KSSR SEMAKAN

SCIENCE

PRIMARY SCHOOL

ACTIVITY BOOK

YEAR 4



Name : .....

Year : .....

School : .....

Studio Cilik
studiocilik.my

For parents and teachers

This book has Year 4 Science practice, following the Malaysian KSSR Year 4 Science standards (2017 revision): science skills, humans, animals, plants, light, sound, energy, materials, the Earth and machines.

How to use this book

- Science is most fun when you do it. Try a simple activity at home — counting breaths after a run, making shadows with a torch, looking at a pencil in a glass of water — before your child answers.
- Watch over your child with torches, water and kitchen things.
- Each page names the Learning Standard (LS) it practises.
- The stars at the bottom of every page are for your child to colour when they feel they can do it.
- Check Yourself at the end reviews every topic. The answers are in the Answers pages, followed by a certificate.

For teachers

You may print and copy this book for your pupils, free of charge. Scan the QR code on any page for more free activity books at studiocilik.my.

Contents

Colour a star each time you finish a unit.

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★	Check Yourself	Page 40	☆☆☆

Unit 1 Observing, classifying and inferring

LS 1.1.1, 1.1.2, 1.1.4

A Observing: which sense is used?

The durian smells strong.	●	●	
Velvet feels soft.	●	●	
Lime juice tastes sour.	●	●	
The thunder is loud.	●	●	

B Classifying: sort the things by what they have in common.



Living things	Non-living things

C Inferring: match each observation to a sensible inference.

Washing hung outside dries quickly.	●	●	Someone has walked there.
There are footprints in the sand.	●	●	It was left too long somewhere warm.
The ice cream in the bowl has melted.	●	●	It was a hot, windy day.

Date: _____

I can do it! ☆☆☆

Name: _____

Unit 1 Predicting, time and reading data

LS 1.1.5, 1.1.7, 1.1.8

A Aiman measures the shadow of a stick in the morning.

Time	8:00	9:00	10:00	11:00
Length (cm)	80	60	40	

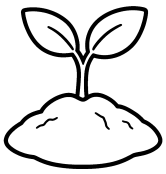
B Read the data and predict.

1) Every hour, the shadow gets ____ cm shorter.

2) The predicted length at 11:00 is ____ cm.

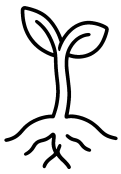
3) The higher the Sun, the _____ the shadow.

C Space and time: number the stages of the seedling in order.









Date: _____

I can do it!

Name: _____

Unit 1 Variables and hypotheses

LS 1.1.9, 1.1.10, 1.1.11, 1.1.12

Siti shines a torch at a ball from different distances. She measures the size of the ball's shadow on the wall. She uses the same ball, wall and torch every time.

Torch to ball (cm)	Shadow size (cm)
10	30
20	20
30	15
40	12

A Fill in the blanks.

1) What Siti changes: _____

2) What she measures: _____

3) What she keeps the same: _____

4) Hypothesis: The _____ the torch, the _____ the shadow.

5) The shadow size is _____.

Date: _____

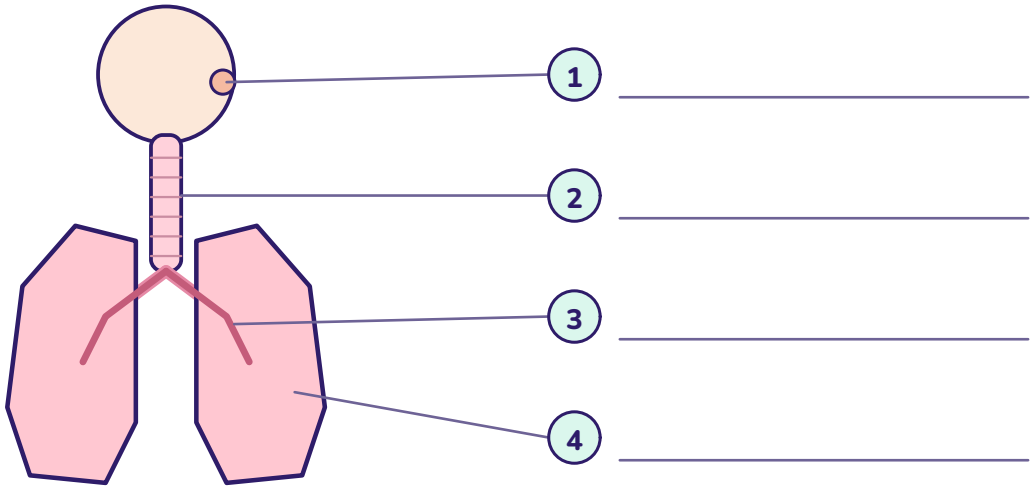
I can do it! ☆☆☆

Name: _____

Unit 2 The organs we breathe with

LS 2.1.1, 2.1.2

A Label the breathing organs.



nose windpipe (trachea) bronchus lungs

B The way air goes when we breathe in. Fill in the blanks.

nose ▶ _____ ▶ _____ ▶ _____

In the _____, oxygen goes into the blood and carbon dioxide comes out.

Date: _____

I can do it! ☆☆☆

Name: _____

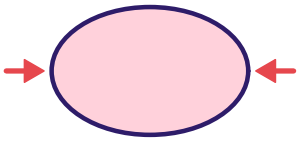
Unit 2 Breathing in and out

LS 2.1.3, 2.1.4

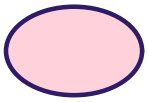
A Compare the air we breathe in with the air we breathe out. Write "more" or "less".

Gas	Air breathed in	Air breathed out
oxygen	_____	_____
carbon dioxide	_____	_____

B Put your hands on your chest. Breathe in deeply, then breathe out.



breathing in



breathing out

C Fill in "up", "down", "bigger" or "smaller".

