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1

Invertebrates

1 Match the correct parts of the sentences.

Animals with no internal skeleton ●

Animals with an internal skeleton ●

Viviparous animals ●

Oviparous animals ●

● are called vertebrates.

● lay eggs.

● give birth to their babies.

● are called invertebrates.

2 Listen and circle the animal you hear described.



a) wolf / spider

b) spider / wolf

c) crab / butterfly

d) starfish / sea urchin

e) mussel / octopus

3 Complete the table. Tick the characteristics for each animal.

	Vertebrate	Invertebrate	Oviparous	Viviparous
				
				
				
				

4 Complete the sentences. Listen and check.

- 3 a) A spider has eight legs.
 b) A has six legs.
 c) A has six legs.
 d) A has ten legs.

5 Compare these two animals. Then write at which group each animal belongs to.



Differences:

-
- It belongs to the group.

Similarities:

-
-
-
-
-



Differences:

-
-
- It belongs to the group.

6 Draw an insect and label its parts; you can use the words below.

head

thorax

abdomen

antennae

wings

legs

7 Label the invertebrates with the words below.

worm

echinoderm

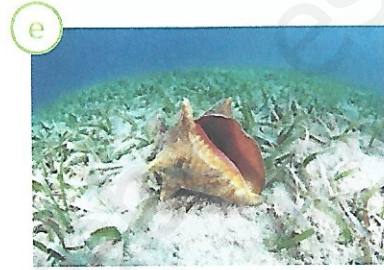
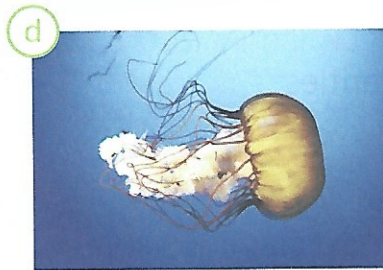
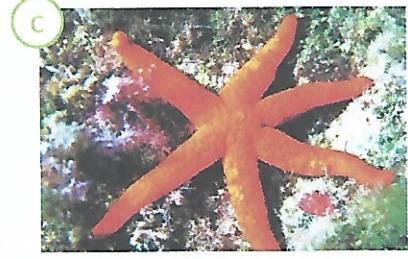
jellyfish

sponge

mollusc



sponge



8 Answer the following questions.

- a) Which invertebrates have a shell? Molluscs
- b) Which invertebrates cannot move?
- c) Which invertebrates are poisonous?
- d) Which invertebrate has a body made up of rings?

9 Listen and draw the animal that is being described.



10 Use the words below to complete the puzzle.

jellyfish

worm

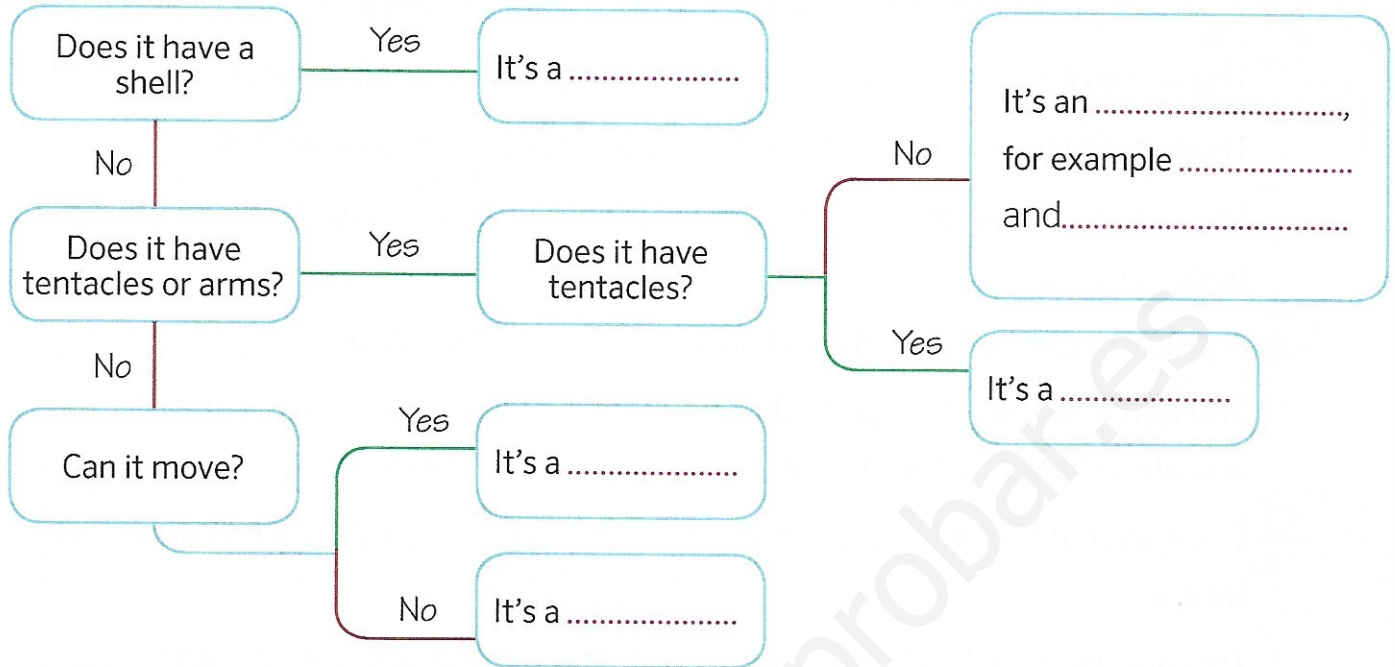
starfish

snail

sponge

echinoderm

sea urchin



11 Now complete the fact file.

Worm

- It has a long, soft body. It doesn't have
- Its body is made up of
- It doesn't have or arms.

