammals	Birds	Fish	Reptiles	Amphibians

Which group do you belong to? How do you know?

_____

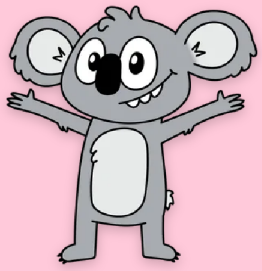
Art © Kevin Coulston

SCIENCE · ANIMAL CLASSIFICATION · GRADES 2–4

Animal Group Clues

Match the five vertebrate groups to the clue that describes them, then name one animal from each group.

Name: _____ **Date:** _____



1. Draw a line from each group to its clue.

mammals ●	● have dry, scaly skin and lay eggs on land
birds ●	● have fur or hair and feed their babies milk
fish ●	● start life in water with gills, then grow lungs and legs
reptiles ●	● have feathers, wings and a beak, and lay eggs
amphibians ●	● live in water and breathe with gills all their lives

2. Name one animal from each group.

A mammal: _____

A bird: _____

A fish: _____

A reptile: _____

An amphibian: _____

Art © Kevin Coulston

SCIENCE · ANIMAL CLASSIFICATION · GRADES 1–3

Parts of an Insect

Label the head, thorax, abdomen, antennae, legs and wings, then answer two insect questions.

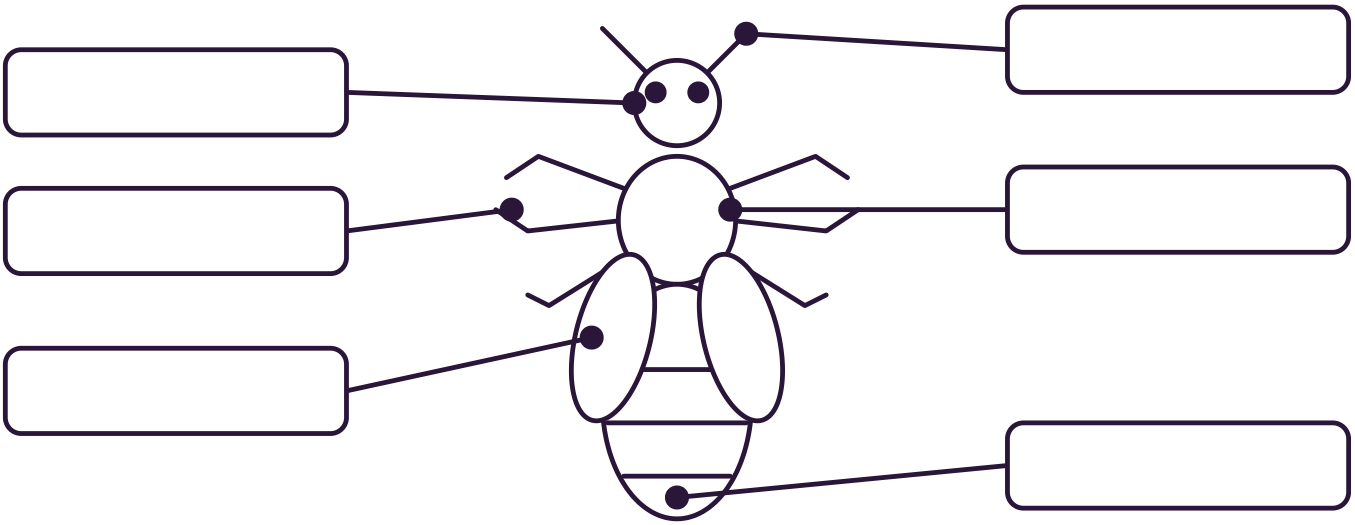
Name: _____ **Date:** _____



Word bank

head | thorax | abdomen | antennae | legs | wings

1. Label the parts of the insect.



2. Circle the answer.

How many legs does an insect have? (4) (6) (8)

How many main body parts does an insect have? (2) (3) (5)

Art © Kevin Coulston

SCIENCE · ANIMAL CLASSIFICATION · GRADES 2–4

Vertebrate or Invertebrate?

Sort ten animals by whether they have a backbone, then check for your own.



Name: _____ **Date:** _____

A **vertebrate** has a backbone. An **invertebrate** does not. Most animals on Earth are invertebrates!

1. Write each animal in the right column.

spider · snake · jellyfish · worm · snail · frog · butterfly · eagle · shark · cat

Vertebrates (backbone)	Invertebrates (no backbone)

2. Feel the middle of your back. What do you feel? Are you a vertebrate or an invertebrate?

_____

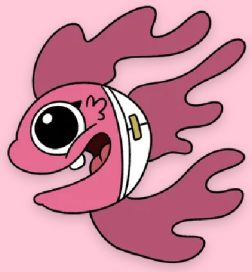
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Art © Kevin Coulston

SCIENCE · ANIMAL CLASSIFICATION · GRADES 3–4

Make a Classification Key

Pick four animals and write yes-or-no questions that sort them, one at a time, in a branching key.

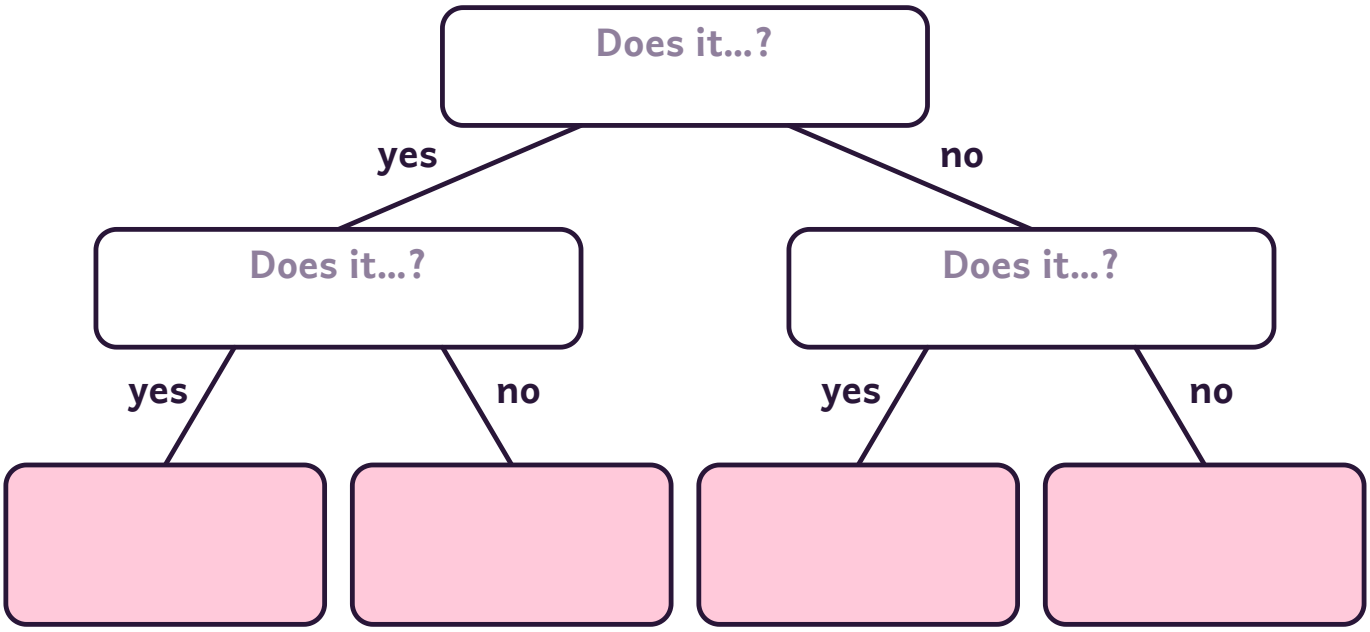


Name: _____ **Date:** _____

A **classification key** sorts things with yes-or-no questions. Pick four animals and write them in the bottom boxes. Then write a question in each box above that splits the animals below it, like "Does it have feathers?"

Animal 1 _____ **Animal 2** _____ **Animal 3** _____ **Animal 4** _____

Write a question in each box. Follow yes to the left and no to the right.



Try your key on a friend. Did they sort the animals the same way?

_____

Art © Kevin Coulston

SCIENCE · TAKING CARE OF EARTH · GRADES 1–3

Recycle, Compost or Trash?

Sort twelve things into the recycling bin, the compost pile or the trash.



Name: _____ **Date:** _____

Recycle paper, cardboard, cans and glass so they can be made into new things. **Compost** food scraps and plants so they rot into soil. Everything else is **trash**.

Write each thing in the right bin.

egg shells · grass clippings · soda can · broken crayon · apple core · chip bag · candy wrapper · banana peel · glass jar · cardboard box · used tissue · newspaper

Recycle	Compost	Trash

Which bin at your house fills up fastest?

_____

Art © Kevin Coulston

SCIENCE · TAKING CARE OF EARTH · GRADES 1–3

Reduce, Reuse, Recycle

Match the three Rs to what they mean, then draw something you could reuse.



Name: _____ **Date:** _____

1. Draw a line from each word to what it means.

reduce ●	● turn something old into something new, like new paper from old paper
reuse ●	● use less, like turning off lights you do not need
recycle ●	● use something again, like a jar to hold crayons

2. Draw something you could reuse instead of throwing it away.

3. Draw what you would turn it into.

4. One way I can reduce at home:

_____

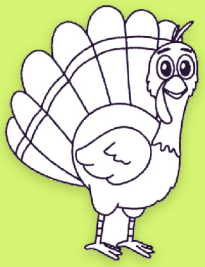
_____

Art © Kevin Coulston

SCIENCE · TAKING CARE OF EARTH · GRADES 2–3

Litter Survey

Tally the litter you find on a walk by kind, then think about what could stop it.



Name: _____ **Date:** _____

Take a walk around the playground or your block with a grown-up. Each time you see a piece of litter, make a tally mark for its kind. Only pick up litter if a grown-up says it is safe, and wear gloves.

Kind of litter	Tally marks	Total
Paper		
Plastic		
Cans and bottles		
Food		
Other		

Most common kind of litter _____ **Place with the most litter** _____

Why do you think litter ends up there? What could stop it?

_____

_____

_____

Art © Kevin Coulston

SCIENCE · TAKING CARE OF EARTH · GRADES 2–3

Energy from the Sun, Wind and Water



Sort six energy sources into renewable and not renewable, then mark four facts true or false.

Name: _____ **Date:** _____

A **renewable** energy source never runs out: the sun, the wind and moving water keep coming back. Coal, oil and natural gas took millions of years to form, so when they are used up, they are gone.

1. Write each energy source in the right column.

moving water · coal · wind · oil · natural gas · sunlight

Renewable	Not renewable

2. Circle True or False.

Coal takes millions of years to form.	True	False
Wind will run out someday.	True	False
Solar panels turn sunlight into electricity.	True	False
Burning coal and oil puts smoke into the air.	True	False

Have you seen a wind turbine or a solar panel? Where?

_____

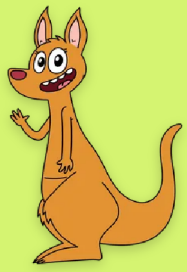
Art © Kevin Coulston

SCIENCE · TAKING CARE OF EARTH · GRADES K–2

Earth Helper Pledge

Check the ways you will help, design a poster and trace a pledge.

Name: _____ **Date:** _____



I will: ☐ turn off lights ☐ recycle ☐ use both sides of paper ☐ pick up litter ☐ save water ☐ plant something

Design a poster that tells people one way to help the Earth.

Trace the sentence.

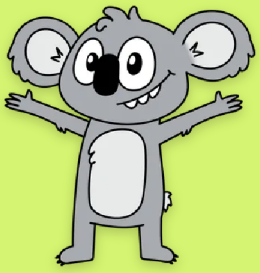
I can help take care of Earth.

Art © Kevin Coulston

ANSWER KEY · PLANT LIFE CYCLE · GRADES K–2

Answer Key: Plant Life Cycle Cut and Paste

Answers for grown-ups. Some questions have more than one good answer.



Glue the pictures in order. The seed goes in box 1.

1
seed

2
sprout

3
seedling

4
adult plant

Plant Life Cycle

✂ Cut out the cards on the dashed lines.

adult plant

seed

seedling

sprout

Art © Kevin Coulston

ANSWER KEY · PLANT LIFE CYCLE · GRADES 1–3

Answer Key: Parts of a Plant

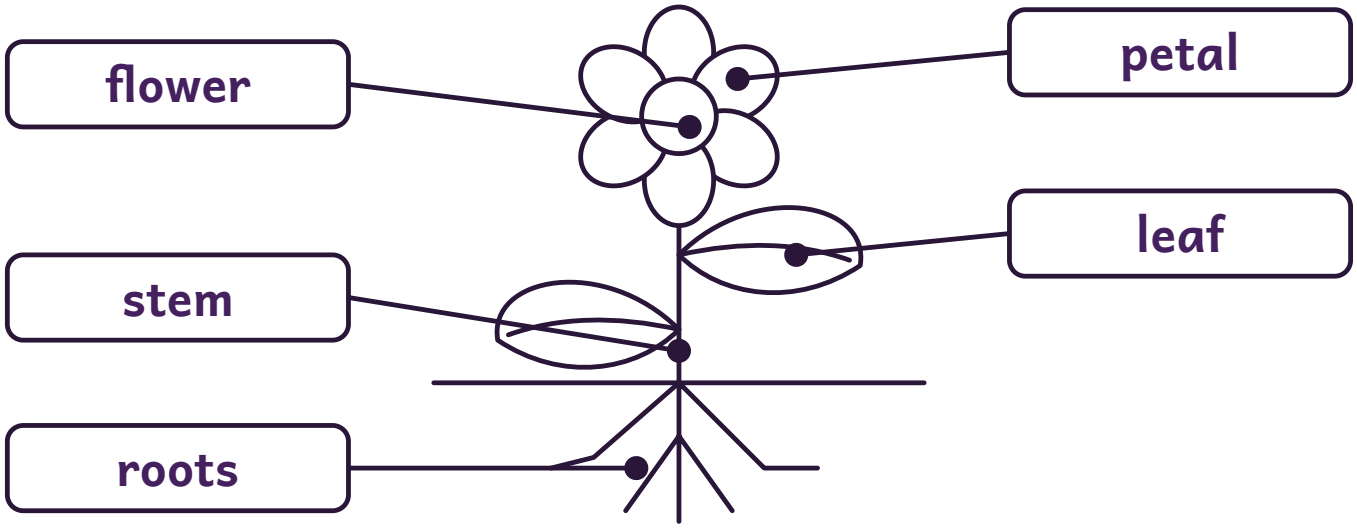
Answers for grown-ups. Some questions have more than one good answer.