	Breathing in	Breathing out
ribs	_____	_____
chest	_____	_____

Date: _____

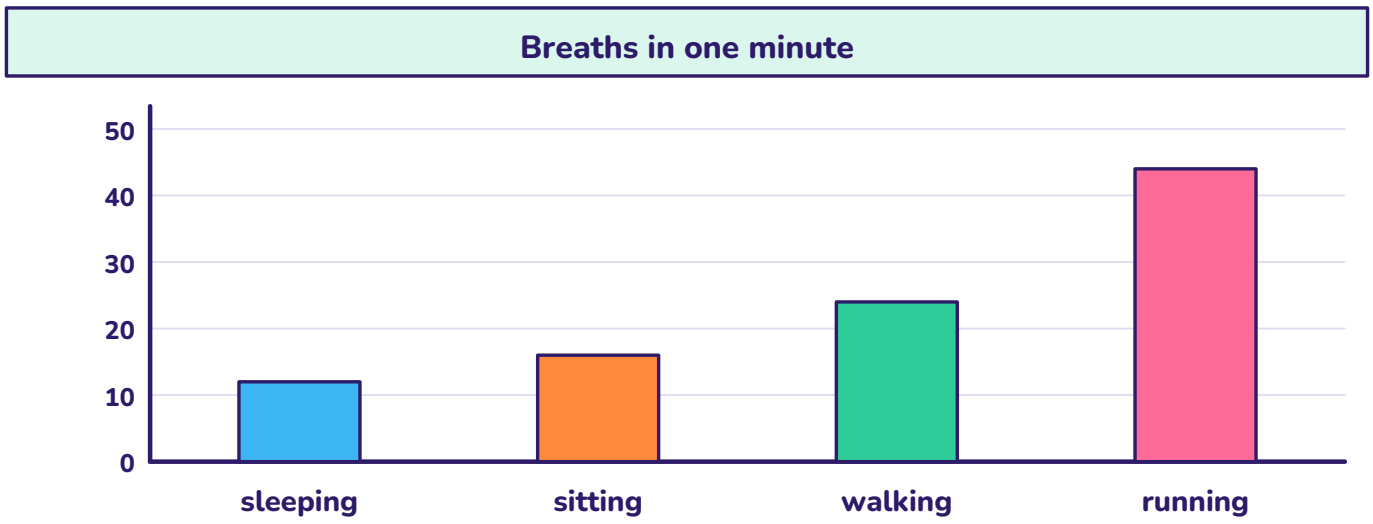
I can do it! ☆☆☆

Name: _____

Unit 2 How fast we breathe

LS 2.1.5, 2.1.6

A Danial counts his breaths in one minute after each activity.



B Answer the questions.

1) Danial breathes fastest after _____.

2) The more active we are, the _____ we breathe.

C Good or bad for the lungs?

exercise	cigarette smoke	haze	fresh air	crowded places	a face mask

Good	Bad

Date: _____

I can do it! ☆☆☆

Name: _____

Unit 2 Getting rid of waste

LS 2.2.1, 2.2.2, 2.2.3

Excretion is how the body gets rid of the waste it makes. Defecation is how it gets rid of undigested food as faeces.

A Match each organ to the waste it gets rid of.

kidneys	●	● sweat
skin	●	● carbon dioxide and water vapour
lungs	●	● urine

B Why must waste leave the body? True or false?

	✓	✗
1) Waste that builds up can poison the body.	☐	☐
2) We should hold in our urine as long as we can.	☐	☐
3) Drinking enough water helps the kidneys.	☐	☐
4) Food with fibre helps us pass faeces.	☐	☐

Date: _____

I can do it! ☆☆☆

Name: _____

Unit 2 Responding to stimuli

LS 2.3.1, 2.3.2

A Our sense organs pick up stimuli. Match each stimulus to the response.

A bright light shines in your eyes.	● ●	you shiver
Your hand touches a hot kettle.	● ●	you cover your ears
Your body feels very cold.	● ●	your eyes close
You smell tasty food.	● ●	your mouth waters
You hear a very loud noise.	● ●	you pull your hand away fast

B Write the sense organ that picks up the stimulus.

1)  ☐

2)  ☐

3)  ☐

4)  ☐

5)  ☐

Date: _____

I can do it! ☆☆☆

Name: _____

Unit 2 Keeping our responses sharp

LS 2.3.3, 2.3.4, 2.3.5

A Our responses keep us safe. True or false?

	✓	✗
1) Pulling your hand from something hot stops a burn.	☐	☐
2) Closing your eyes protects them from a light that is too bright.	☐	☐
3) Our responses do not matter for our safety.	☐	☐

B Which habits slow down our responses?

too little sleep	a phone on the road	enough sleep	very loud music	healthy food	smoking

Slows us down	Does not

C Why should we not use a phone while riding a bicycle?

_____

_____

Date: _____

I can do it! ☆☆☆

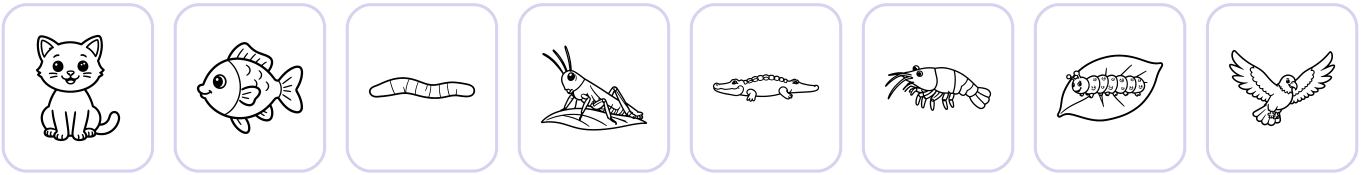
Name: _____

Unit 3 How animals breathe

LS 3.1.1, 3.1.2

Animals breathe with lungs, gills, moist skin or spiracles. Spiracles are tiny holes along an insect's body.

A Group the animals by how they breathe.



Lungs	Gills	Moist skin	Spiracles

B Fill in the blanks.

1) A whale lives in the sea but breathes with _____.

2) Crabs and prawns breathe with _____.

Date: _____

I can do it! ☆☆☆

Name: _____

Unit 3 More than one way to breathe

LS 3.1.3, 3.1.4

A A tadpole breathes with gills. When it becomes a frog, it breathes with lungs and its moist skin.