Sponge

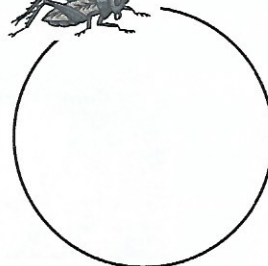
-
- It lives at the bottom
-

12 Classify the animals! Put these invertebrate animals in the correct circle.

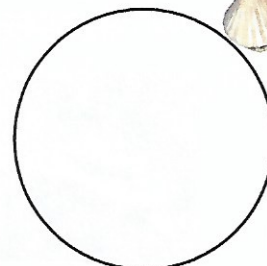
snail

butterfly

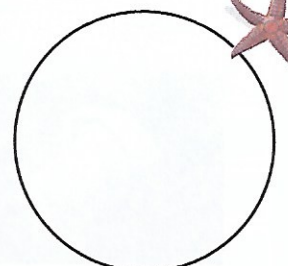
Arthropods



Molluscs



Echinoderms



sea urchin

crab

spider

starfish

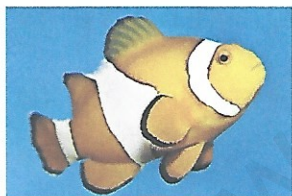
octopus

mussel

External exams

13 Look and read. Choose the correct word and write them on the lines. There is one example.

1. The name of the group of animals that have got an internal skeleton. vertebrates
2. The name of the group of animals that haven't got an internal skeleton.
3. This group of invertebrates has an external skeleton, jointed legs and different body sections.
4. A grasshopper, a butterfly and an ant belong to this group.
5. The name of the arthropods that have their body divided into cephalothorax and abdomen; but they haven't got antennae or wings.
6. The name of the arthropods that have ten legs, two antennae but don't have wings.
7. This animal is part of the molluscs group, has a shell and lives on land.
8. This looks like a rock but it's an animal.
9. This animal floats in the sea and looks like a bell with long arms. It has poisonous tentacles.
10. This animal is part of the echinoderm group and looks like a star.



vertebrates



arachnids



snail



insects



arthropods



molluscs



starfish



sea urchin



jellyfish



invertebrates



sponge



crustaceans

14 Look and read. Mark Y (yes) or N (no).



Example

There are lots of invertebrates in the picture.

Y N

☒	☐
-------------------------------------	--------------------------

There are also many different vertebrates.

☐	☒
--------------------------	-------------------------------------

Questions

- All the invertebrates in the tree are arthropods.
- The girl who has got blond hair is looking at a crustacean.
- There are five examples of arthropods in the picture.
- There are four animals that belong to the echinoderm group.
- The animal on the tree is an arachnid.
- The animal the boy is touching is a ladybird, and example of arthropod.
- The girl who is wearing a summer dress is looking at a jellyfish.
- The boy who is wearing blue shorts is looking at a mollusc.
- There are two different types of molluscs in the picture.
- Sponges are not invertebrate animals.

☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐

2

Vertebrates

- 1 Listen to the narrator describe the evolution of the penguin. Tick how today's penguin has evolved.

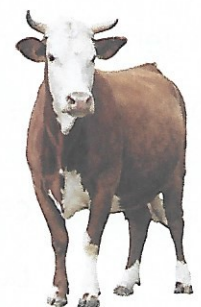
- ☒ They can no longer fly.
- ☐ Their feet are smaller.
- ☐ They no longer have wings; they have flippers.
- ☐ They have more layers of fat.
- ☐ Their heads are bigger.



- 2 Find these animals in the wordsearch and complete the sentence.