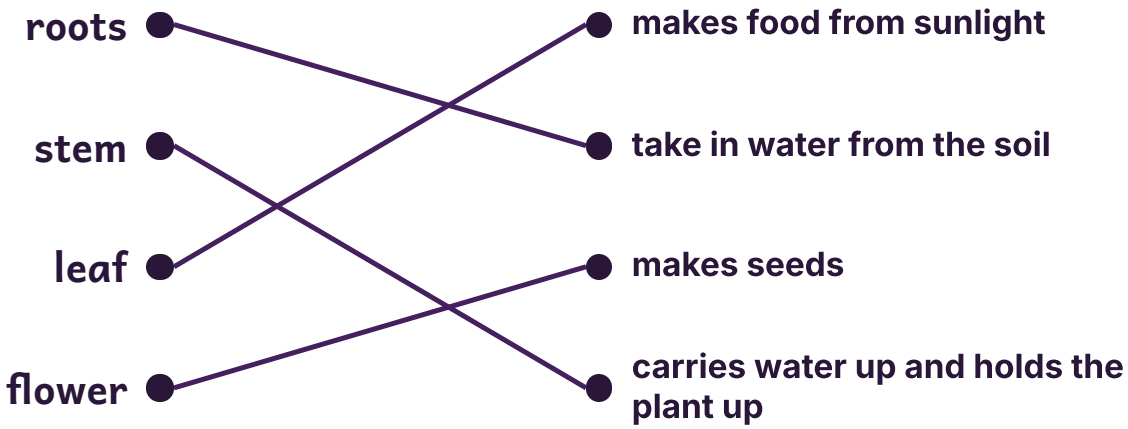
Word bank

flower · petal · leaf · stem · roots

Write the name of each part.



Draw a line from each part to its job.



Art © Kevin Coulston

ANSWER KEY · PLANT LIFE CYCLE · GRADES K–2

Answer Key: What Do Plants Need?

Answers for grown-ups. Some questions have more than one good answer.



Color the 5 things a plant needs to grow. Put an X on the others.

sunlight	candy	water	a toy car
shoes	air	a pillow	soil
a TV	space to grow	a book	a hat

Draw a plant that gets water every day.

Draw a plant that gets no water for two weeks.

What do you think happens to the plant with no water?

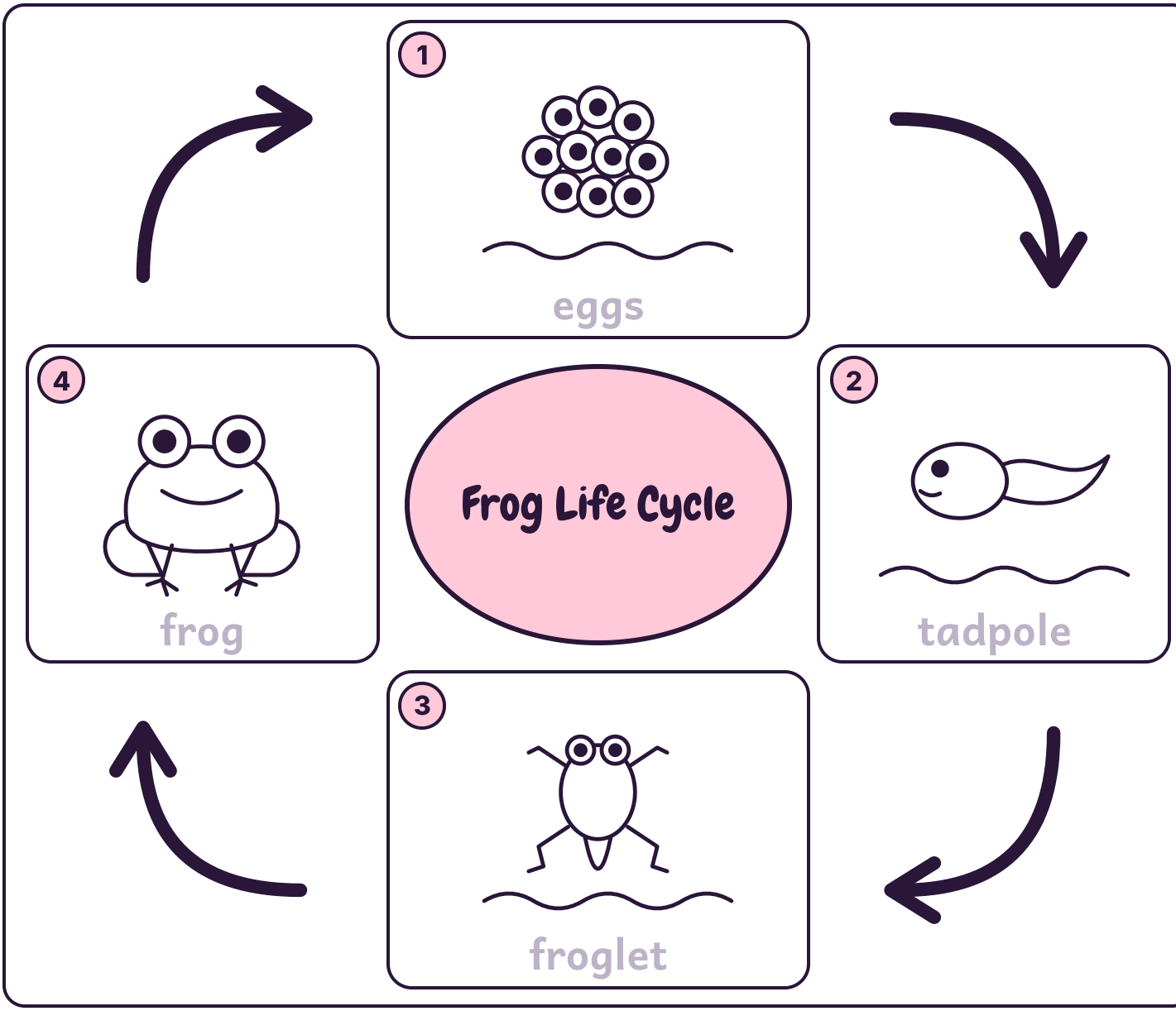
Art © Kevin Coulston

ANSWER KEY · BUTTERFLY AND FROG LIFE CYCLES · GRADES K–2

Answer Key: The Life Cycle of a Frog

Answers for grown-ups. Some questions have more than one good answer.





Circle the answer.

Tadpoles live in — **water** / sand / trees

A frog starts life as an — apple / **egg** / ant

Art © Kevin Coulston

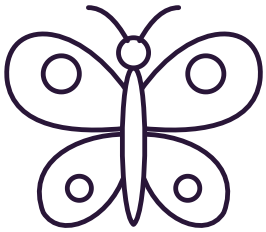
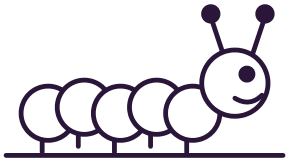
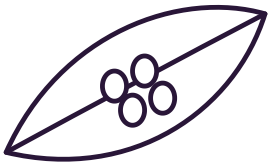
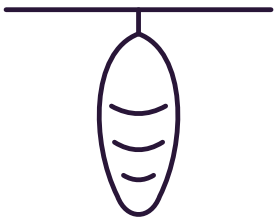
ANSWER KEY · BUTTERFLY AND FROG LIFE CYCLES · GRADES K–3

Answer Key: Put the Life Cycles in Order

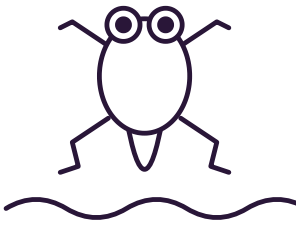
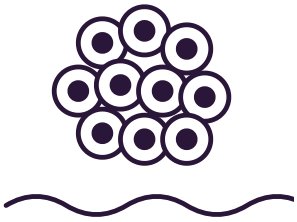
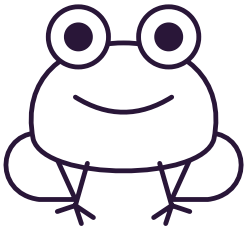
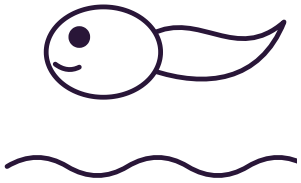
Answers for grown-ups. Some questions have more than one good answer.



Butterfly: write 1, 2, 3 and 4 to put the stages in order.

4	2	1	3
			
butterfly	caterpillar	egg	chrysalis

Frog: write 1, 2, 3 and 4 to put the stages in order.

3	1	4	2
			
froglet	eggs	frog	tadpole

How are the two life cycles alike?

Art © Kevin Coulston

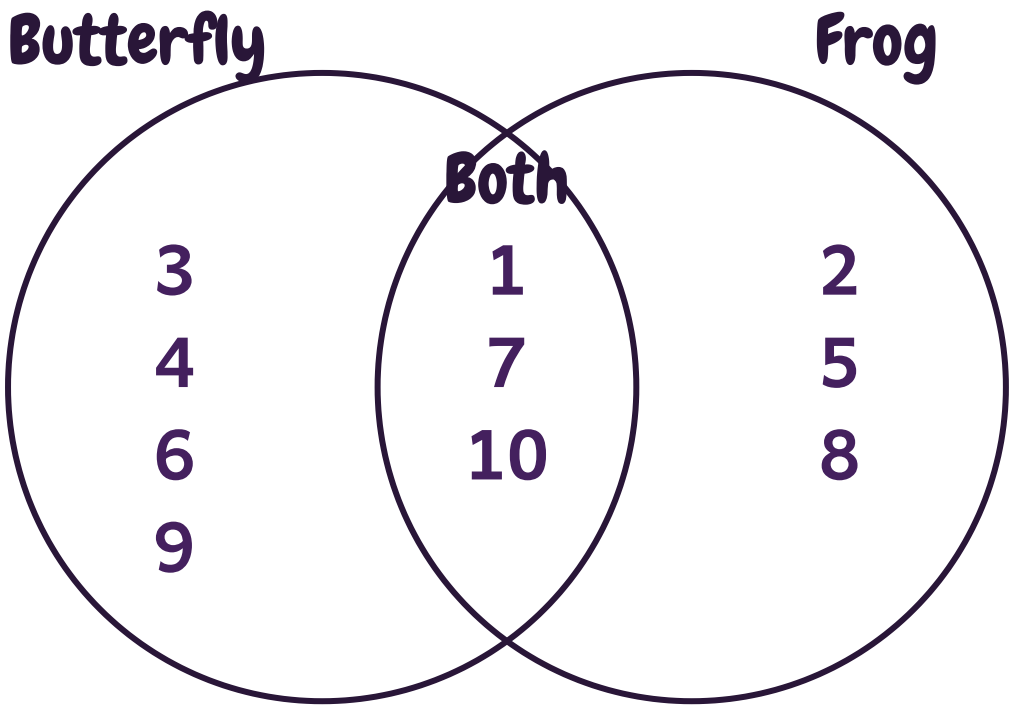
ANSWER KEY · BUTTERFLY AND FROG LIFE CYCLES · GRADES 1–3

Answer Key: Butterfly, Frog or Both?

Answers for grown-ups. Some questions have more than one good answer.



Write the number of each fact in the right part of the diagram.



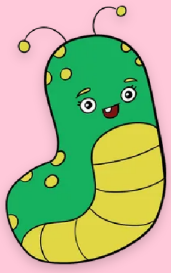
1. starts life as an egg
2. lays eggs in water
3. lays eggs on a leaf
4. makes a chrysalis
5. has a tail as a baby
6. the adult has wings
7. goes through metamorphosis
8. babies breathe with gills
9. the adult has six legs
10. changes shape as it grows

Art © Kevin Coulston

ANSWER KEY · BUTTERFLY AND FROG LIFE CYCLES · GRADES 2–3

Answer Key: Life Cycle Words

Answers for grown-ups. Some questions have more than one good answer.



Draw a line from each word to its meaning.

larva	the caterpillar stage of a butterfly
pupa	the stage inside a chrysalis, when the body changes
metamorphosis	a big change in body shape as an animal grows
tadpole	a baby frog with a tail that lives in water
froglet	a young frog with legs and a short tail
gills	body parts a tadpole uses to breathe underwater

Word bank

egg · leaves · chrysalis · wings · larva

1. A butterfly lays an **egg** on a leaf.
2. A caterpillar, or **larva**, hatches out.
3. The caterpillar eats lots of **leaves** and grows.
4. It makes a **chrysalis** around itself.
5. A butterfly with **wings** comes out.