B Tick (/) how each animal breathes.

Animal	Lungs	Gills	Moist skin
 frog	☐	☐	☐
 tadpole	☐	☐	☐
 whale	☐	☐	☐
earthworm	☐	☐	☐

The animal that breathes in more than one way is the _____.

Date: _____

I can do it! ☆☆☆

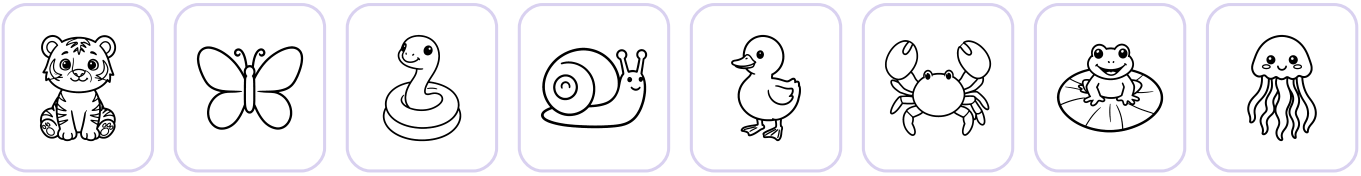
Name: _____

Unit 3 Vertebrates and invertebrates

LS 3.2.1, 3.2.2

Vertebrates are animals with a backbone. Invertebrates are animals without a backbone.

A Group the animals.



Vertebrates	Invertebrates

B True or false?

	✓	✗
1) A fish is a vertebrate.	☐	☐
2) A grasshopper has a backbone.	☐	☐
3) An earthworm is an invertebrate.	☐	☐

Date: _____

I can do it! ☆☆☆

Name: _____

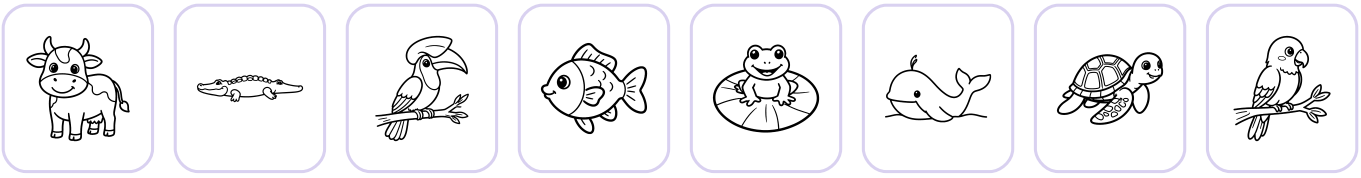
Unit 3 The five groups of vertebrates

LS 3.2.3, 3.2.4

A Match each group to what makes it special.

Mammals	●	have moist skin, live on land and in water
Birds	●	have hair or fur, give birth and feed their young milk
Reptiles	●	have scales and fins, and breathe with gills
Amphibians	●	have feathers and a beak, and lay eggs
Fish	●	have dry scaly skin and lay eggs with shells

B Put each vertebrate in its group.



Mammals	Birds	Reptiles	Amphibians	Fish

Date: _____

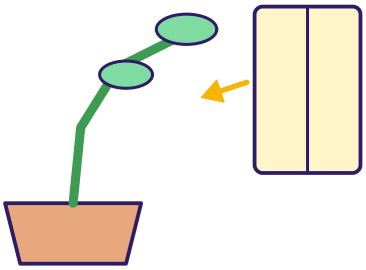
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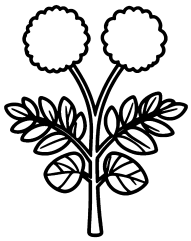
Name: _____

Unit 4 Plants respond too

LS 4.1.1, 4.1.2

A **A seedling by the window grows towards the light. The leaves of a touch-me-not fold up when touched.**





B **Match each part of the plant to what it responds to.**

Shoots grow towards	●	● gravity
Roots grow towards	●	● light
Roots grow downwards because of	●	● touch
Touch-me-not leaves fold because of	●	● water

C **Circle the answer.**

The roots of a tree by a drain grow towards the drain because of

◯ water ◯ light ◯ wind

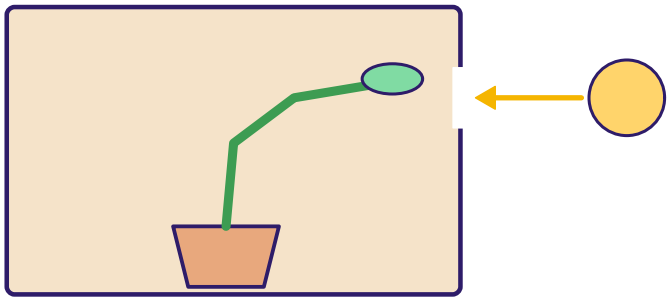
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I can do it! ☆☆☆

Unit 4 Investigating how plants respond

LS 4.1.3, 4.1.4

A A potted seedling is put in a box with one hole on the right. After a week:



B Fill in the blanks.

1) The shoot grows towards the _____.

2) What is changed: _____

3) What is observed: _____

4) Conclusion: shoots respond to _____.

C Why do responses matter to a plant?

	✓	✗
1) Shoots get light to make food.	☐	☐
2) Roots find water and hold the plant firmly in the soil.	☐	☐
3) A touch-me-not folds up to protect itself.	☐	☐