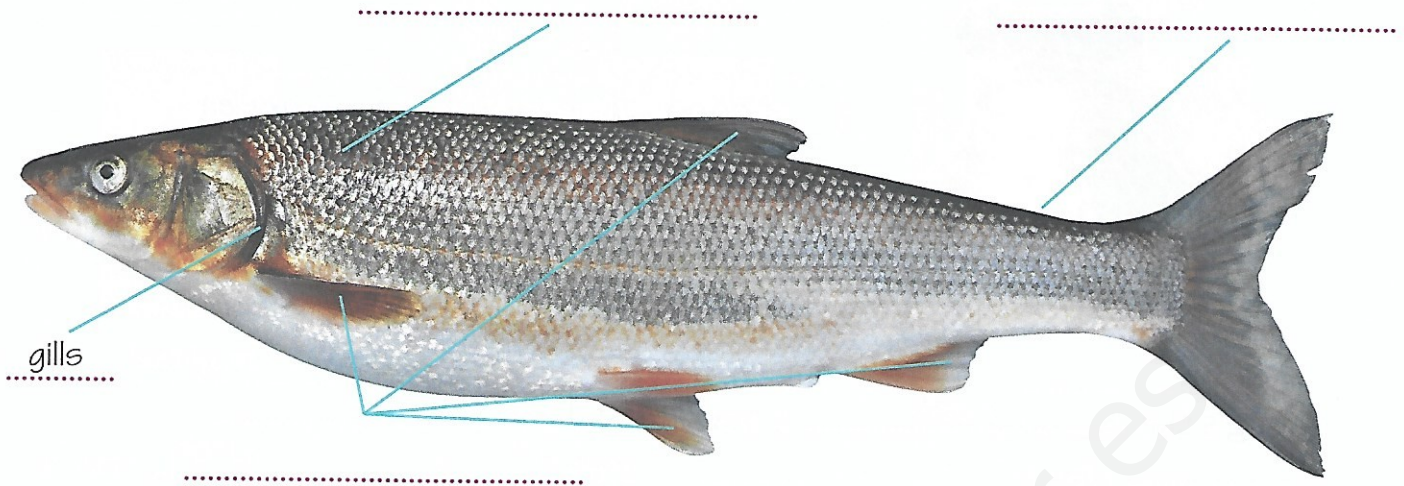


H	O	R	S	E	L	I
A	L	A	K	C	I	L
Z	E	B	R	A	O	E
D	O	B	N	M	N	W
C	U	I	K	E	S	S
S	O	T	T	L	C	V
S	D	E	R	V	A	B



They only eat plants so they are

3 Label the parts of the fish. Then, listen and check.

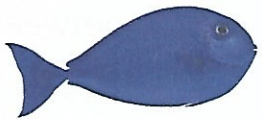


4 Answer these questions about fish.

a) What do fish eat? *Fish can be carnivores, herbivores or omnivores.*

b) How do fish give birth?

c) Where do fish live?



5 A dolphin isn't a fish. Why?



Dolphins live in the ocean but they are mammals.

- 6 Look at the frog and complete the text with the words below.



sticky • food • moist • legs • eyes • oxygen

A frog's skin is moist It uses it to take in.....

Its tongue is so it can catch its It has four that help it to jump high.

Frogs have big to see in the dark.

- 7 Look at the tadpole and the frog. Write three differences between them.

a)

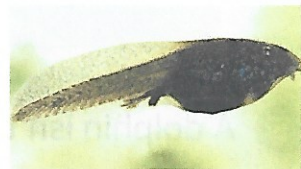
.....

b)

.....

c)

.....



- 8 Draw the life cycle of a frog. Listen and check.



Blank area for drawing the life cycle of a frog.

- 9 Classify these reptiles as carnivores or herbivores. Write what each animal eats.

iguana



herbivore

It eats plants.

crocodile



It eats

snake



It eats

- 10 Explain why a snake prefers shade when it's hot.

.....

.....

.....

- 11 What do the following animals have in common?

a)



b)



c)



.....

.....

.....

.....

- 12 Listen. Which animal above is being described?



It's

13 What are the differences between these birds?

a)



ostrich



eagle

b)



canary



vulture

14 Listen, complete and find out which the bird is described.



This bird lives by the It's a and

it loves to eat crabs and small fish. Its feathers are

basically and grey.

It's a



15 A mammal or a fish? Listen and write.



1. It's a mammal

2. It's a

3. It's a

4. It's a

16 Find the words in the wordsearch.

G	I	L	L	S	F	E	E	T	T
G	A	M	U	C	V	I	N	M	O
E	C	B	E	A	K	A	E	T	N
C	B	O	B	L	I	M	B	A	G
A	F	T	E	E	T	H	F	I	U
R	N	I	K	S	G	N	U	L	E
U	L	F	N	H	A	I	R	E	L
F	E	A	T	H	E	R	O	P	I
S	G	R	A	S	H	E	L	L	P
B	O	M	E	T	W	I	N	G	S

tail	feather
beak	lips
lungs	hair
fur	feet
scales	limb
gills	shell
tongue	egg
leg	wings
skin	teeth

17 Use the words above to describe this animal.

.....

.....

.....

.....

.....

.....



External exams

- 18 Read the text and complete it with the words from the box.

The appealing feathers of the *peacock* are those of the males.

The (1) has a long, flat head, scaly skin and a huge muscular tail. It can eat animals as big as a water buffalo.

The (2) looks a little like a small bear but it isn't. It lives in trees, and like other animals from Australia, it carries its babies in a pouch.

The (3) looks a lot like a snake but it is in fact a fish.

There are a few differences between the (4) and the crocodile. The first animal has a shorter, wider head and its scaly skin is darker.

The (5) , well known for its mane, is mainly nocturnal.