Art © Kevin Coulston

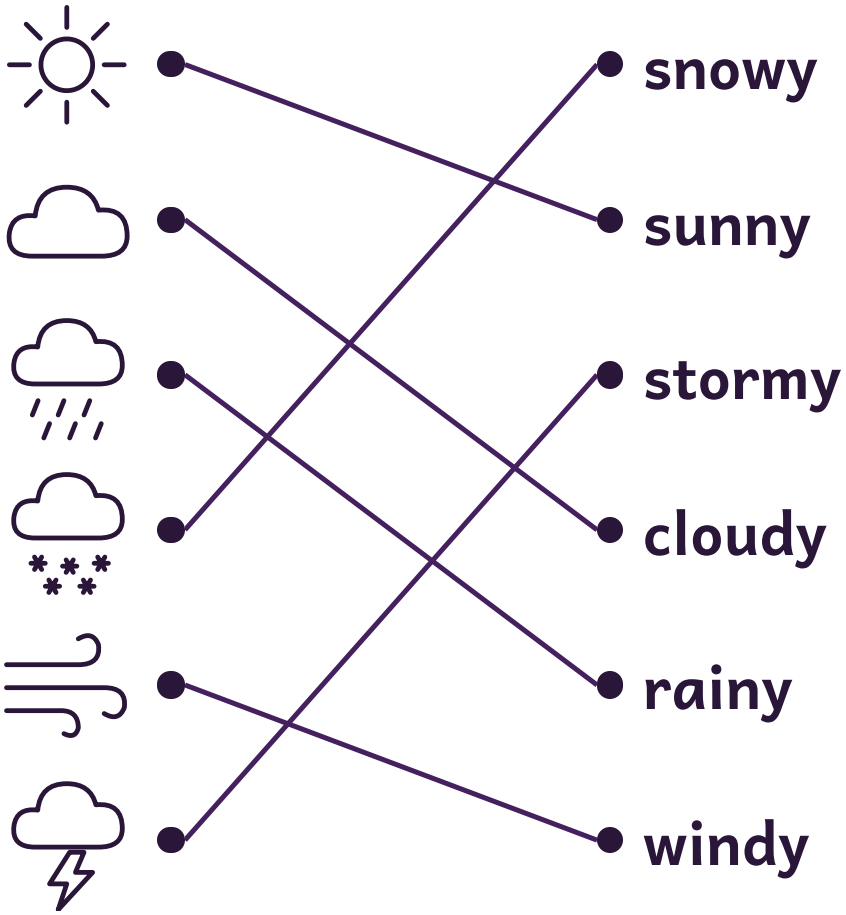
ANSWER KEY · WEATHER · GRADES K–2

Answer Key: Weather Words and Symbols

Answers for grown-ups. Some questions have more than one good answer.



Draw a line from each symbol to its word.



Draw what you wear on a rainy day.

Draw what you wear on a snowy day.

Art © Kevin Coulston

ANSWER KEY · WEATHER · GRADES 3–5

Answer Key: Weather Tools

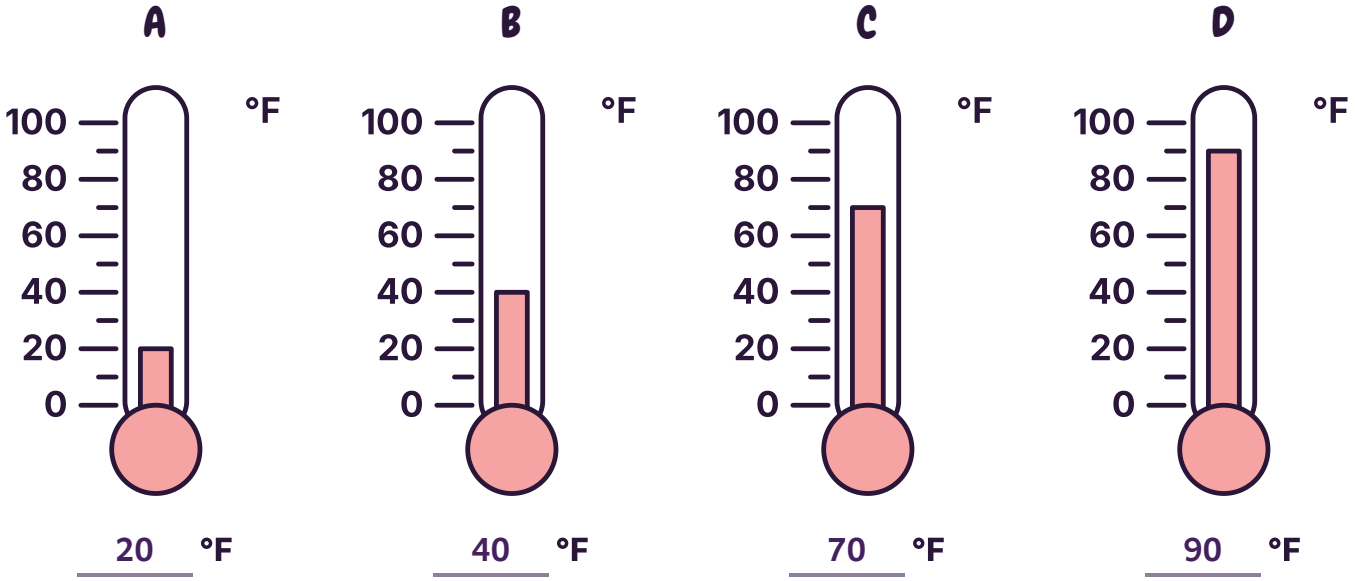
Answers for grown-ups. Some questions have more than one good answer.



1. Draw a line from each tool to what it measures.

thermometer	temperature (how hot or cold)
rain gauge	how much rain falls
wind vane	which way the wind blows
anemometer	how fast the wind blows
barometer	air pressure

2. Read each thermometer. Write the temperature.



A: 20 °F

B: 40 °F

C: 70 °F

D: 90 °F

3. Which thermometer shows freezing weather (below 32 °F)? Letter: A (20 °F)

Art © Kevin Coulston

ANSWER KEY · SOLAR SYSTEM · GRADES 1–3

Answer Key: The Planets in Order

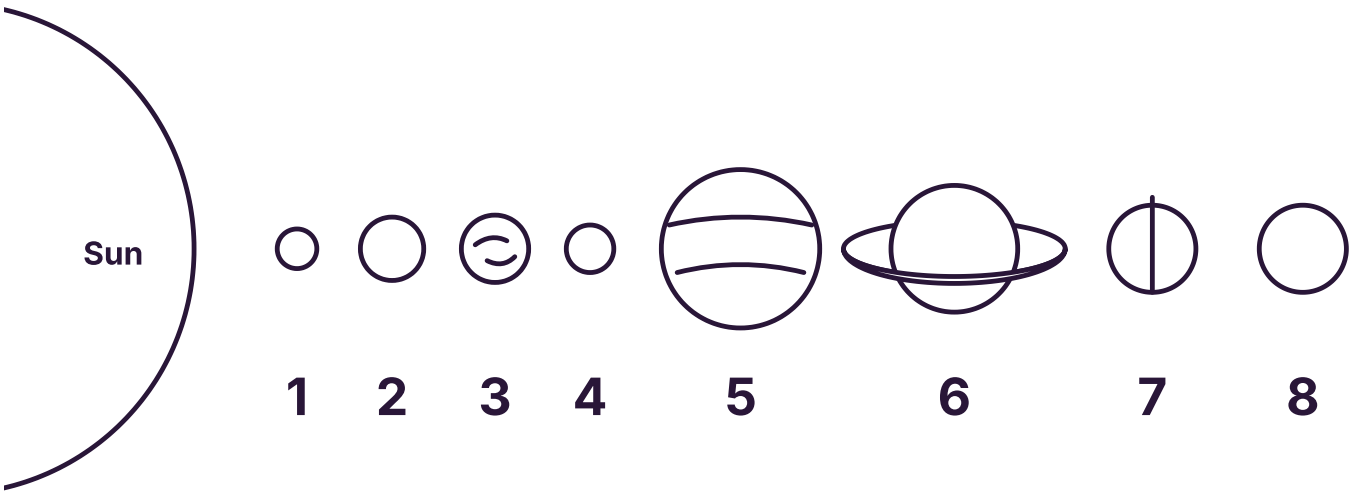
Answers for grown-ups. Some questions have more than one good answer.



Word bank

Jupiter · Earth · Uranus · Mercury · Mars · Venus · Neptune · Saturn

Write the name of each planet in order from the sun.



1. Mercury
2. Venus
3. Earth
4. Mars
5. Jupiter
6. Saturn
7. Uranus
8. Neptune

Remember the order: **M**y **V**ery **E**asy **M**ethod **J**ust **S**peeds **U**p **N**aming. Each word starts with the same letter as a planet.

The planet we live on is Earth

The biggest planet is Jupiter

The planet closest to the sun is Mercury

Art © Kevin Coulston

ANSWER KEY · SOLAR SYSTEM · GRADES 2–4

Answer Key: Rocky Planets and Giant Planets

Answers for grown-ups. Some questions have more than one good answer.



The four planets closest to the sun are small and **rocky**. The four planets farther out are **giant planets** made mostly of gas and ice.

Write each planet in the right box.

Rocky planets	Giant planets
Earth	Jupiter
Mars	Neptune
Mercury	Saturn
Venus	Uranus

Circle the answer.

Which planet is the Red Planet? **Mars** · Venus · Neptune

Which is a giant planet? Earth · **Saturn** · Mercury

Which giant planet is the biggest? **Jupiter** · Uranus · Neptune

Where would you find a solid surface to stand on? **Mars** · Jupiter · Uranus

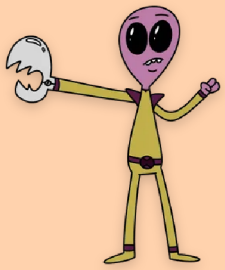
Which planet is farthest from the sun? Saturn · Uranus · **Neptune**

Art © Kevin Coulston

ANSWER KEY · SOLAR SYSTEM · GRADES 3–5

Answer Key: Phases of the Moon

Answers for grown-ups. Some questions have more than one good answer.

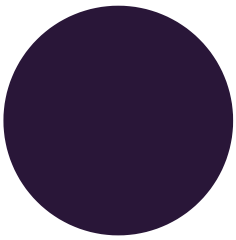


Word bank

new moon · waxing crescent · first quarter · waxing gibbous · full moon · waning gibbous · third quarter · waning crescent

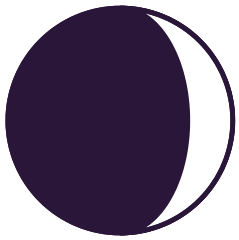
Label each phase. The moon goes through all eight in about 29½ days.

1



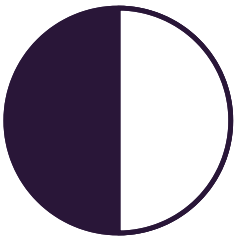
new moon

2



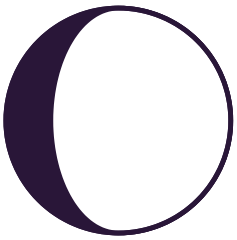
waxing crescent

3



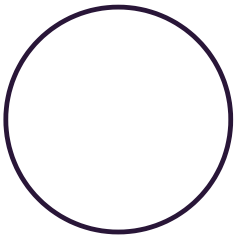
first quarter

4



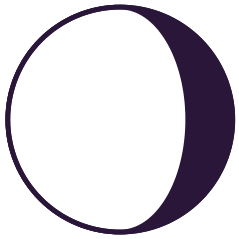
waxing gibbous

5



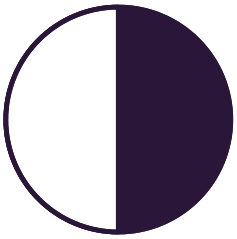
full moon

6



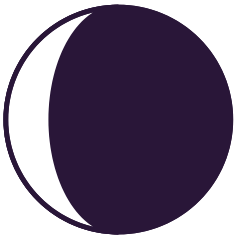
waning gibbous

7



third quarter

8



waning crescent

Circle the answer.

The moon shines because it

makes its own light · **reflects light from the sun**

"Waxing" means the lit part is

getting bigger · **getting smaller**

A full moon looks like

a whole bright circle · **a thin sliver**

Art © Kevin Coulston

ANSWER KEY · SOLAR SYSTEM · GRADES 2–5

Answer Key: Space: True or False?

Answers for grown-ups. Some questions have more than one good answer.



Circle True or False.

The sun is a star.	**True**	False
Earth is the third planet from the sun.	**True**	False
The moon makes its own light.	True	**False**
Jupiter is the biggest planet.	**True**	False
Mars is called the Red Planet.	**True**	False
Saturn is the only planet with rings.	True	**False**
Earth takes about 365 days to go around the sun.	**True**	False
Venus is the hottest planet.	**True**	False
Earth spins around once every week.	True	**False**
Neptune is the closest planet to the sun.	True	**False**

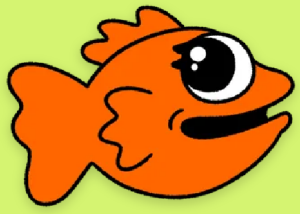
Pick two false sentences and fix them so they are true.

Art © Kevin Coulston

ANSWER KEY · HABITATS AND ADAPTATIONS · GRADES 1–3

Answer Key: Animal Habitat Sort

Answers for grown-ups. Some questions have more than one good answer.



Glue each animal under its habitat.

Ocean	Desert	Arctic	Rainforest
shark	camel	polar bear	toucan
octopus	scorpion	walrus	sloth
sea turtle	roadrunner	arctic fox	poison dart frog

✂ Cut out the cards on the dashed lines.

arctic fox	walrus	poison dart frog	octopus	sea turtle	polar bear
camel	toucan	roadrunner	sloth	scorpion	shark

Art © Kevin Coulston

ANSWER KEY · HABITATS AND ADAPTATIONS · GRADES 2–5

Answer Key: Animal Adaptations Match

Answers for grown-ups. Some questions have more than one good answer.



An **adaptation** is a body part or a behavior that helps an animal live in its habitat.

Draw a line from each animal to the adaptation that helps it.



Pick one animal. How would it do in a different habitat?

Art © Kevin Coulston

ANSWER KEY · HABITATS AND ADAPTATIONS · GRADES 3–5

Answer Key: Physical or Behavioral?

Answers for grown-ups. Some questions have more than one good answer.



Physical adaptations are body parts, like a beak or fur. **Behavioral** adaptations are things an animal does, like sleeping all winter.

Write each adaptation in the right column.

colors that blend in · hunting at night · a long, sharp beak · flying south for winter · sharp claws · sleeping all winter (hibernating) · webbed feet · living in a herd · playing dead · thick fur

Physical	Behavioral
thick fur	flying south for winter
sharp claws	sleeping all winter (hibernating)
webbed feet	hunting at night
colors that blend in	living in a herd
a long, sharp beak	playing dead

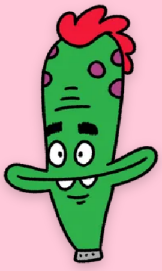
Name one adaptation people have. Is it physical or behavioral?