Date: _____

I can do it! ☆☆☆

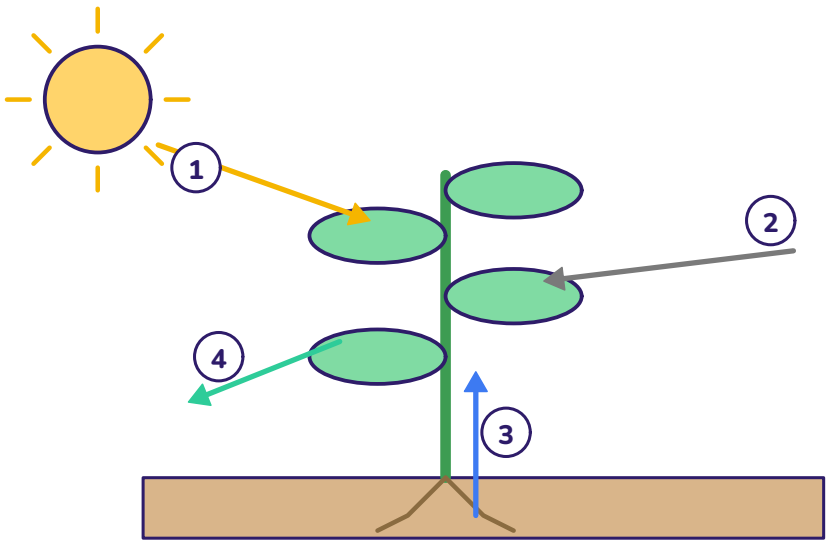
Name: _____

Unit 4 Photosynthesis

LS 4.2.1, 4.2.2, 4.2.3

Photosynthesis is how green plants make their own food. A plant needs water, carbon dioxide, sunlight and chlorophyll.

A Write the right name for each number.



1) 1 = _____

2) 2 = _____

3) 3 = _____

4) 4 = _____

water oxygen sunlight carbon dioxide

B Fill in the blanks.

1) Chlorophyll is the _____ stuff in leaves that takes in light.

2) Photosynthesis makes _____ and _____.

Date: _____

I can do it!

Name: _____

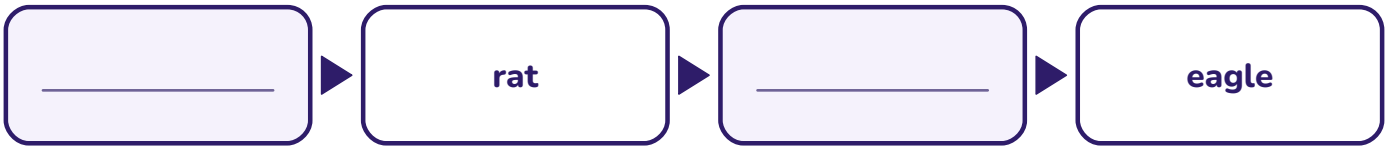
Unit 4 Why photosynthesis matters

LS 4.2.4, 4.2.5

A True or false?

	✓	✗
1) People and animals breathe the oxygen that plants give out.	☐	☐
2) Plants take carbon dioxide from the air.	☐	☐
3) A plant can make food in a dark room.	☐	☐
4) All our food starts with plants.	☐	☐

B A food chain starts with a plant. Fill in the blanks.



C What would happen if every plant on Earth died? Explain.

_____

_____

_____

Date: _____

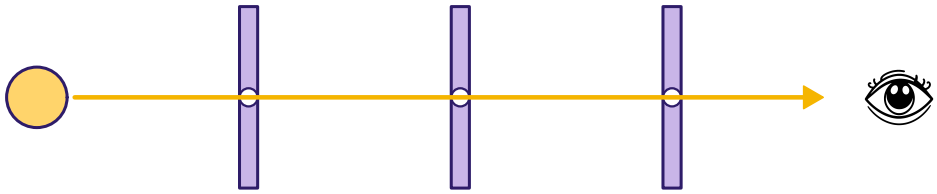
I can do it! ☆ ☆ ☆

Name: _____

Unit 5 Light travels in straight lines

LS 5.1.1, 5.1.2

A You can only see the light through the three cards when the holes are in a line.



B Sort the materials by how much light goes through.

clear glass	tracing paper	wood	clear plastic	frosted glass	a book

Transparent	Translucent	Opaque

C Match each kind of object to its shadow.

opaque	●	● no shadow
translucent	●	● a dark shadow
transparent	●	● a pale shadow

Date: _____

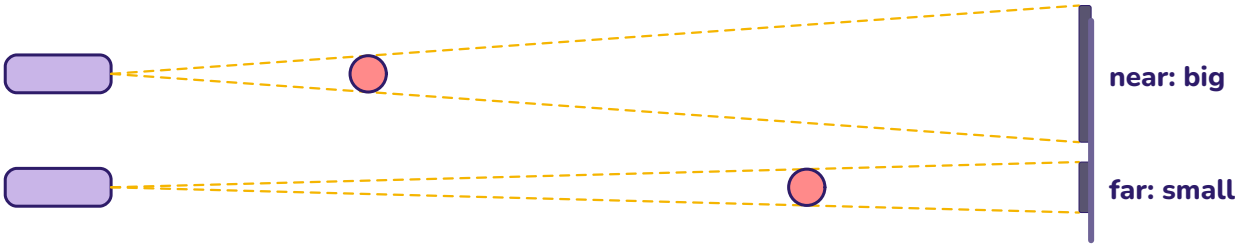
I can do it! ☆☆☆

Name: _____

Unit 5 The size and shape of shadows

LS 5.1.3, 5.1.4

A The closer an object is to the torch, the bigger its shadow.



B Circle the answer.

1) To make a smaller shadow, move the object

◯ **away from the torch** ◯ **nearer the torch**

2) A shadow's shape changes when we change

◯ **how the object faces the light** ◯ **the object's colour**

C Draw the shadows of a cup and a book lit from the front.

Date: _____

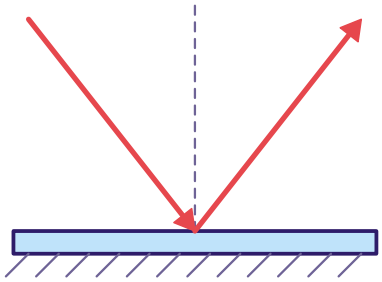
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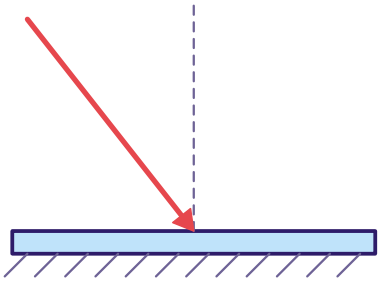
Name: _____

Unit 5 Reflection

LS 5.2.1, 5.2.2, 5.2.3

A Light bounces off a mirror. Draw the ray of light that bounces back.