The (6) can imitate human voices.



koala



Komodo dragon



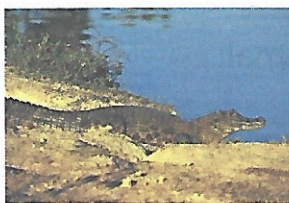
eel



peacock



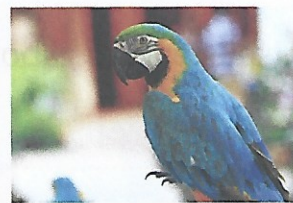
elephant



alligator



lion



parrot

- Now choose the best title for the text. Tick one box

- ☐ Parrots and lions
☐ Animals in the jungle
☐ Surprising animal facts

- 19 Read the text. Choose the right words and write them on the lines.

Amazing adaptations

The marine iguana is the only iguana that *spends* most of its time in water.

Iguanas are traditionally land

(1) from South America. At one point in time, they began searching for (2)

in the surrounding water. Over time, their bodies adapted to help them

spend more time in the water. They developed a flatter tail to help them swim and sharper (3) to hold onto rocks when the water current is strong. They have also developed salt glands that purify the blood by taking away the sea salt.

However, there are still some similarities with land iguanas that remain. Marine iguanas (4) through lungs and they are (5), choosing to eat algae found at the bottom of the ocean.

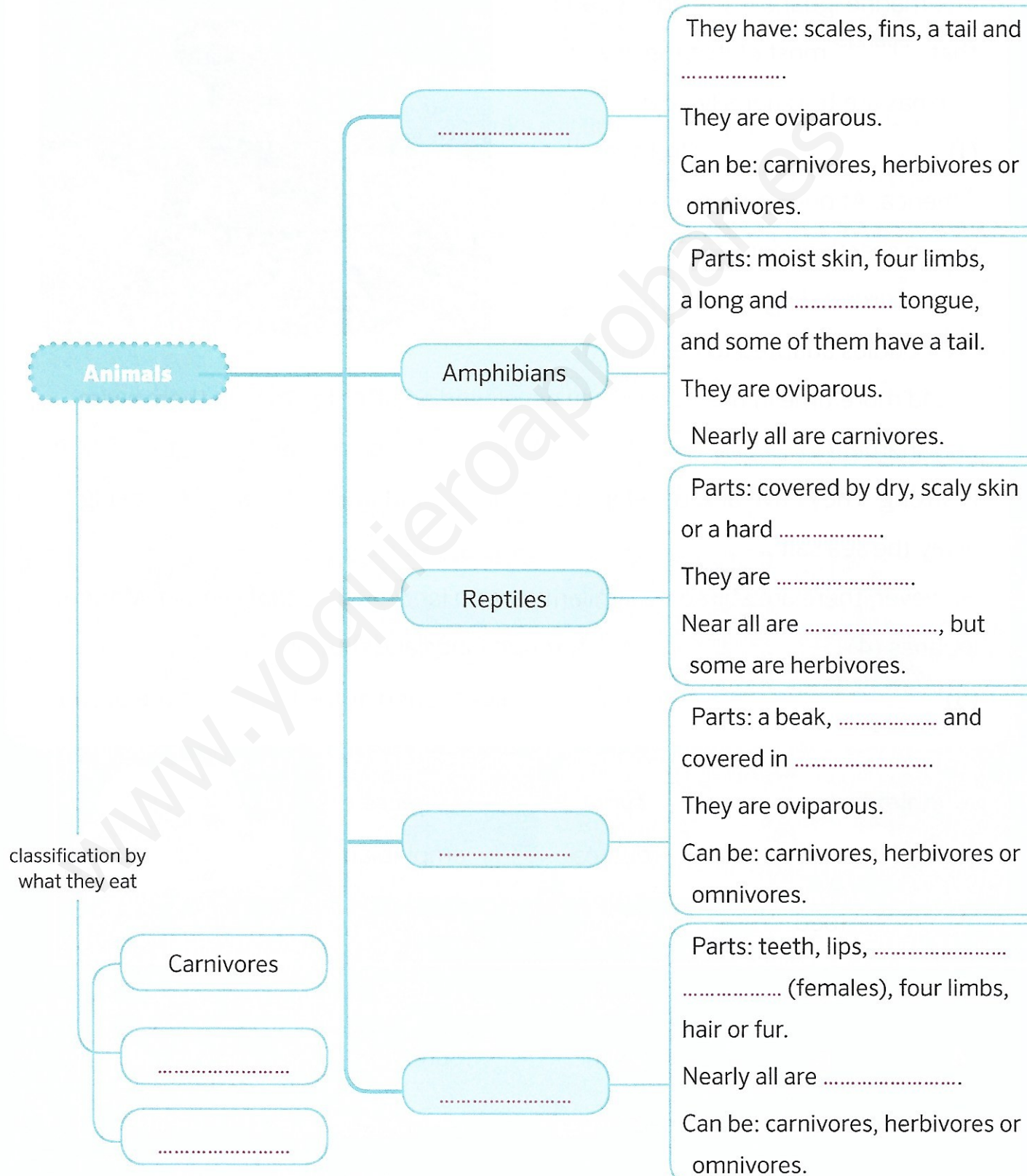


Example:	spent	spend	spends
1	mammals	reptiles	amphibian
2	food	water	frogs
3	claws	fins	legs
4	eat	swim	breathe
5	carnivores	herbivores	omnivores