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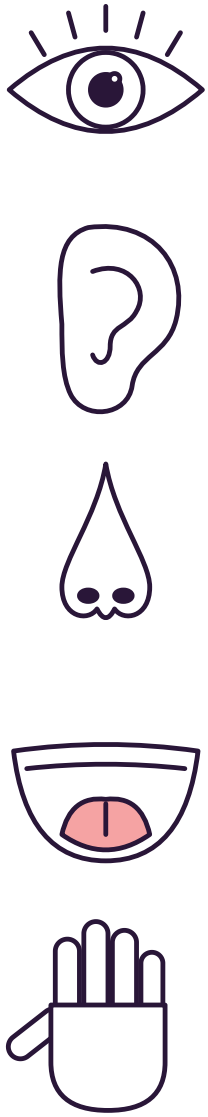
ANSWER KEY · FIVE SENSES · GRADES K–1

Answer Key: My Five Senses

Answers for grown-ups. Some questions have more than one good answer.



Draw a line from each body part to its sense.



smell

touch

see

hear

taste

Trace the sentence.

I have five senses.

Art © Kevin Coulston

ANSWER KEY · FIVE SENSES · GRADES 1–2

Answer Key: Which Sense Would You Use?

Answers for grown-ups. Some questions have more than one good answer.



Glue each card under the sense you would use most.

see	hear	smell	taste	touch
a rainbow	a drum	a flower	a sour lemon	soft kitten fur
the stars	a dog barking	cookies baking	salty popcorn	a prickly cactus

✂ Cut out the cards on the dashed lines.

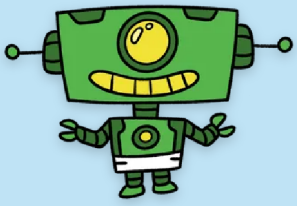
a rainbow	a dog barking	a sour lemon	cookies baking	the stars
soft kitten fur	a drum	a flower	salty popcorn	a prickly cactus

Art © Kevin Coulston

ANSWER KEY · STATES OF MATTER · GRADES 2–3

Answer Key: Solid, Liquid or Gas?

Answers for grown-ups. Some questions have more than one good answer.



Glue each card in the right column.

Solid	Liquid	Gas
a rock	milk	air in a balloon
an ice cube	juice	steam from a pot
a pencil	rain	bubbles in soda
a book	honey	the air we breathe

✂ **Cut out the cards on the dashed lines.**

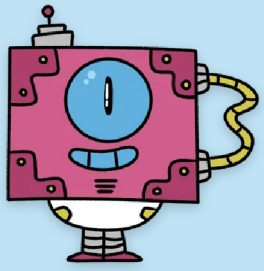
a book	an ice cube	steam from a pot	air in a balloon	bubbles in soda	rain
juice	milk	the air we breathe	a rock	honey	a pencil

Art © Kevin Coulston

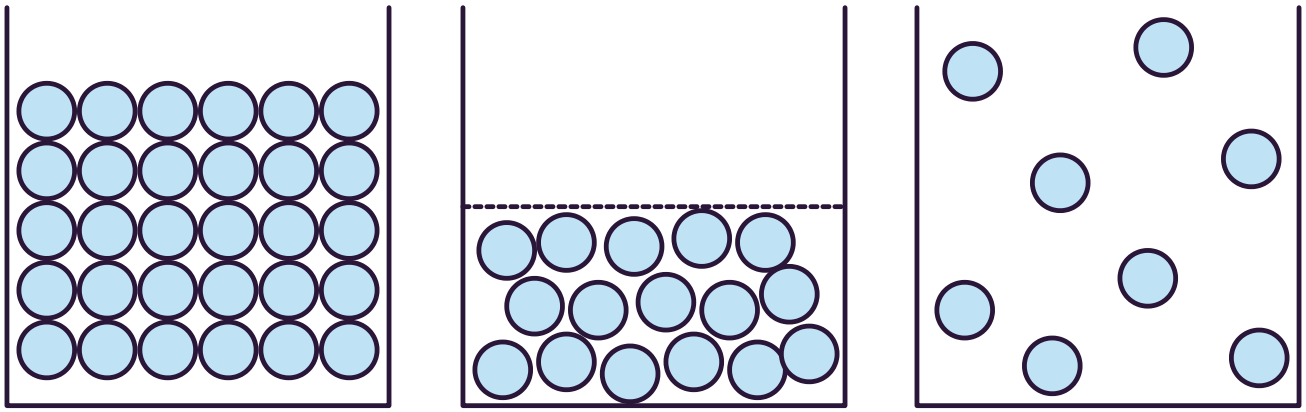
ANSWER KEY · STATES OF MATTER · GRADES 3–5

Answer Key: Matter Up Close

Answers for grown-ups. Some questions have more than one good answer.



Draw the particles. Solid: packed tight in rows. Liquid: close together but able to slide. Gas: spread far apart.



Solid Liquid Gas

Check each box that is true.

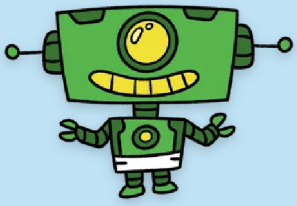
	Solid	Liquid	Gas
keeps its own shape	✓		
takes the shape of its container		✓	✓
spreads out to fill the whole container			✓
can be poured		✓	
particles are packed tightly	✓		
particles are far apart			✓

Art © Kevin Coulston

ANSWER KEY · STATES OF MATTER · GRADES 3–5

Answer Key: Changes of State

Answers for grown-ups. Some questions have more than one good answer.



Word bank

melting · freezing · evaporation · condensation · liquid

Write the name of each change on its arrow.



ice (solid) — water (liquid) — water vapor (gas)

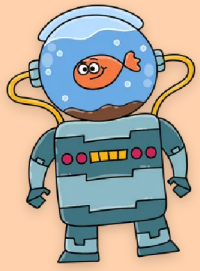
1. When ice gets warm, it starts **melting**.
2. A puddle drying up in the sun is **evaporation**.
3. Water drops on the outside of a cold glass come from **condensation**.
4. Water turning into ice in the freezer is **freezing**.
5. Heating makes matter change from solid to **liquid** to gas.

Art © Kevin Coulston

ANSWER KEY · SIMPLE MACHINES AND ENGINEERING · GRADES 2–4

Answer Key: The Six Simple Machines

Answers for grown-ups. Some questions have more than one good answer.

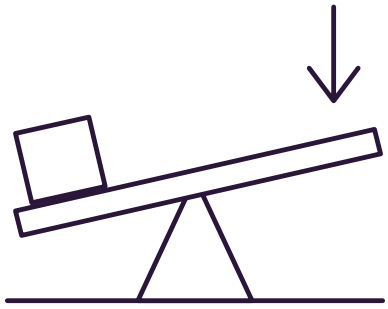


Word bank

wheel and axle | inclined plane | screw | pulley | lever | wedge

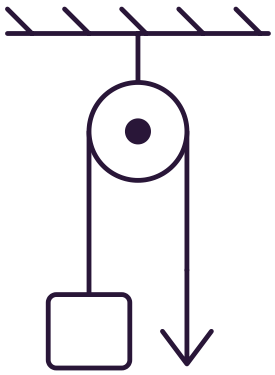
Write the name of each simple machine.

1



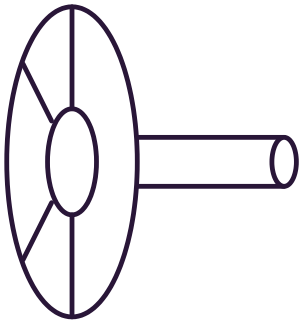
lever

2



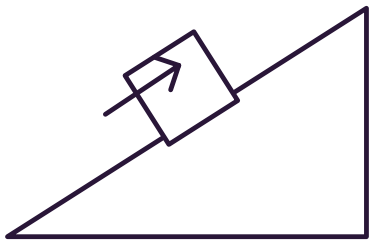
pulley

3



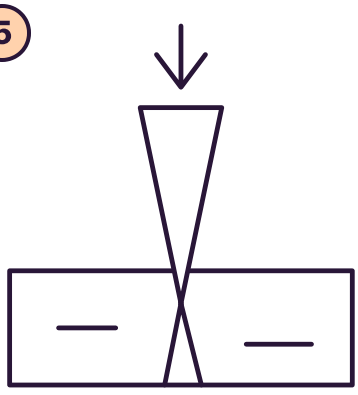
wheel and axle

4



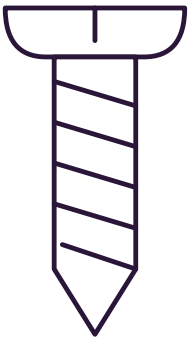
inclined plane

5



wedge

6



screw

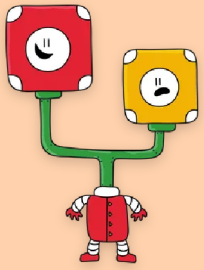
A simple machine makes work easier. Which one would you use to lift a heavy box onto a truck?

Art © Kevin Coulston

ANSWER KEY · SIMPLE MACHINES AND ENGINEERING · GRADES 2–5

Answer Key: Simple Machines All Around

Answers for grown-ups. Some questions have more than one good answer.



Word bank

lever · pulley · wheel and axle · inclined plane · wedge · screw

Write the simple machine you find in each thing.

a seesaw: lever

a wheelchair ramp: inclined plane

a flagpole rope: pulley

a doorknob: wheel and axle

an axe: wedge

a jar lid: screw

a bottle opener: lever

a zipper: wedge

a light bulb base: screw

a steering wheel: wheel and axle

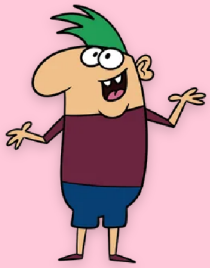
Find a simple machine in your classroom or home. Draw it and name it.

Art © Kevin Coulston

ANSWER KEY · SCIENTIFIC METHOD · GRADES 2–4

Answer Key: Steps of the Scientific Method

Answers for grown-ups. Some questions have more than one good answer.



Write 1 to 7 to put the steps of the scientific method in order.

3 Make a hypothesis: a guess you can test.

7 Share your results.

1 Ask a question.

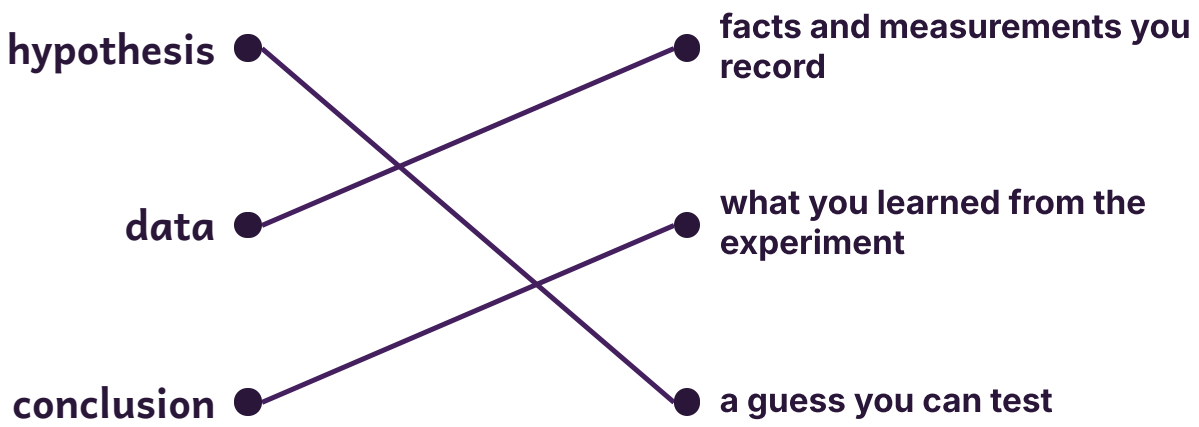
5 Record and look at the data.

2 Do some research.

6 Draw a conclusion.

4 Test it with an experiment.

Draw a line from each word to its meaning.

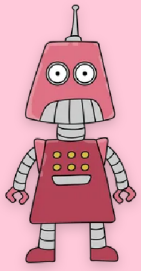


Art © Kevin Coulston

ANSWER KEY · SCIENTIFIC METHOD · GRADES 3–5

Answer Key: Hypotheses and Variables

Answers for grown-ups. Some questions have more than one good answer.



In a fair test, you **change** one thing, **measure** one thing and keep **everything else the same**.

1. Does a higher ramp make a toy car roll farther?

I change: the height of the ramp

I measure: how far the car rolls

I keep the same: the car, the ramp and the floor

If-then hypothesis: If the ramp is higher, then the car will roll farther.

2. Do bean plants grow taller with more sunlight?

I change: how much sunlight the plants get

I measure: how tall the plants grow

I keep the same: the kind of bean, the water and the soil

If-then hypothesis: If a plant gets more sunlight, then it will grow taller.

3. Does salt make ice melt faster?

I change: salt or no salt on the ice

I measure: how long the ice takes to melt

I keep the same: the size of the ice cubes and the room

If-then hypothesis: If we put salt on ice, then it will melt faster.

Art © Kevin Coulston

ANSWER KEY · SCIENTIFIC METHOD · GRADES 3–5

Answer Key: Observation or Inference?

Answers for grown-ups. Some questions have more than one good answer.



An **observation** is something you notice with your senses. An **inference** is something you figure out from what you notice.

Circle O for observation or I for inference.

The leaf is green and yellow.	**O**	I
The leaf fell because it is fall.	O	**I**
The sidewalk is wet.	**O**	I
It rained last night.	O	**I**
The dog is wagging its tail.	**O**	I
The dog is happy to see us.	O	**I**
The ice cube is getting smaller.	**O**	I
The ice is melting because the room is warm.	O	**I**
The rock has three gray stripes.	**O**	I
Someone ate the last cookie.	O	**I**

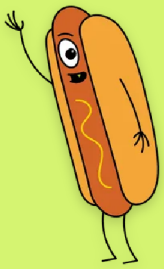
Write one observation and one inference about your classroom.