B Match each tool to how it uses reflection.

periscope	● ●	seeing your own face
side mirror	● ●	seeing over a high wall
mirror at a bend	● ●	seeing traffic coming round a bend
face mirror	● ●	drivers seeing the cars behind

Date: _____

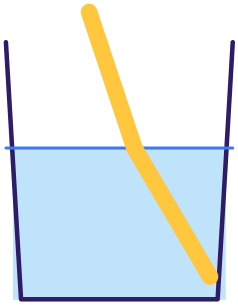
I can do it! ☆ ☆ ☆

Name: _____

Unit 5 Refraction

LS 5.3.1, 5.3.2, 5.3.3

A **A pencil in a glass of water looks bent because light is refracted.**



A coin in water also looks higher than it is.

B **A rainbow forms when sunlight is refracted by raindrops. Fill in the rainbow's colours.**

red, _____, yellow, _____, blue, _____, violet

C **True or false?**

	✓	✗
1) A swimming pool looks shallower than it really is.	☐	☐
2) We can see a rainbow on a dark night.	☐	☐
3) Light bends when it goes from air into water.	☐	☐

Date: _____

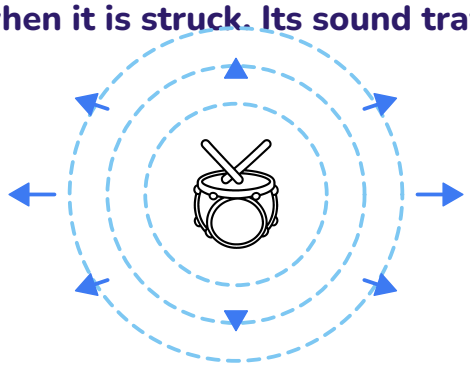
I can do it! ☆☆☆

Name: _____

Unit 6 Sound comes from vibrations

LS 6.1.1, 6.1.2

A A kompang vibrates when it is struck. Its sound travels in every direction.



B How is the sound made?

a flute	●	●	plucking
a kompang drum	●	●	blowing
a gambus	●	●	clapping
a violin	●	●	striking
hands	●	●	bowing

C Fill in the blanks.

1) Sound is made by _____.

2) The school bell's sound travels in _____.

Date: _____

I can do it! ☆☆☆

Name: _____

Unit 6 Sound bounces back

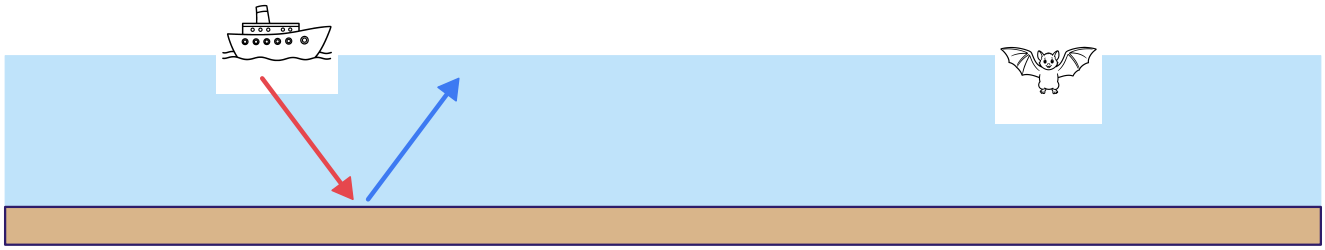
LS 6.1.3

Sound can bounce back. Sound that bounces back off a cave wall or a hill is called an echo.

A Match each example to what it is used for.

echo	● ●	a doctor seeing a baby inside its mother
sonar	● ●	sound coming back from a cave wall
ultrasound	● ●	finding food in the dark
bat	● ●	a ship measuring how deep the sea is

B A ship sends sound to the seabed. The sound bounces back.



Date: _____

I can do it! ☆ ☆ ☆

Name: _____

Unit 6 Helpful and harmful sounds

LS 6.1.4, 6.1.5

A Sort the sounds.

the call to prayer	a siren	noisy machines	a long horn	soft music	firecrackers

Helpful	Harmful

B Noise pollution can cause headaches and damage hearing. How can we reduce it?

	✓	✗
1) Plant trees along busy roads.	☐	☐
2) Wear ear protectors in noisy places.	☐	☐
3) Sound the horn for no reason.	☐	☐

C Suggest one way to make your classroom less noisy.

_____

_____

Date: _____

I can do it! ☆ ☆ ☆

Name: _____

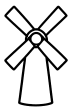
Unit 7 Sources and forms of energy

LS 7.1.1, 7.1.2, 7.1.3

Energy is what lets things do work. We get energy from many sources.

A Name these sources of energy.

1) 

2) 

3) 

4) 

B Match each thing to the form of energy it gives.

a lamp that is on	●	●	sound
a campfire	●	●	light
a moving car	●	●	potential
a ringing bell	●	●	heat
a coconut up a tree	●	●	kinetic

Date: _____

I can do it! ☆ ☆ ☆

Name: _____

Unit 7 Energy changes form

LS 7.1.4, 7.1.5

Energy cannot be made or destroyed, but it can change from one form to another.

A A torch.

chemical energy ▶ _____ ▶ _____

B A fan.

electrical energy ▶ _____

C A solar panel.

_____ ▶ electrical energy

D Fill in the blanks.

1) A radio changes electrical energy into _____ energy.

2) When we run, chemical energy changes into _____ energy.

Date: _____

I can do it! ☆☆☆

Name: _____

Unit 7 Renewable energy

LS 7.2.1, 7.2.2, 7.2.3

Renewable sources can keep making energy. Non-renewable sources are limited and will run out.

A Sort the energy sources.

the Sun	petroleum	wind	coal	water	natural gas

Renewable	Non-renewable

B Ways to save energy. True or false?