To sum up

20 Complete the mind map with the words given below.

fish • mammals • shell • carnivores • birds • herbivores • wings • viviparous •
sticky • mammary glands • omnivores • gills • oviparous • feathers



21 Complete the sentences with the words provided.

1 Both and fish are oviparous and their bodies are covered in Adult breathe through their lungs and skin and fish breathe through

gills
reptiles
scales
amphibians

2 have moist They are the only group of vertebrates that undergo

metamorphosis
amphibians
skin

3 Nearly all reptiles are but there are a few

carnivores
herbivores

4 Birds have, and a at the front of the body. They are all and breathe through lungs. Most birds use their to fly, but some birds, like the, can't fly.

feathers
oviparous
beak
ostrich
wings

5 Mammals can be or They breathe through mammals produce through mammary Nearly all mammals are, which means that they live inside their before they are born.

lungs
female
glands
carnivores
milk
omnivores
herbivores
viviparous
mothers

3

Plants

1 Complete the sentences below. More than one word is needed.

- Plants use to make food.
- Plants are living they reproduce and they
- Plants live and have roots, a stem and leaves.

2 Classify the words below.

cherry tree

fern

lemon tree

apple tree

moss

Flowering plants 	Non-flowering plants 
.....	
.....	
.....	

3 Listen and number the sentences as you hear the word they refer to. Then, answer the questions.



- The roots take in the water and minerals a plants needs.
- A plant makes its own food in the leaves using sunlight.
- Stems are the part that helps the plant to stay upright.
- Herbaceous plants have stems that are very thin and flexible.
- Woody plants have a hard stem.

a) When they talk about lavender, which type of woody plant are they referring to?

.....

b) What kind of plants is this?.....

.....

- 4 Match the words to connect the information. Then, using the information, write the sentences on the lines below.

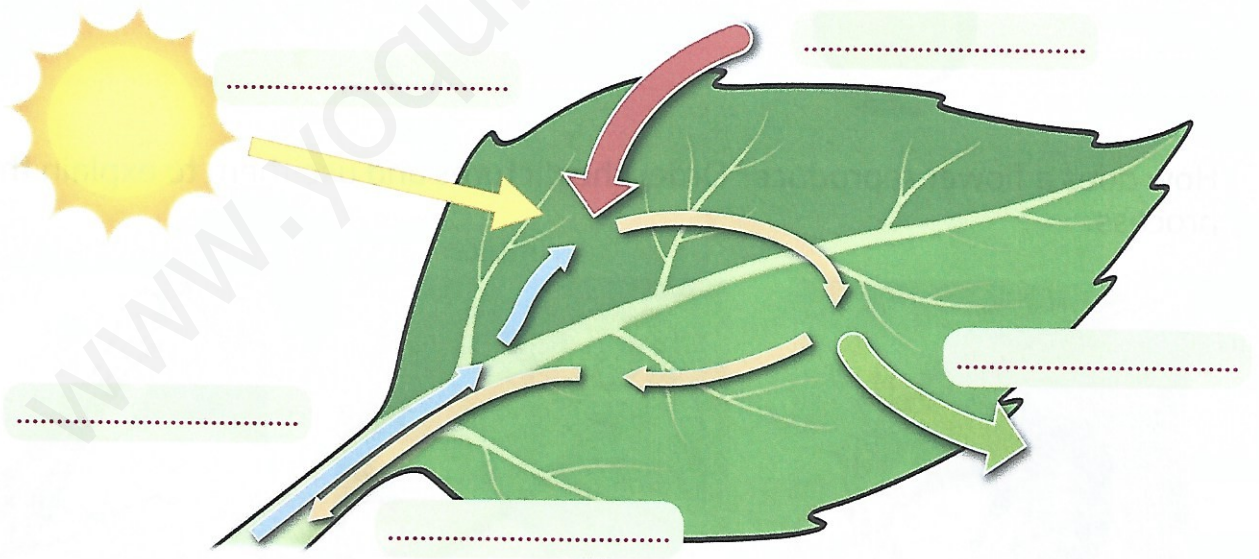
Raw sap • food • minerals • raw sap
 Roots • water • leaves • photosynthesis
 Leaves • travels • plant • vessels

- Raw sap
 • Roots
 • Leaves

- 5 Write the name of the process or product explained in the listening.

- 12 a)
 b)
 c)

- 6 Label the picture and explain the process of photosynthesis.



Photosynthesis:

- 7 Read the definitions and write the words, or complete the definition if the word is given

It holds up the anther.

Name for a coloured leaf.

A collection of green leaves.

The in a flower.

Ovules are found here.

The female reproductive organ in a flower.

The name given to in the calyx.

	I	L		M		N	
	P						
		A					
		A		E			
	O		A				
	I		T				

- 8 Label the pictures of the different parts of the flower.



- 9 How does a flower reproduce? Order the pictures and use them to explain the process.



.....