Art © Kevin Coulston

ANSWER KEY · FOOD CHAINS AND ECOSYSTEMS · GRADES 3–4

Answer Key: Put the Food Chains in Order

Answers for grown-ups. Some questions have more than one good answer.



A food chain shows who eats what. It starts with a **producer**, a plant that makes food from sunlight. The arrow points to the animal that eats it.

Meadow: snake, grass, frog, grasshopper

☀ → grass → grasshopper → frog → snake

Forest: hawk, acorns, snake, mouse

☀ → acorns → mouse → snake → hawk

Ocean: seal, krill, algae, penguin

☀ → algae → krill → penguin → seal

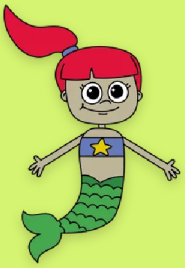
Where does the energy in every food chain first come from?

Art © Kevin Coulston

ANSWER KEY · FOOD CHAINS AND ECOSYSTEMS · GRADES 3–5

Answer Key: Producers, Consumers and Decomposers

Answers for grown-ups. Some questions have more than one good answer.



Producers make their own food from sunlight. **Consumers** eat other living things. **Decomposers** break down dead plants and animals.

Write each living thing in the right column.

deer · frog · oak tree · earthworm · rabbit · bacteria · mushroom · owl · algae · sunflower · mold · grass

Producers	Consumers	Decomposers
grass	rabbit	mushroom
oak tree	owl	earthworm
algae	deer	bacteria
sunflower	frog	mold

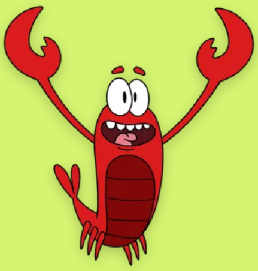
What would happen to a forest with no decomposers?

Art © Kevin Coulston

ANSWER KEY · FOOD CHAINS AND ECOSYSTEMS · GRADES 3–5

Answer Key: Herbivore, Carnivore or Omnivore?

Answers for grown-ups. Some questions have more than one good answer.



Herbivores eat only plants. **Carnivores** eat only meat. **Omnivores** eat plants and meat.

Write each animal in the right column.

wolf · owl · deer · raccoon · lion · chicken · bear · shark · rabbit · giraffe · people · cow

Herbivores	Carnivores	Omnivores
cow	lion	bear
deer	shark	raccoon
rabbit	wolf	chicken
giraffe	owl	people

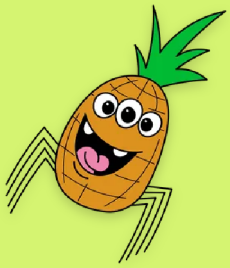
Are you an herbivore, carnivore or omnivore? How do you know?

Art © Kevin Coulston

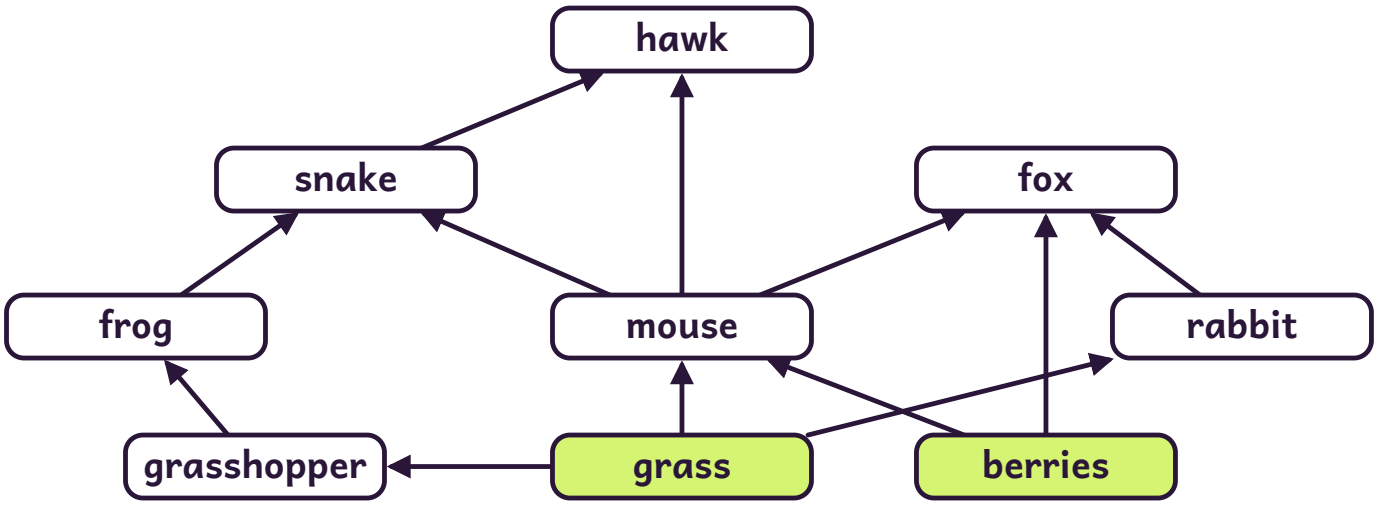
ANSWER KEY · FOOD CHAINS AND ECOSYSTEMS · GRADES 4–5

Answer Key: Read a Food Web

Answers for grown-ups. Some questions have more than one good answer.



Arrows point from the food to the animal that eats it.



1. Name a producer. grass or berries

2. What does the frog eat? grasshoppers

3. Which animals eat mice? snakes, foxes and hawks

4. Write a food chain with four living things. grass → grasshopper → frog → snake

5. If the grasshoppers disappeared, what would happen to the frogs? fewer frogs: they would lose their food

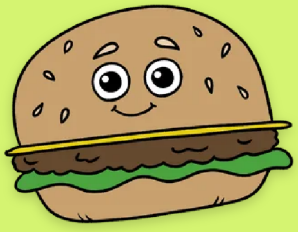
6. Which animal is the top predator? the hawk

Art © Kevin Coulston

ANSWER KEY · FOOD CHAINS AND ECOSYSTEMS · GRADES 3–5

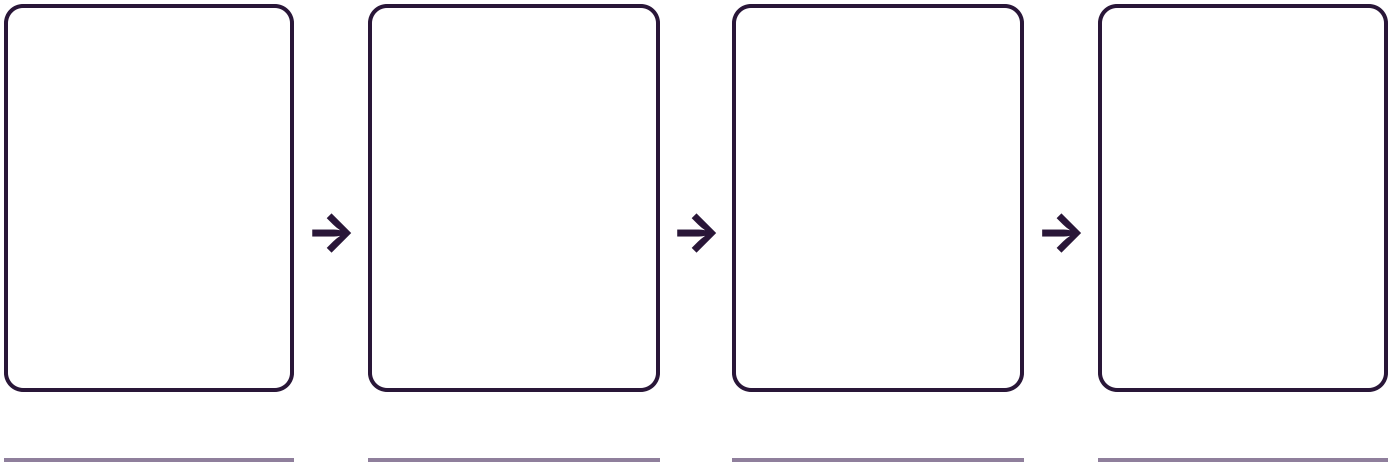
Answer Key: Build a Food Chain

Answers for grown-ups. Some questions have more than one good answer.



My habitat: ☐ ocean ☐ forest ☐ desert ☐ pond ☐ grassland

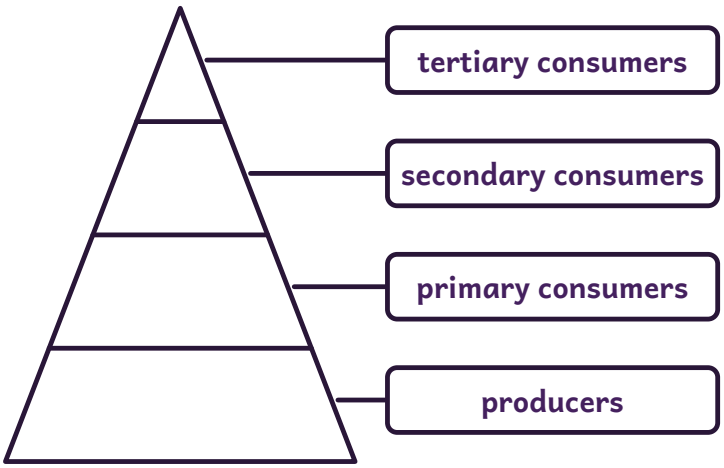
Draw a food chain with four living things. Label each one: producer or consumer.



Word bank

producers · primary consumers · secondary consumers · tertiary consumers

Label the energy pyramid.



Only about **one tenth** of the energy at each level moves up to the next. That is why there are lots of plants, fewer plant eaters and only a few top predators.

Art © Kevin Coulston

ANSWER KEY · HUMAN BODY · GRADES K–1

Answer Key: Parts of the Body

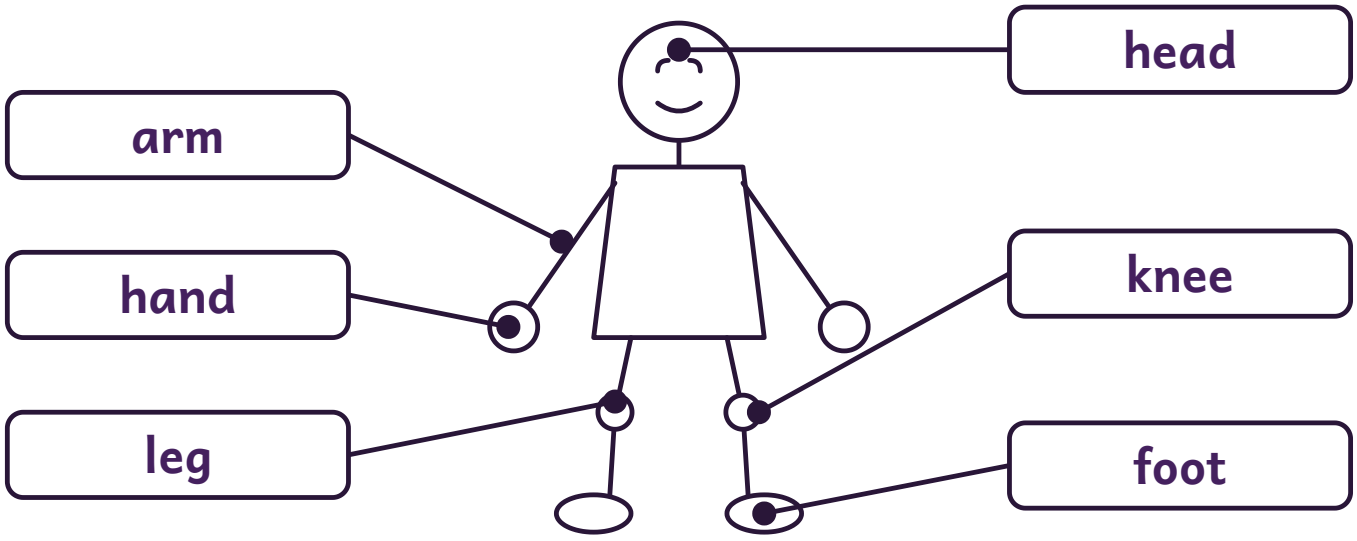
Answers for grown-ups. Some questions have more than one good answer.



Word bank

head | arm | hand | leg | knee | foot

Write the name of each body part.



Trace the sentence.

I take care of my body.

Art © Kevin Coulston

ANSWER KEY · HUMAN BODY · GRADES 1–3

Answer Key: My Bones

Answers for grown-ups. Some questions have more than one good answer.



You have **206 bones**. Together they are your **skeleton**. Bones hold you up, let you move and protect the soft parts inside you.

1. Draw a line from each bone to its job.

skull	protects your brain
ribs	protect your heart and lungs
spine (backbone)	holds you up and lets you bend
femur (thigh bone)	the longest, strongest bone, in your leg

2. Circle True or False.

Bones are alive and can grow.	**True** / False
A broken bone can heal itself.	**True** / False
Babies have fewer bones than grown-ups.	True / **False**
Milk and cheese have calcium that makes bones strong.	**True** / False
Your skull is made of one single bone.	True / **False**
Bones meet at joints like your elbow and knee.	**True** / False

Art © Kevin Coulston

ANSWER KEY · HUMAN BODY · GRADES 2–3

Answer Key: Organs and Their Jobs

Answers for grown-ups. Some questions have more than one good answer.



Word bank

brain · heart · lungs · stomach · bones

Fill in the missing organ.

1. Your heart pumps blood around your whole body.
2. Your lungs fill with air every time you breathe in.
3. Your brain thinks, remembers and tells your body what to do.
4. Your stomach mixes up food so your body can use it.
5. Your bones hold you up and protect your organs.

Draw yourself. Mark your heart with a red X and your lungs with blue.

Put your hand on your chest. What do you feel? What do you hear?

Art © Kevin Coulston

ANSWER KEY · HUMAN BODY · GRADES K–2

Answer Key: Healthy Habits

Answers for grown-ups. Some questions have more than one good answer.