	✓	✗
1) Switch off the light when you leave a room.	☐	☐
2) Leave the fridge door open for a long time.	☐	☐
3) Share a car to school.	☐	☐
4) Use energy-saving bulbs.	☐	☐

Date: _____

I can do it! ☆☆☆

Name: _____

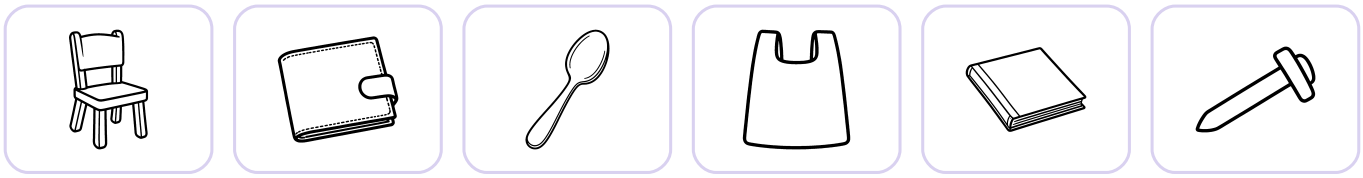
Unit 8 Where materials come from

LS 8.1.1, 8.1.2, 8.1.3

A Complete the table.

Source	Material	Example
plants	wood	_____
plants	cotton	_____
animals	_____	a handbag
animals	wool	_____
rocks	metal	_____
petroleum	_____	a bucket

B Sort the objects by the source of their material.



Plants	Animals	Rocks	Petroleum

Date: _____

I can do it! ☆☆☆

Name: _____

Unit 8 What materials are like

LS 8.2.1

A Test or think. Tick (/) if the material has the property.

Material	Soaks up water	Floats	Conducts electricity	See-through	Stretchy
cloth	☐	☐	☐	☐	☐
metal	☐	☐	☐	☐	☐
rubber	☐	☐	☐	☐	☐
glass	☐	☐	☐	☐	☐
wood	☐	☐	☐	☐	☐

B Fill in the blanks.

1) Pots are made of metal because metal _____.

2) Pot handles are wood because wood _____.

3) Raincoats are plastic because plastic is _____.

Date: _____

I can do it! ☆☆☆

Name: _____

Unit 8 Choosing the right material

LS 8.2.2, 8.2.3, 8.2.4

A Circle the best material.

1) An umbrella:

◯ paper ◯ waterproof cloth ◯ cotton wool

2) A bicycle tyre:

◯ rubber ◯ glass ◯ wood

3) A window:

◯ wood ◯ glass ◯ metal

4) An electric wire (inside):

◯ copper ◯ plastic ◯ cloth

B Design a lunch box to take to school. Label the material of each part.

C Why did you choose those materials?

Date: _____

I can do it! ☆ ☆ ☆

Name: _____

Unit 9 The Earth's gravity

LS 9.1.1, 9.1.2, 9.1.3

A **The Earth's gravity pulls things towards the Earth. Things anywhere on Earth do not fall off into space.**



B **What gravity does. True or false?**

	✓	✗
1) Ripe fruit falls to the ground because of gravity.	☐	☐
2) River water flows from low ground up to high ground.	☐	☐
3) Gravity keeps us on the Earth's surface.	☐	☐
4) A ball thrown up comes down again.	☐	☐

C **What would happen if there were no gravity on Earth?**

_____

_____

Date: _____

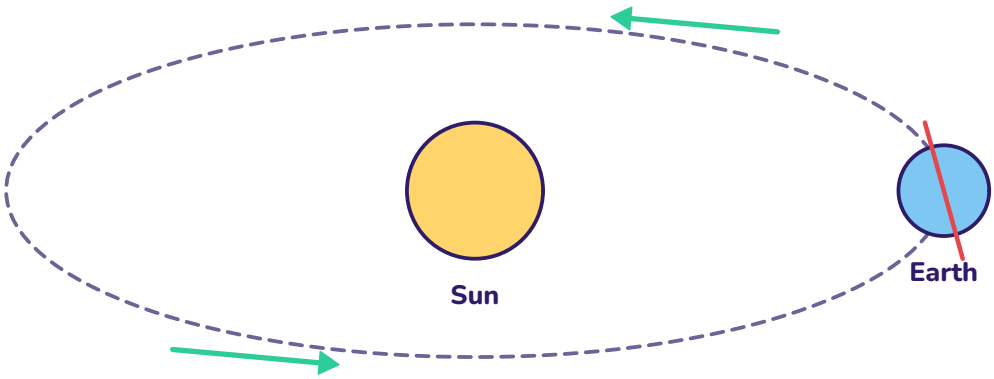
I can do it! ☆☆☆

Name: _____

Unit 9 The Earth spins and goes round the Sun

LS 9.2.1, 9.2.2

A The Earth spins on its axis and, at the same time, goes round the Sun.



B Complete the table.

	Direction	Time for one turn
spin	from _____ to _____	☐ hours
orbit	_____	☐ days

C Fill in the blanks.

1) The Earth spins on its _____.

2) The Earth goes round the Sun along its _____.

Date: _____

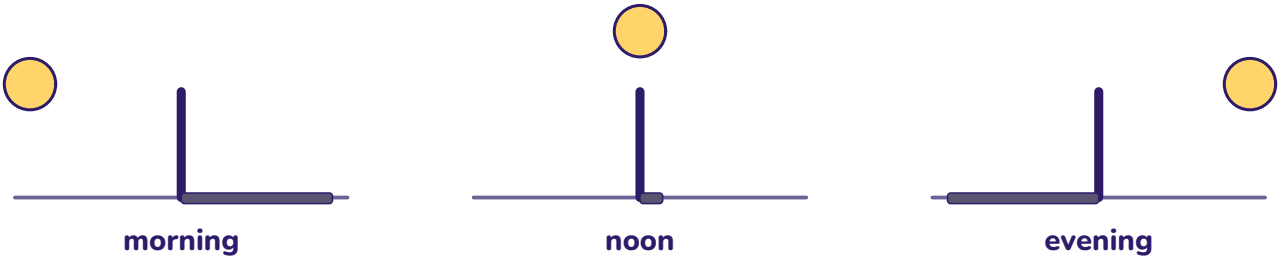
I can do it! ☆☆☆

Name: _____

Unit 9 Because the Earth spins

LS 9.2.3, 9.2.4

A The shadow of a stick in the morning, at noon and in the evening.