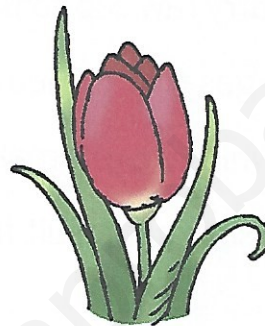
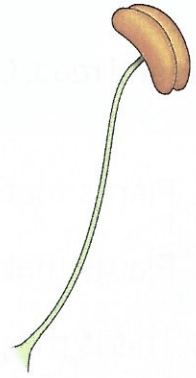
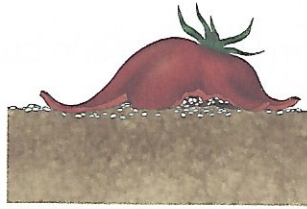
.....

.....

.....

10 Label the pictures. Then listen and number them.

13



11 Look at the words in the previous activity that refer to the process of reproduction. Which part of the process is missing? Explain in your own words what this process consists of.

12 Classify the words into the three columns.

pollen

wind

animals

fruit

grain

ovule

ovary

new plant

pistil

bees

seed

ripe

Pollination	Fertilisation	Germination

External exams

13 Look and read. Choose the correct words and write them on the lines. There is one example

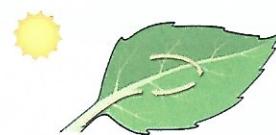
1. Plants that have a hard stem like trees and bushes. *woody plants*
2. Plants that have a thin flexible stem.
3. This is the part of the plant that absorbs water and minerals from the soil.
4. The ducts that carry raw sap to the leaves.
5. The name of the gas that the leaves take in.
6. The process by which a plant makes its own food.
7. The name of the sap that result from photosynthesis, that travels to the whole plant.
8. The name for the group of petals on a flowering plant.
9. The part of the plant that contains the seeds.
10. The process by which seeds grow in the soil to form a new plant.



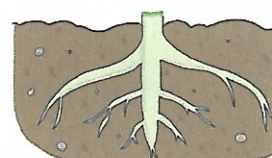
woody plant



photosynthesis



elaborated sap



roots



stem



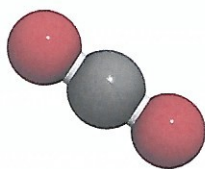
fruit



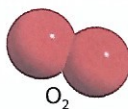
corolla



vessels



carbon dioxide



oxygen



germination



herbaceous plants

- 14 Look and read. Mark Y (yes) or N (no).



Example

Plants need sun and water to grow.

Plants can't make their own food.

Y	N
☒	☐
☐	☒

Questions

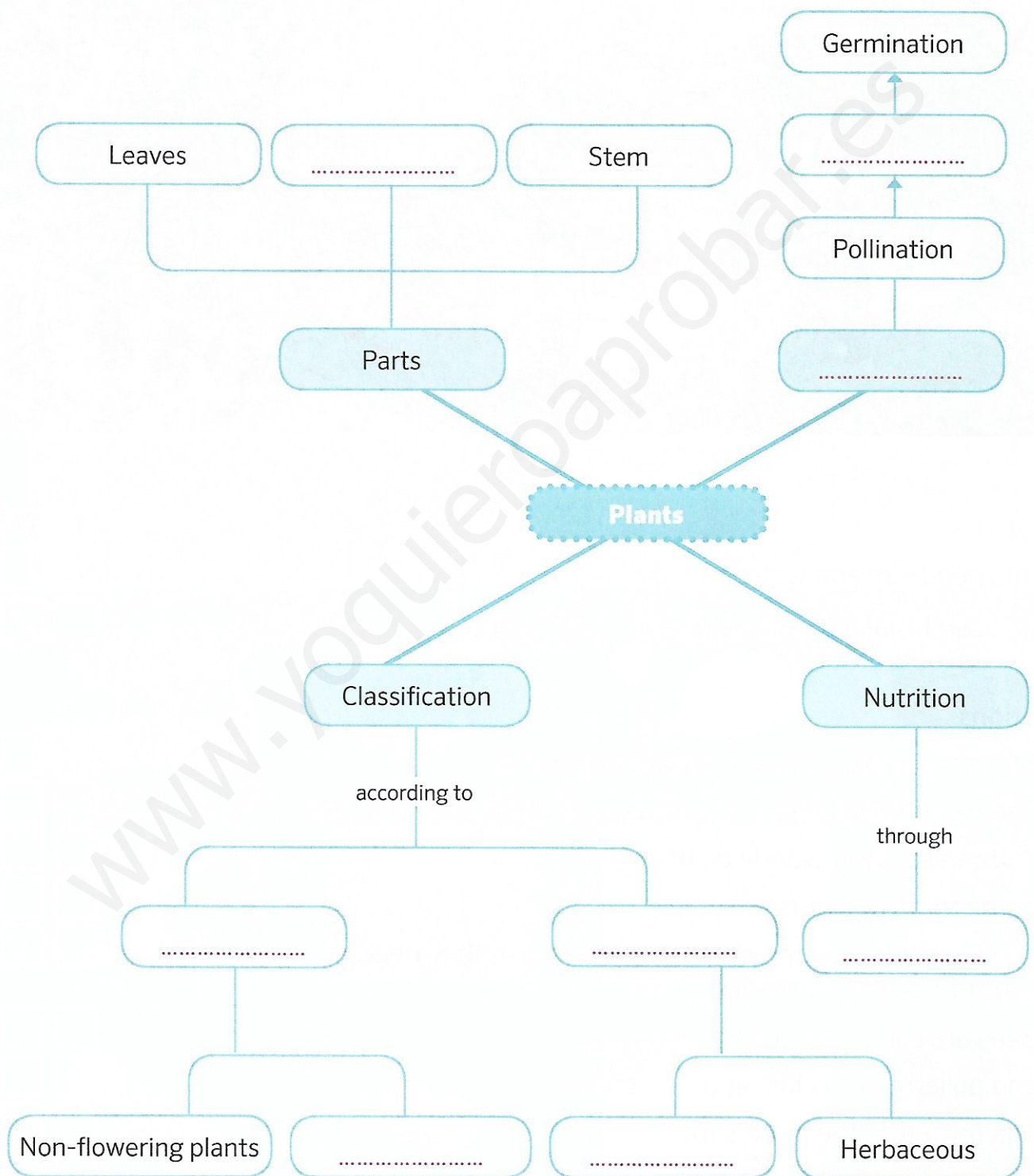
- All plants in the picture are flowering plants.
- The trees and bushes in the image are all flowering plants.
- You can see only woody plants.
- Some roots of plants are edible.
- The farmer has watered the plants because they need water to do photosynthesis.
- Bees are carrying pollen on their legs.
- The pollen grain is falling to the ground.
- The tomato is the plant's fruit.
- The two tomatoes on the ground will grow a new plant.
- The fruit on the ground has the seeds that will germinate in the soil.

☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐

To sum up

15 Complete the following mind map with the words given below.

flowers • reproduction • photosynthesis • roots • stem
fertilisation • woody • flowering



16 Complete the sentences with the words provided.

1

Plants are that have some common characteristics: all of them are to the ground and they all have a, roots and Plants are also able to make their own

Plants can be classified according to the look and the of stem they have. Woody plants have a stem, but herbaceous plants have a and stem.

Plants can be also classified by their flowers. If they don't have flowers, they are called plants; if they have flowers, are called plants.

flexible
attached
stem
leaves
living things
hard
thin
flowering
type
food
non-flowering

2

Plants get the they need through a process called Photosynthesis occurs in the

Plants in carbon dioxide from the air which is mixed with sap with the help of the from the sun. A new, substance is created called sap.

photosynthesis
nutrients
breathe
raw
leaves
elaborated
sweet
energy

3

Plants reproduce through a step process: pollination, and germination. During pollination pollen is moved from one to another. Fertilisation is the joining of the and the to make a seed. Germination refers to the moment when fall from fruit and begin forming a new plant.

ripe
three
plant
seeds
pollen
ovule
fertilisation

4

The human body

- 1 Read the definitions and match them to the words and to the corresponding part of the circulatory system they refer to.

Relaxes

gets smaller

heart

Contracts

transports

Carries

gets bigger and wider

- 2 Write true (T) or false (F). Circle the wrong words and correct the sentences.

☐ The heart relaxes and fills up with blood coming from the arteries.

☐ The heart pumps blood around the body through the blood vessels.

☐ The heart relaxes and pushes blood through the veins to the rest of the body.

- 3 Which part of the circulatory system are they referring to? Write your answers.

14

a)

c)

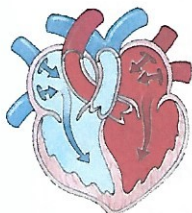
e)

b)

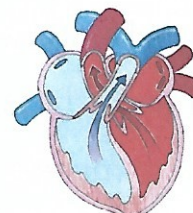
d)

f)

- 4 Look at the pictures and explain the heartbeat.



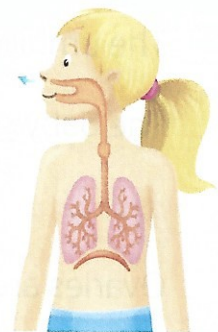
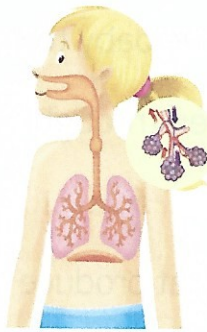
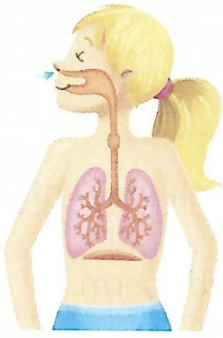
.....
.....
.....



.....
.....
.....

- 5 Listen to the sentences and number the pictures. Then label each picture with the stage of respiration it shows.

15



- 6 Now explain the following processes in your own words:

Inhalation:

.....