Color the healthy habits. Put an X on the others.

brush your teeth	~~candy for breakfast~~	drink water	~~stay up all night~~
run and play	~~never wash hands~~	eat vegetables	~~sit still all day~~
sleep 10 hours	~~skip breakfast~~	wash your hands	eat fruit

One healthy habit I will do this week:

_____

_____

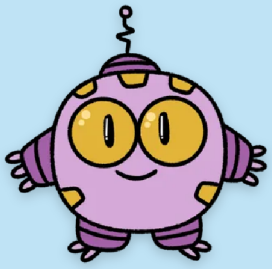
Draw yourself doing it.

Art © Kevin Coulston

ANSWER KEY · MAGNETS · GRADES K–2

Answer Key: Magnetic or Not?

Answers for grown-ups. Some questions have more than one good answer.



A magnet pulls on things made of **iron** or **steel**. It does not pull on wood, plastic, paper, rubber or glass.

Write each thing in the right column.

refrigerator door · wooden block · metal scissors · crayon · steel nail · rubber band · safety pin · plastic cup · sheet of paper · paper clip

Magnetic	Not magnetic
paper clip	crayon
steel nail	rubber band
safety pin	wooden block
refrigerator door	plastic cup
metal scissors	sheet of paper

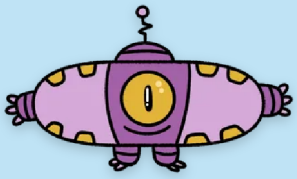
Magnets pull on things made of iron or steel

Art © Kevin Coulston

ANSWER KEY · MAGNETS · GRADES 2–3

Answer Key: North and South Poles

Answers for grown-ups. Some questions have more than one good answer.



Every magnet has a **north pole** (N) and a **south pole** (S). Poles that are different **attract** (pull together). Poles that are the same **repel** (push apart).

1. Two magnets come close. Circle what happens.

N meets S	**attract**	repel
N meets N	attract	**repel**
S meets S	attract	**repel**
S meets N	**attract**	repel

2. Circle True or False.

A magnet has two poles.	**True**	False
If you cut a magnet in half, each half has only one pole.	True	**False**
Earth acts like a giant magnet.	**True**	False
A compass needle is a tiny magnet that points north.	**True**	False

Try it: hold two magnets so they push apart. What did you feel?

Art © Kevin Coulston

ANSWER KEY · LIGHT AND SHADOWS · GRADES 1–2

Answer Key: Where Does Light Come From?

Answers for grown-ups. Some questions have more than one good answer.



Some light is **natural**: it comes from nature. Some light is **made by people** with electricity or fire.

Write each light source in the right column.

the stars · a firefly · a flashlight · lightning · a lamp · a candle · a TV screen · the sun

Natural light	Made by people
the sun	a flashlight
lightning	a lamp
the stars	a candle
a firefly	a TV screen

Circle True or False.

The moon makes its own light. **True** / **False**

We need light to see. **True** / **False**

What could you see in a room with no light at all?

Art © Kevin Coulston

ANSWER KEY · LIGHT AND SHADOWS · GRADES 2–4

Answer Key: Transparent, Translucent or Opaque?

Answers for grown-ups. Some questions have more than one good answer.



Transparent: light goes right through and you can see clearly. **Translucent**: some light gets through, but things look blurry. **Opaque**: no light gets through.

Write each material in the right column.

a wooden door · a thin tissue · clear plastic wrap · wax paper · a brick wall · frosted glass · water in a glass · a book · a clear window

Transparent	Translucent	Opaque
a clear window	wax paper	a brick wall
clear plastic wrap	frosted glass	a wooden door
water in a glass	a thin tissue	a book

Circle the answer.

A dark shadow forms when light is blocked by a — transparent · translucent · **opaque**

You can read a sign through a — **transparent** · translucent · opaque

Art © Kevin Coulston

ANSWER KEY · LIGHT AND SHADOWS · GRADES 2–4

Answer Key: Mirrors and Reflections

Answers for grown-ups. Some questions have more than one good answer.



Light **reflects**, or bounces, off things. Smooth, shiny things like mirrors reflect light so well that you can see a picture in them.

1. Circle True or False.

A mirror reflects light.	**True** / False
Light travels in straight lines.	**True** / False
Rough, dark things reflect more light than shiny things.	True / **False**
We see the moon because it reflects sunlight.	**True** / False
A mirror image is flipped left to right.	**True** / False
Light bends a little when it goes from air into water.	**True** / False

2. Write your name. Then write it the way it looks in a mirror.

3. Draw your face as you see it in a mirror.

Art © Kevin Coulston

ANSWER KEY · LIGHT AND SHADOWS · GRADES 1–3

Answer Key: Colors of the Rainbow

Answers for grown-ups. Some questions have more than one good answer.



Sunlight looks white, but it is really all the colors mixed together. Raindrops and glass prisms split it into a rainbow, always in the same order.

1. Write 1 to 7 to put the colors in rainbow order, from the outside in.

- 4 green
- 7 violet
- 5 blue
- 6 indigo
- 1 red
- 3 yellow
- 2 orange

Word bank

prism · bends · rain · seven

1. A prism is a piece of glass that splits light into colors.
2. Light bends when it passes through a raindrop.
3. A rainbow has seven colors.

2. Draw a rainbow and color it in order.

Art © Kevin Coulston

ANSWER KEY · SOUND · GRADES 1–3

Answer Key: What Makes Sound?

Answers for grown-ups. Some questions have more than one good answer.



Sound is made when something **vibrates**: it moves back and forth very fast. The vibrations travel through the air to your ears.

Circle True or False.

Sound is made when something vibrates.	**True**	False
Sound can travel through air.	**True**	False
Sound cannot travel through water.	True	**False**
Louder sounds have bigger vibrations.	**True**	False
A guitar string makes sound while it is still.	True	**False**
A drum makes sound when its top vibrates.	**True**	False
Light travels faster than sound.	**True**	False
Sound can travel through a wall.	**True**	False

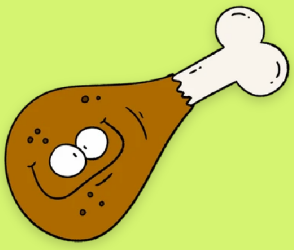
Try it: put your hand on your throat and hum. What do you feel? What is vibrating?

Art © Kevin Coulston

ANSWER KEY · SOUND · GRADES K–2

Answer Key: Loud and Soft

Answers for grown-ups. Some questions have more than one good answer.



Write each sound in the right column.

a big drum · a jet plane · a whisper · thunder · a cat purring · leaves rustling · a ticking clock · a fire truck siren

Loud	Soft
a fire truck siren	a whisper
thunder	a cat purring
a big drum	leaves rustling
a jet plane	a ticking clock

Draw the loudest sound you heard today.

Draw the softest sound you heard today.

Art © Kevin Coulston

ANSWER KEY · SOUND · GRADES 2–4

Answer Key: High and Low Sounds

Answers for grown-ups. Some questions have more than one good answer.



Pitch is how high or low a sound is. Fast vibrations make **high** sounds. Slow vibrations make **low** sounds. Small, short, tight things vibrate fast.

Circle high or low.

a tiny bell	**high** / low
a big bass drum	high / **low**
a bird chirping	**high** / low
a lion roaring	high / **low**
a short, thin guitar string	**high** / low
a long, thick guitar string	high / **low**
a mouse squeaking	**high** / low
a tuba	high / **low**

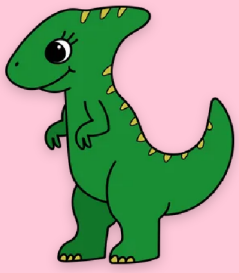
Why do you think a big drum sounds lower than a small drum?

Art © Kevin Coulston

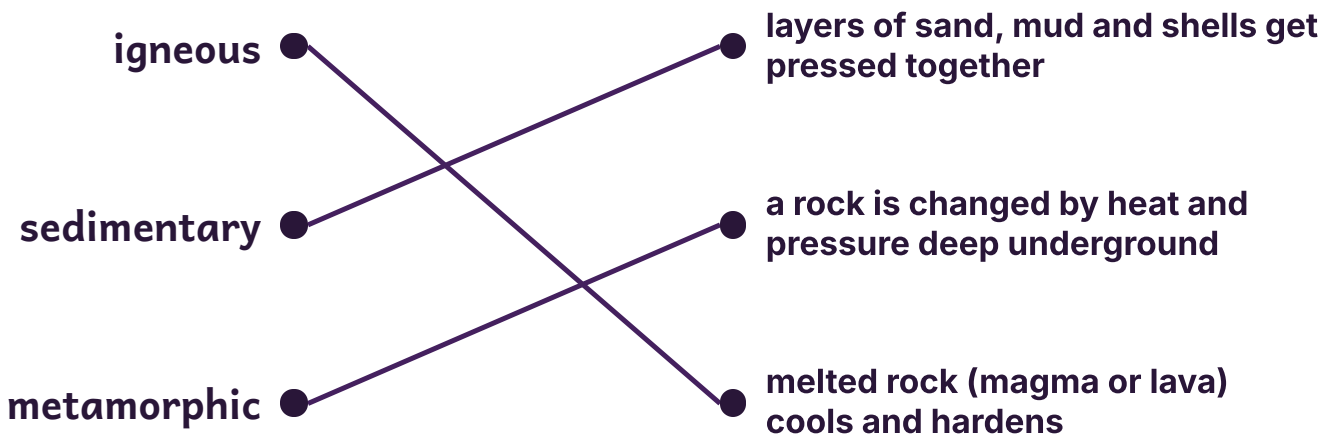
ANSWER KEY · ROCKS, SOIL AND FOSSILS · GRADES 3–5

Answer Key: Three Kinds of Rocks

Answers for grown-ups. Some questions have more than one good answer.



1. Draw a line from each kind of rock to how it forms.



2. Write each rock in the right column.

limestone · sandstone · marble · obsidian · slate · granite

Igneous	Sedimentary	Metamorphic
granite	sandstone	marble
obsidian	limestone	slate

Which kind of rock might have a fossil in it? Why?

Art © Kevin Coulston

ANSWER KEY · ROCKS, SOIL AND FOSSILS · GRADES 2–4

Answer Key: Layers of Soil

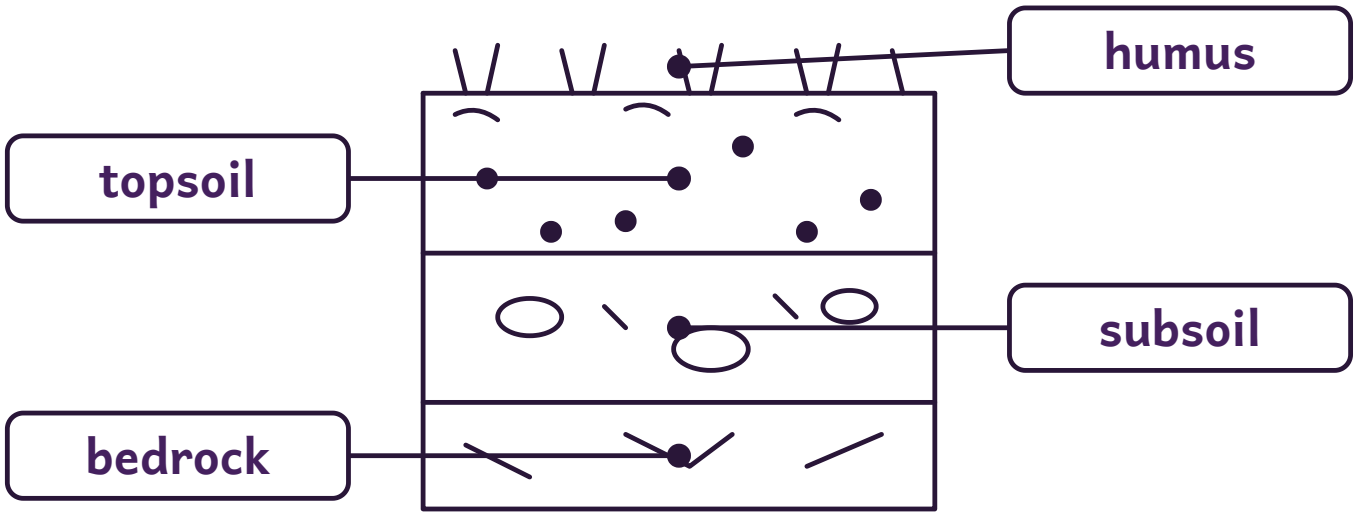
Answers for grown-ups. Some questions have more than one good answer.



Word bank

humus · topsoil · subsoil · bedrock

1. Label the layers of soil.



2. Fill in the blanks.

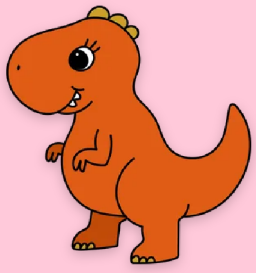
1. Dead leaves rot into dark, rich **humus** on top.
2. Plant roots grow in the **topsoil**, the richest layer.
3. Solid rock at the very bottom is called **bedrock**.

Art © Kevin Coulston

ANSWER KEY · ROCKS, SOIL AND FOSSILS · GRADES 3–5

Answer Key: How a Fossil Forms

Answers for grown-ups. Some questions have more than one good answer.



A **fossil** is what is left of a plant or animal that lived long ago, kept in rock. Most fossils form on the bottom of a sea or lake.

1. Write 1 to 5 to put the steps in order.

2 Mud and sand slowly cover the body.

5 The rock wears away and someone finds the fossil.

1 An animal dies and sinks to the bottom of the sea.

4 More layers press down and turn to rock over millions of years.

3 The soft parts rot away. The bones and shell stay.

2. Draw a fossil you would like to find.

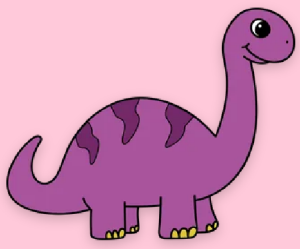
3. What can a fossil tell us about the past?