B Circle the answer.

1) The shadow is shortest at

◯ morning ◯ noon ◯ evening

2) The Sun rises in the

◯ east ◯ west

C What the Earth's spin does. Fill in the blanks.

1) The side of the Earth facing the Sun has _____.

2) The side facing away from the Sun has _____.

3) The Sun seems to _____ across the sky during the day.

Date: _____

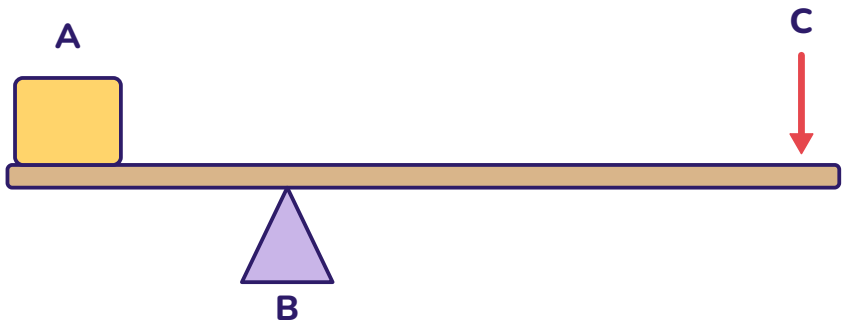
I can do it! ☆☆☆

Name: _____

Unit 10 Levers

LS 10.1.1, 10.1.2, 10.1.3

A A lever has a load, a fulcrum and an effort. Label A, B and C.



1) A: _____ 2) B: _____ 3) C: _____

B The same load is moved further from the fulcrum.

Load to fulcrum (cm)	Effort needed (N)
10	2
20	4
30	6
40	

C Read the data.

1) The further the load is from the fulcrum, the _____ effort is needed.

2) To lift a load easily, put it _____ the fulcrum.

Date: _____

I can do it!

Name: _____

Unit 10 Simple machines

LS 10.2.1

A Match each simple machine to an example.

lever	●	an axe
pulley	●	a steering wheel
gear	●	a seesaw
wedge	●	a bottle cap
screw	●	a flagpole
ramp	●	a wheelchair ramp
wheel and axle	●	a bicycle chain

B Fill in the blanks.

1) A sloping plank for rolling a drum onto a lorry is a _____.

2) Scissors use a _____ and a _____.

Date: _____

I can do it! ☆☆☆

Name: _____

Unit 10 Complex machines

LS 10.2.2, 10.2.3, 10.2.4

A complex machine is made of two or more simple machines together. A bicycle is a complex machine.



A Name the simple machine in each part of a bicycle.

Part	Simple machine
hand brake	_____
wheel	_____
chain and sprockets	_____

B Circle the complex machine.

Which is a complex machine?

◯ a wheelbarrow ◯ an axe ◯ a ramp

C How do machines make work easier? Give one example.

_____

_____

Date: _____

I can do it! ☆ ☆ ☆

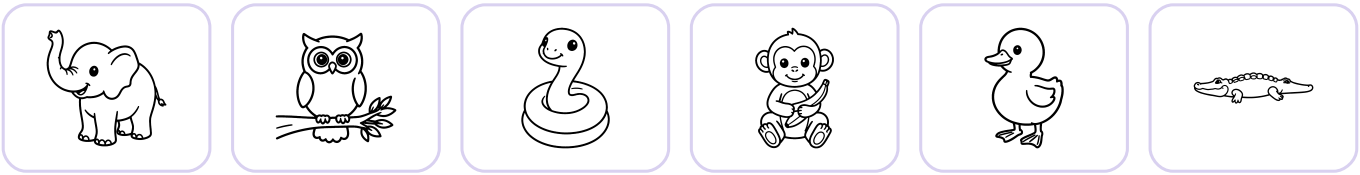
Name: _____

Check Yourself **Check Yourself: Living things** LS 2.0, 3.0, 4.0

A Match.

kidneys	●	how insects breathe
gills	●	grow towards water
spiracles	●	get rid of urine
chlorophyll	●	takes in sunlight
roots	●	how fish breathe

B Group the vertebrates.



Mammals	Birds	Reptiles

C Fill in the blanks.

1) The air we breathe out has more _____.

2) Photosynthesis makes starch and _____.

Date: _____ I can do it! ☆☆☆

Name: _____

Check Yourself **Check Yourself: Physics, materials, Earth and machines** LS 5.0, 6.0, 7.0, 8.0, 9.0, 10.0

A Circle the answer.

1) An opaque object makes a shadow that is

◯ **dark** ◯ **pale** ◯ **not there**

2) A pencil looks bent in water because of

◯ **reflection** ◯ **refraction**

3) Sound is made by

◯ **vibrations** ◯ **light** ◯ **gravity**

4) A renewable source of energy:

◯ **coal** ◯ **wind** ◯ **petroleum**

5) A material that conducts electricity:

◯ **metal** ◯ **wood** ◯ **plastic**

6) The Earth spins once on its axis in

◯ **24 hours** ◯ **7 days** ◯ **365 days**

7) A flagpole uses a

◯ **pulley** ◯ **wedge** ◯ **screw**

B The energy change in a radio.

electrical energy ▶ _____

Date: _____

I can do it! ☆ ☆ ☆

Name: _____

Answers

Page 4

A The durian smells strong. – nose Velvet feels soft. – hand Lime juice tastes sour. – tongue The thunder is loud. – ear

B Living things: cat, hibiscus, frog Non-living things: stone, beach ball, wooden chair

C Washing hung outside dries quickly. – It was a hot, windy day. There are footprints in the sand. – Someone has walked there. The ice cream in the bowl has melted. – It was left too long somewhere warm.