Art © Kevin Coulston

ANSWER KEY · ROCKS, SOIL AND FOSSILS · GRADES 3–5

Answer Key: Layers of the Earth

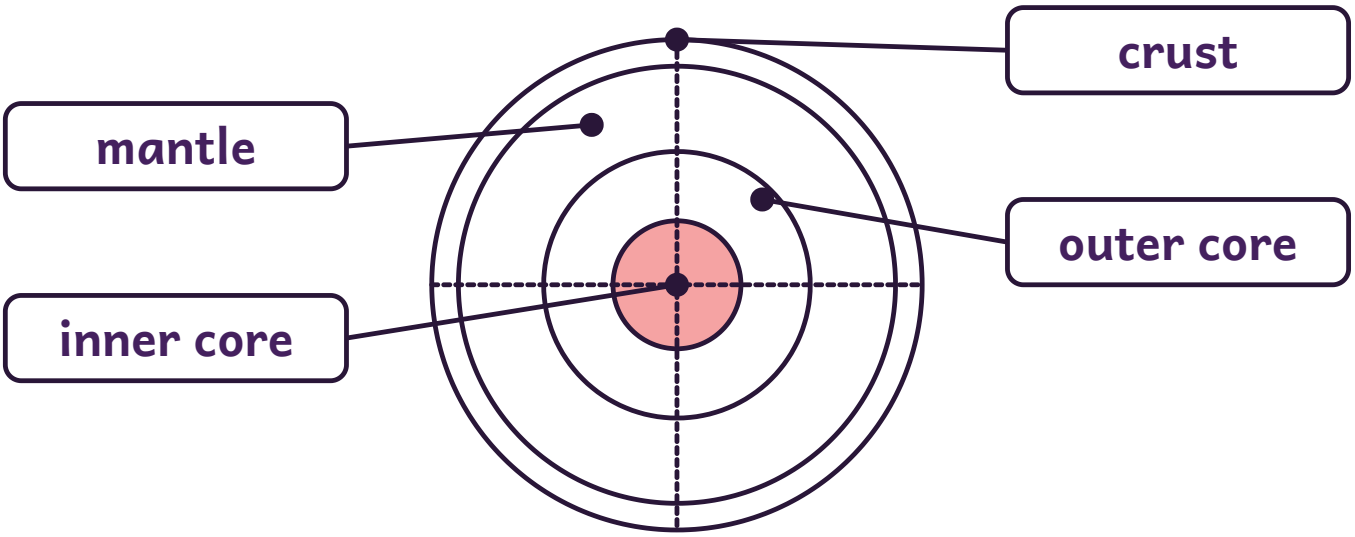
Answers for grown-ups. Some questions have more than one good answer.



Word bank

crust · mantle · outer core · inner core

1. Label the layers of the Earth.



2. Circle the answer.

Which layer do we live on? **(crust)** mantle core

Which layer is the hottest? crust mantle **(inner core)**

Which layer is made of hot rock that flows very slowly? crust **(mantle)** inner core

Art © Kevin Coulston

ANSWER KEY · WATER CYCLE · GRADES 2–5

Answer Key: The Water Cycle

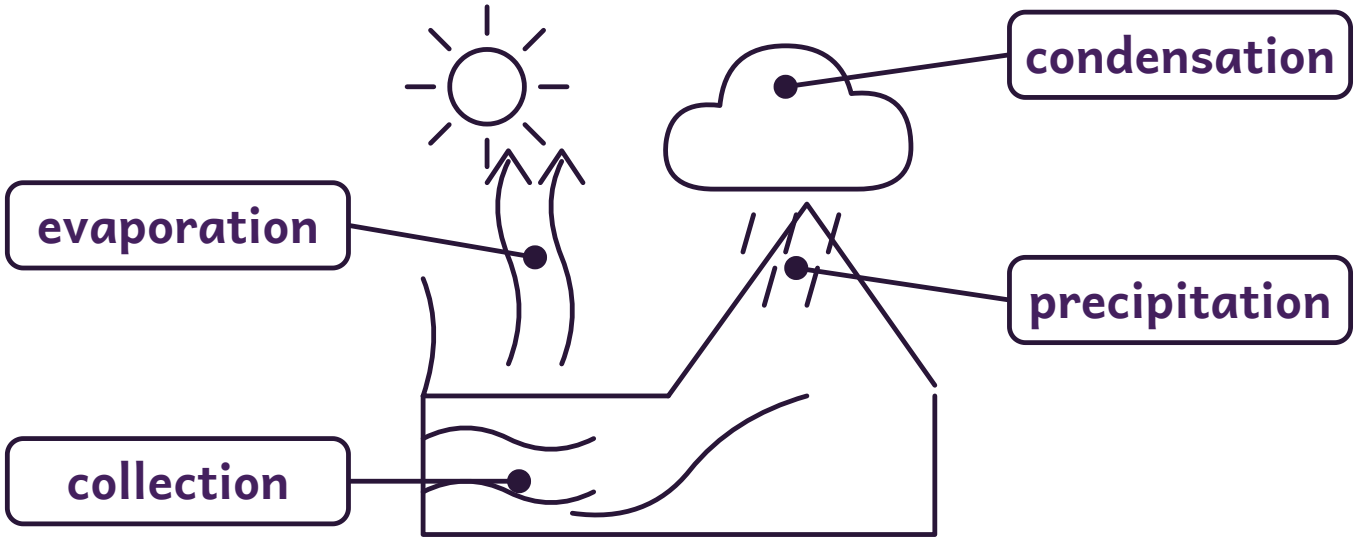
Answers for grown-ups. Some questions have more than one good answer.



Word bank

evaporation | condensation | precipitation | collection

Write the name of each step of the water cycle.



The **sun** heats water in oceans, lakes and rivers until it turns into water vapor and rises (**evaporation**). High up, the vapor cools into clouds (**condensation**). Rain or snow falls (**precipitation**) and runs back into the water (**collection**). Then it starts again!

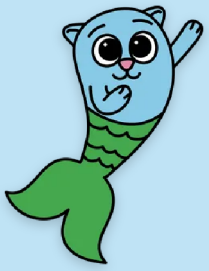
What powers the water cycle?

Art © Kevin Coulston

ANSWER KEY · WATER CYCLE · GRADES 3–5

Answer Key: Water Cycle Words

Answers for grown-ups. Some questions have more than one good answer.



1. Draw a line from each word to its meaning.

evaporation	liquid water turns into a gas and rises
condensation	water vapor cools and turns into drops that make clouds
precipitation	rain, snow, sleet or hail falling from clouds
collection	water gathering in oceans, lakes, rivers and the ground
water vapor	water in the form of a gas
runoff	rain that flows over the ground into rivers

Word bank

vapor · clouds · sun · ocean

2. Fill in the blanks.

1. The sun heats the water and makes it evaporate.
2. Water that evaporates is a gas called water vapor.
3. When water vapor condenses, it forms clouds.
4. Most of the rain that falls ends up back in the ocean.

Art © Kevin Coulston

ANSWER KEY · WATER CYCLE · GRADES 3–5

Answer Key: Where Is Earth's Water?

Answers for grown-ups. Some questions have more than one good answer.



About **97 out of every 100** drops of water on Earth are salty ocean water. Only 3 are fresh water, and most of that is frozen in ice caps and glaciers.

1. Circle True or False.

Most of Earth's water is in the oceans.	**True**	False
Ocean water is good to drink.	True	**False**
Most fresh water is frozen in ice.	**True**	False
Rivers and lakes hold most of Earth's water.	True	**False**
There is water under the ground.	**True**	False
Fresh water is something we should take care of.	**True**	False

2. Write each place in the right column.

a glacier · a pond · a lake · a river · the sea · rain · a salt marsh · the ocean

Salt water	Fresh water
the ocean	a lake
the sea	a river
a salt marsh	a glacier
	rain
	a pond

Art © Kevin Coulston

ANSWER KEY · ELECTRICITY AND CIRCUITS · GRADES 3–5

Answer Key: Parts of a Circuit

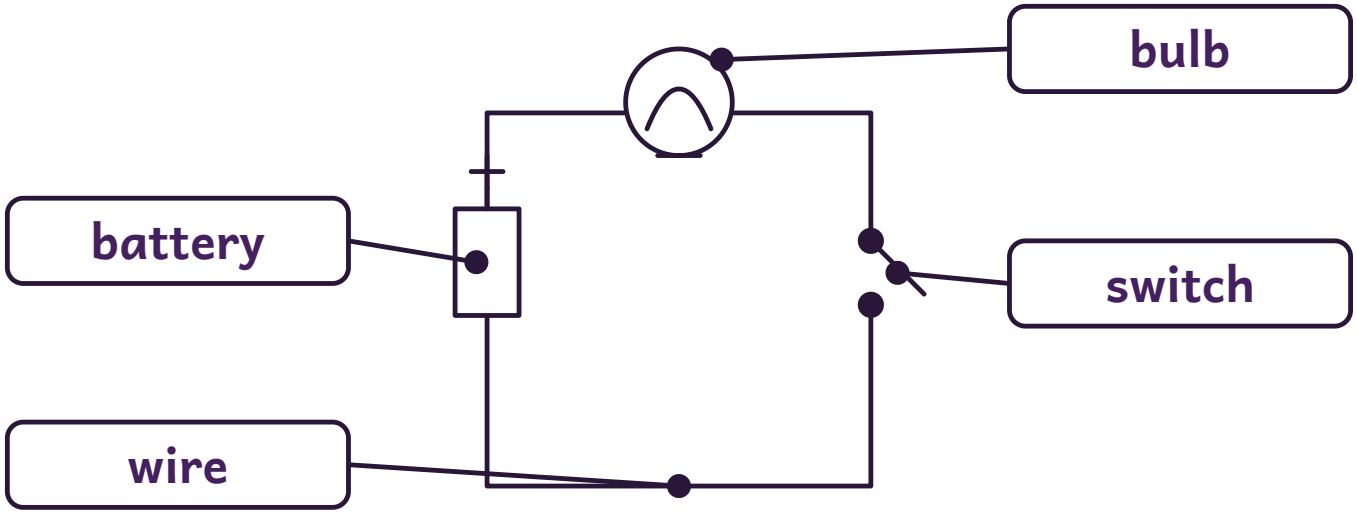
Answers for grown-ups. Some questions have more than one good answer.



Word bank

battery · wire · bulb · switch

1. Label the parts of the circuit.



Electricity flows from the **battery** through the **wire**, lights the **bulb** and comes back to the battery. The loop is called a **circuit**. The **switch** opens or closes the loop.

2. What gives the circuit its power? the battery

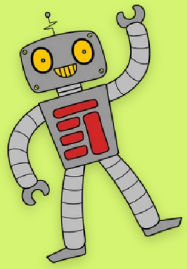
3. What happens to the bulb when the switch opens the loop? it goes out

Art © Kevin Coulston

ANSWER KEY · ELECTRICITY AND CIRCUITS · GRADES 3–5

Answer Key: Will the Bulb Light?

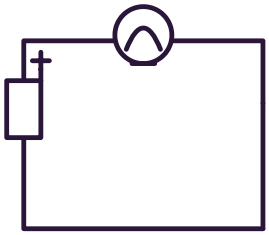
Answers for grown-ups. Some questions have more than one good answer.



A bulb lights only when the circuit is **closed**: a complete loop from the battery, through the bulb and back. A gap anywhere means an **open** circuit.

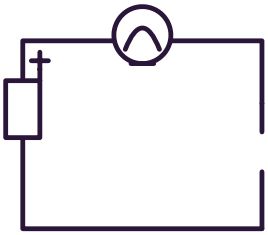
1. Will the bulb light? Circle Yes or No.

1



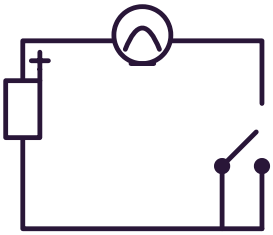
Yes No

2



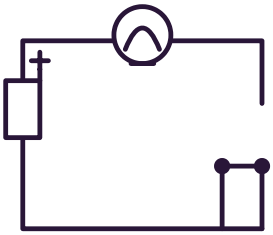
Yes **No**

3



Yes **No**

4



Yes No

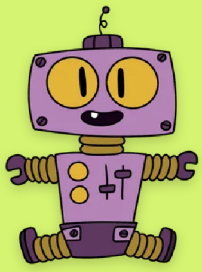
2. Why does a bulb go out when the circuit is open? Why does a light switch in your house work the same way?

Art © Kevin Coulston

ANSWER KEY · ELECTRICITY AND CIRCUITS · GRADES 3–5

Answer Key: Conductors and Insulators

Answers for grown-ups. Some questions have more than one good answer.



A **conductor** lets electricity flow through it. Metals are good conductors. An **insulator** stops electricity. Plastic, rubber, glass and wood are insulators.

1. Write each material in the right column.

a penny · wooden spoon · a metal key · rubber glove · aluminum foil · plastic ruler · steel paper clip · glass · a dry cotton sock · copper wire

Conductors	Insulators
copper wire	rubber glove
aluminum foil	plastic ruler
steel paper clip	wooden spoon
a penny	glass
a metal key	a dry cotton sock

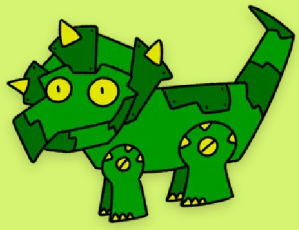
2. Why are electrical wires covered in plastic?

Art © Kevin Coulston

ANSWER KEY · ELECTRICITY AND CIRCUITS · GRADES 3–5

Answer Key: Electrical Safety

Answers for grown-ups. Some questions have more than one good answer.



Color the safe choices. Put an X on the dangerous ones.

dry your hands before touching a plug	~~fly a kite near power lines~~	pull the plug, not the cord
~~poke a fork into a toaster~~	keep radios away from the bathtub	~~stick things into an outlet~~
tell a grown-up about a frayed cord	~~climb a power pole~~	stay away from fallen wires

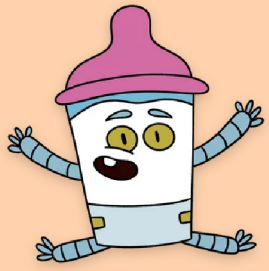
Write one electrical safety rule for your home.

Art © Kevin Coulston

ANSWER KEY · FORCES AND MOTION · GRADES 1–3

Answer Key: Push or Pull?

Answers for grown-ups. Some questions have more than one good answer.



A **force** is a push or a pull. A **push** moves something away from you. A **pull** moves something toward you.

1. Write each action in the right column.

closing a drawer · rolling a bowling ball · opening a drawer · walking a dog on a leash · ringing a doorbell · playing tug of war · zipping up a coat · kicking a ball

Push	Pull
kicking a ball	opening a drawer
ringing a doorbell	walking a dog on a leash
closing a drawer	playing tug of war
rolling a bowling ball	zipping up a coat

2. Draw a push you did today.

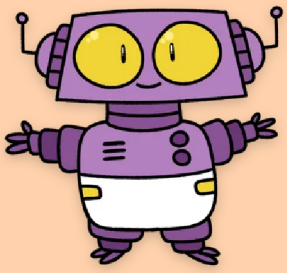
3. Draw a pull you did today.

Art © Kevin Coulston

ANSWER KEY · FORCES AND MOTION · GRADES 2–4

Answer Key: Gravity: True or False?

Answers for grown-ups. Some questions have more than one good answer.



Gravity is the force that pulls things toward each other. Earth's gravity pulls everything toward the ground.

1. Circle True or False.

Gravity pulls things toward the ground.	**True**	False
Gravity pulls a feather too, even though it is light.	**True**	False
Gravity keeps the moon going around Earth.	**True**	False
Gravity only works outdoors.	True	**False**
Without gravity, you would float.	**True**	False
The sun's gravity keeps the planets in their orbits.	**True**	False
Gravity pulls things up into the sky.	True	**False**
A ball you throw comes back down because of gravity.	**True**	False

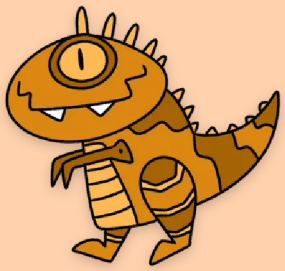
2. Draw your classroom with no gravity.

Art © Kevin Coulston

ANSWER KEY · FORCES AND MOTION · GRADES 3–5

Answer Key: Balanced or Unbalanced?

Answers for grown-ups. Some questions have more than one good answer.



When forces are **balanced**, they cancel out and the object stays still or keeps moving the same way. When forces are **unbalanced**, the object speeds up, slows down or changes direction.

1. Circle balanced or unbalanced.

Two teams pull a rope and nobody moves.	**balanced**	unbalanced
A soccer ball starts rolling after a kick.	balanced	**unbalanced**
A book sits still on a desk.	**balanced**	unbalanced
A sled speeds up going down a hill.	balanced	**unbalanced**
A bike slows down when you stop pedaling.	balanced	**unbalanced**
A kite hangs still in a steady wind.	**balanced**	unbalanced

2. When forces are unbalanced, what happens to the way an object moves?

Art © Kevin Coulston

ANSWER KEY · ANIMAL CLASSIFICATION · GRADES 1–3

Answer Key: Animal Groups

Answers for grown-ups. Some questions have more than one good answer.



Write each animal under its group.

shark · turtle · bat · toad · goldfish · lizard · eagle · cow · snake · penguin · chicken · tuna · frog · salamander · dog

Mammals	Birds	Fish	Reptiles	Amphibians
dog	eagle	shark	snake	frog
cow	penguin	goldfish	turtle	toad
bat	chicken	tuna	lizard	salamander

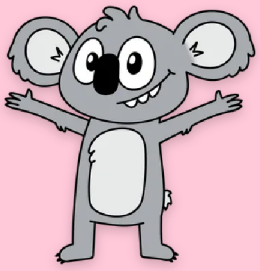
Which group do you belong to? How do you know?

Art © Kevin Coulston

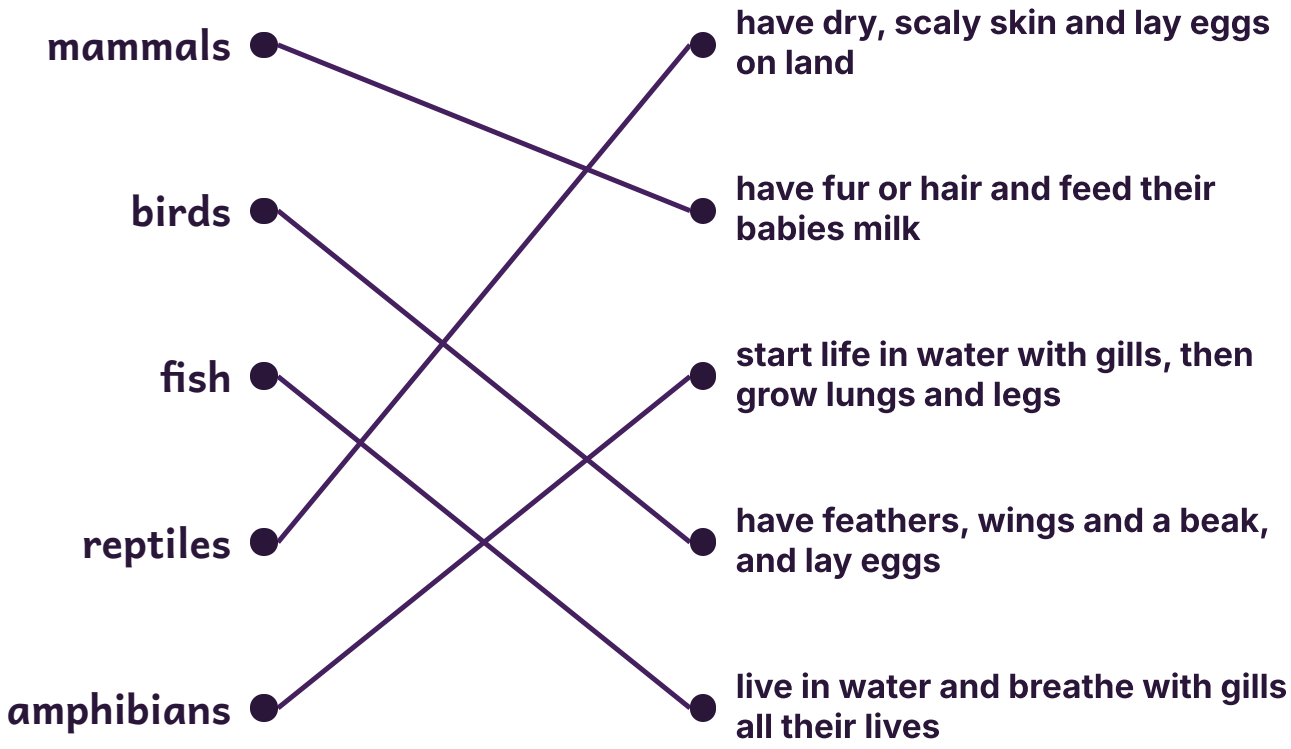
ANSWER KEY · ANIMAL CLASSIFICATION · GRADES 2–4

Answer Key: Animal Group Clues

Answers for grown-ups. Some questions have more than one good answer.



1. Draw a line from each group to its clue.



2. Name one animal from each group.

A mammal: _____

A bird: _____

A fish: _____

A reptile: _____

An amphibian: _____

Art © Kevin Coulston

ANSWER KEY · ANIMAL CLASSIFICATION · GRADES 1–3

Answer Key: Parts of an Insect

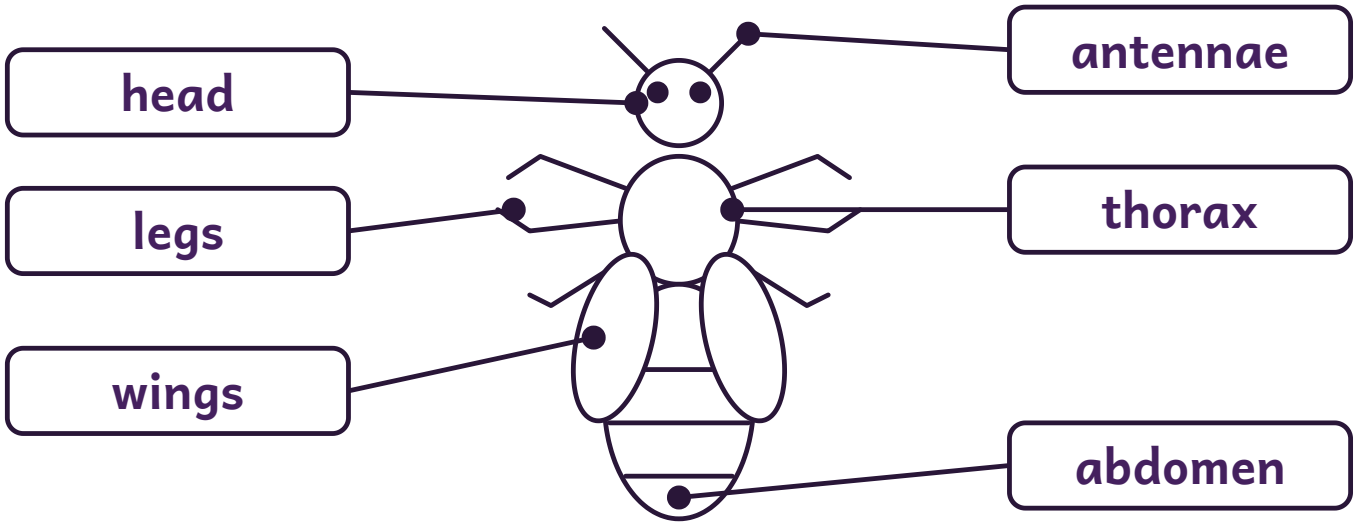
Answers for grown-ups. Some questions have more than one good answer.



Word bank

head · thorax · abdomen · antennae · legs · wings

1. Label the parts of the insect.



2. Circle the answer.

How many legs does an insect have? 4 **6** 8

How many main body parts does an insect have? 2 **3** 5

Art © Kevin Coulston

ANSWER KEY · ANIMAL CLASSIFICATION · GRADES 2–4

Answer Key: Vertebrate or Invertebrate?

Answers for grown-ups. Some questions have more than one good answer.



A **vertebrate** has a backbone. An **invertebrate** does not. Most animals on Earth are invertebrates!

1. Write each animal in the right column.

spider · snake · jellyfish · worm · snail · frog · butterfly · eagle · shark · cat

Vertebrates (backbone)	Invertebrates (no backbone)
cat	worm
frog	snail
snake	butterfly
eagle	spider
shark	jellyfish

2. Feel the middle of your back. What do you feel? Are you a vertebrate or an invertebrate?

Art © Kevin Coulston

ANSWER KEY · TAKING CARE OF EARTH · GRADES 1–3

Answer Key: Recycle, Compost or Trash?

Answers for grown-ups. Some questions have more than one good answer.



Recycle paper, cardboard, cans and glass so they can be made into new things. **Compost** food scraps and plants so they rot into soil. Everything else is **trash**.

Write each thing in the right bin.

egg shells · grass clippings · soda can · broken crayon · apple core · chip bag · candy wrapper · banana peel · glass jar · cardboard box · used tissue · newspaper

Recycle	Compost	Trash
newspaper	apple core	candy wrapper
soda can	banana peel	broken crayon
glass jar	egg shells	chip bag
cardboard box	grass clippings	used tissue

Which bin at your house fills up fastest?

Art © Kevin Coulston

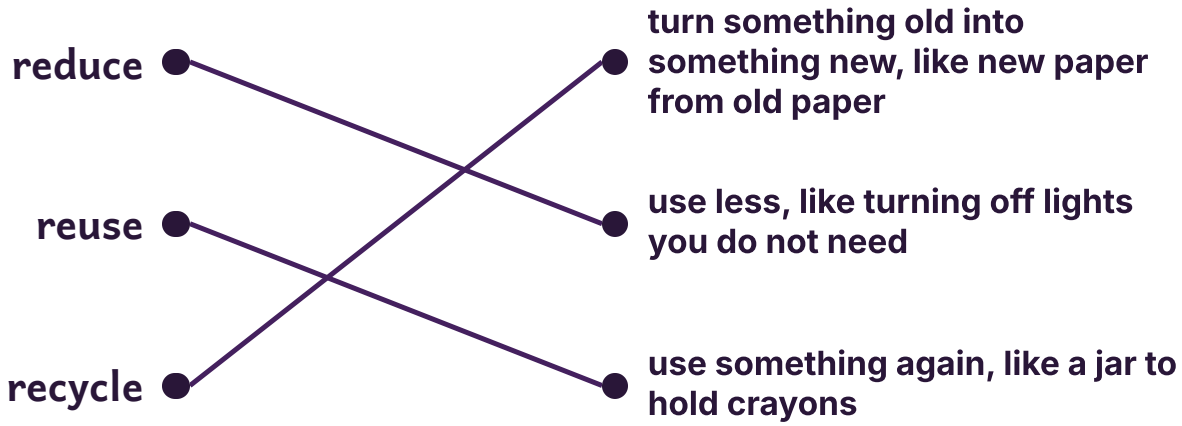
ANSWER KEY · TAKING CARE OF EARTH · GRADES 1–3

Answer Key: Reduce, Reuse, Recycle

Answers for grown-ups. Some questions have more than one good answer.



1. Draw a line from each word to what it means.



2. Draw something you could reuse instead of throwing it away.

3. Draw what you would turn it into.

4. One way I can reduce at home:

Art © Kevin Coulston

ANSWER KEY · TAKING CARE OF EARTH · GRADES 2–3

Answer Key: Energy from the Sun, Wind and Water

Answers for grown-ups. Some questions have more than one good answer.



A **renewable** energy source never runs out: the sun, the wind and moving water keep coming back. Coal, oil and natural gas took millions of years to form, so when they are used up, they are gone.

1. Write each energy source in the right column.

moving water · coal · wind · oil · natural gas · sunlight

Renewable	Not renewable
sunlight	coal
wind	oil
moving water	natural gas

2. Circle True or False.

Coal takes millions of years to form.	**True**	False
Wind will run out someday.	True	**False**
Solar panels turn sunlight into electricity.	**True**	False
Burning coal and oil puts smoke into the air.	**True**	False

Have you seen a wind turbine or a solar panel? Where?

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