Page 5

A Length (cm): 20

B 1) 20 2) 20 3) shorter

C seedling 3, seed 1, sunflower 4, sprout 2

Page 6

A 1) the torch's distance from the ball 2) the shadow size 3) the ball, wall and torch 4) closer, bigger 5) how wide it is on the wall

Page 7

A 1 nose 2 windpipe (trachea) 3 bronchus 4 lungs

B windpipe, bronchus, lungs lungs

Page 8

A oxygen: more, less carbon dioxide: less, more

B (own answer)

C ribs: up, down chest: bigger, smaller

Page 9

A (own answer)

B 1) running 2) faster

C Good: exercise, fresh air, a face mask Bad: cigarette smoke, haze, crowded places

Page 10

A kidneys – urine skin – sweat lungs – carbon dioxide and water vapour

B 1) true 2) false 3) true 4) true

Page 11

A A bright light shines in your eyes. – your eyes close Your hand touches a hot kettle. – you pull your hand away fast Your body feels very cold. – you shiver You smell tasty food. – your mouth waters You hear a very loud noise. – you cover your ears

B 1) eye 2) ear 3) nose 4) tongue 5) skin

Page 12

A 1) true 2) true 3) false

B Slows us down: too little sleep, a phone on the road, very loud music, smoking Does not: enough sleep, healthy food

C (own answer)

Page 13

A Lungs: cat, crocodile, eagle Gills: fish, prawn Moist skin: earthworm Spiracles: grasshopper, caterpillar

B 1) lungs 2) gills

Page 14

A (own answer)

B frog: /, , / tadpole: , /, whale: /, , earthworm: , , / frog

Page 15

A Vertebrates: tiger, snake, duck, frog
Invertebrates: butterfly, snail, crab, jellyfish

B 1) true 2) false 3) true

Answers

Page 16

A Mammals – have hair or fur, give birth and feed their young milk Birds – have feathers and a beak, and lay eggs Reptiles – have dry scaly skin and lay eggs with shells Amphibians – have moist skin, live on land and in water Fish – have scales and fins, and breathe with gills

B Mammals: cow, whale Birds: hornbill, parrot Reptiles: crocodile, sea turtle Amphibians: frog Fish: fish

Page 17

A (own answer)

B Shoots grow towards – light Roots grow towards – water Roots grow downwards because of – gravity Touch-me-not leaves fold because of – touch

C 1) water

Page 18

A (own answer)

B 1) hole / light 2) where the light comes from 3) the way the shoot grows 4) light

C 1) true 2) true 3) true

Page 19

A 1) sunlight 2) carbon dioxide 3) water 4) oxygen

B 1) green 2) starch, oxygen

Page 20

A 1) true 2) true 3) false 4) true

B rice plant, snake

C (own answer)

Page 21

A (own answer)

B Transparent: clear glass, clear plastic
Translucent: tracing paper, frosted glass
Opaque: wood, a book

C opaque – a dark shadow translucent – a pale shadow transparent – no shadow

Page 22

A (own answer)

B 1) away from the torch 2) how the object faces the light

C (own answer)

Page 23

A the ray leaves at the same angle on the other side

B periscope – seeing over a high wall side mirror – drivers seeing the cars behind mirror at a bend – seeing traffic coming round a bend face mirror – seeing your own face

Page 24

A (own answer)

B orange, green, indigo

C 1) true 2) false 3) true

Page 25

A (own answer)

B a flute – blowing a kompang drum – striking a gambus – plucking a violin – bowing hands – clapping

C 1) vibrations 2) every direction

Page 26

A echo – sound coming back from a cave wall
sonar – a ship measuring how deep the sea is
ultrasound – a doctor seeing a baby inside its mother bat – finding food in the dark

B (own answer)

Page 27

A Helpful: the call to prayer, a siren, soft music
Harmful: noisy machines, a long horn, firecrackers

Answers

B 1) true 2) true 3) false

C (own answer)

Page 28

A 1) the Sun 2) wind 3) a battery 4) food

B a lamp that is on – light a campfire – heat a moving car – kinetic a ringing bell – sound a coconut up a tree – potential

Page 29

A electrical energy, light energy

B kinetic energy

C solar energy

D 1) sound 2) kinetic

Page 30

A Renewable: the Sun, wind, water
Non-renewable: petroleum, coal, natural gas

B 1) true 2) false 3) true 4) true

Page 31

A plants: a table plants: a shirt animals: leather animals: a sweater rocks: a nail petroleum: plastic

B Plants: wooden chair, book Animals: leather wallet Rocks: spoon, nail Petroleum: plastic bag

Page 32

A cloth: /, , , , metal: , , /, , rubber: , /, , , / glass: , , , /, wood: /, /, , ,

B 1) conducts heat 2) does not conduct heat 3) waterproof

Page 33

A 1) waterproof cloth 2) rubber 3) glass 4) copper

B (own answer)

C (own answer)

Page 34

A (own answer)

B 1) true 2) false 3) true 4) true

C (own answer)

Page 35

A (own answer)

B spin: west, east, 24 orbit: anticlockwise, 365 1/4

C 1) axis 2) orbit

Page 36

A (own answer)

B 1) noon 2) east

C 1) day 2) night 3) move

Page 37

A A load B fulcrum C effort 1) load 2) fulcrum 3) effort

B 40: 8

C 1) more 2) near

Page 38

A lever – a seesaw pulley – a flagpole gear – a bicycle chain wedge – an axe screw – a bottle cap ramp – a wheelchair ramp wheel and axle – a steering wheel

B 1) ramp 2) lever, wedge

Page 39

A hand brake: lever wheel: wheel and axle chain and sprockets: gear

B 1) a wheelbarrow

C (own answer)

Answers

Page 40

A kidneys – get rid of urine gills – how fish breathe spiracles – how insects breathe chlorophyll – takes in sunlight roots – grow towards water

B Mammals: elephant, monkey Birds: owl, duck Reptiles: snake, crocodile

C 1) carbon dioxide 2) oxygen

Page 41

A 1) dark 2) refraction 3) vibrations 4) wind 5) metal 6) 24 hours 7) pulley

B sound energy



CERTIFICATE OF ACHIEVEMENT

Well done!

_____

Name

has finished

Science Activity Book Year 4

_____ _____

Date Signed

Name: _____