Gas exchanges:

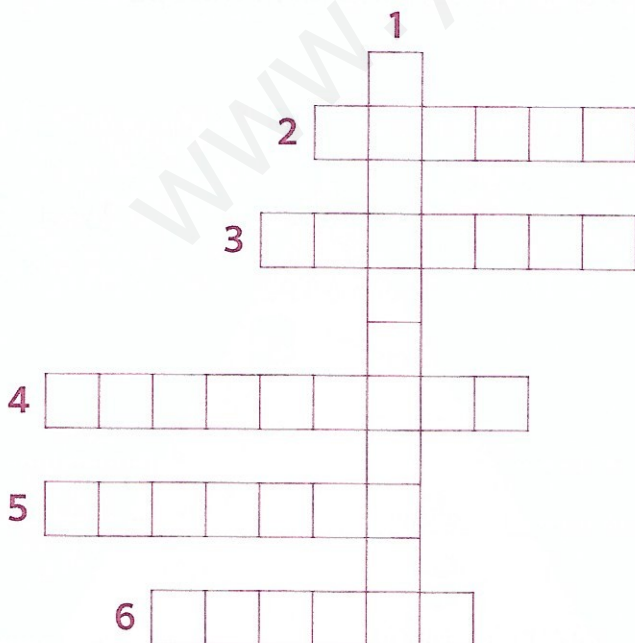
.....

.....

Exhalation:

.....

- 7 Read and solve the crossword puzzle.



Down:

1. Heats, moistens and filters the air that comes into the body.

Across:

2. Contains the vocal cords.
3. Is a rigid tube which carries air to the bronchi.
4. Muscle which helps the lungs to move in a way necessary for breathing.
5. Tubes which carry air from the trachea to the lungs.
6. Allows the air to flow from the mouth and the nose to the lungs.

8 Write true (T) or false (F). Then correct the false sentences.

☐ Pregnancy normally lasts 7 months.

☐ The umbilical cord connects the baby to its mother.

☐ The baby gets food and oxygen through the amniotic sac.

.....

☐ Ovaries are external organs that produce millions of cells called sperm.

.....

☐ The amniotic sac contains liquid that keeps the baby warm and protects it.

.....

☐ The uterus is where the baby develops until it is born.

☐ The baby goes out through the mother's vagina.

9 Explain your own reproductive system.

.....

.....

.....

10 Listen to the conversation between a mother and her son and fill in the spaces to complete the timeline.



2 months

8 months

9 months

11 months

1 year

.....

.....

Which were the first two words that John's parents could understand?

- 11 Listen to the sentences and circle if it is a healthy or an unhealthy habit. Then explain what you would suggest, to change unhealthy habits into healthy ones.

17

- a) healthy/ unhealthy
 b) healthy/ unhealthy
 c) healthy/ unhealthy
 d) healthy/ unhealthy
 e) healthy/ unhealthy
 f) healthy/ unhealthy

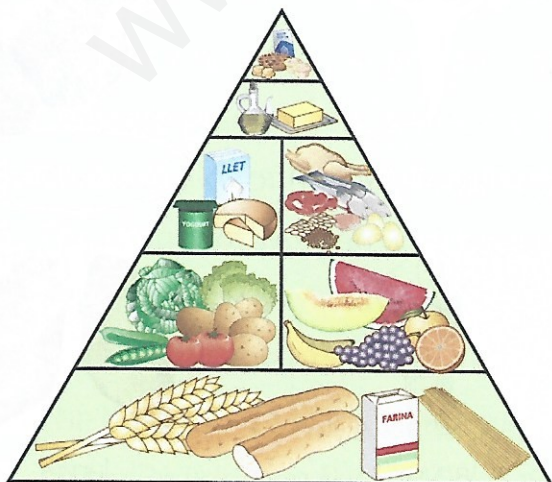
- 12 Write what these unhealthy habits may cause.

- a) Poor hygiene:
 b) Unhealthy diet:
 c) Bad posture:
 d) Sleep deprivation:
 e) Lack of exercise:

- 13 Make a list of four things you can do every day to prevent illnesses. The first one is given to you as an example.

- Brush my teeth.
-
-
-

- 14 Explain what this pyramid shows and what healthy habit is related to.



.....

Healthy habit:

External exams

15 Look and read. Choose the correct words and write them on the lines. There is one example

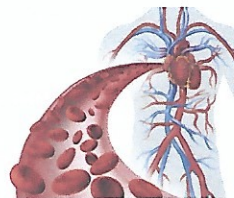
1. They transport blood around our body. *blood vessels*
2. This is a muscle in our bodies that pumps blood.
3. These are tubes that transport blood away from our heart.
4. This is the movement of the heart as it relaxes and contracts.
5. This is the system that allows us to breathe air.
6. These are two large spongy organs.
7. This is the tube that takes air from the larynx to the bronchi.
8. These are two small external organs that are part of the male reproductive system.
9. These are two internal tubes that join the ovaries to the uterus.
10. This is when a new baby is growing inside a mother.



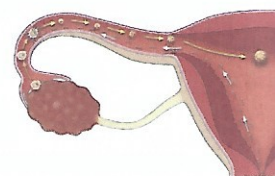
heartbeat



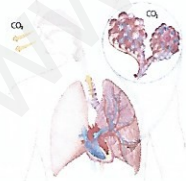
pregnancy



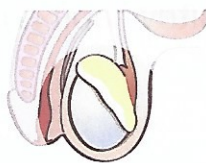
arteries



Fallopian tubes



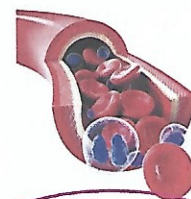
respiratory system



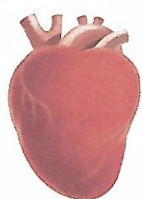
testicles



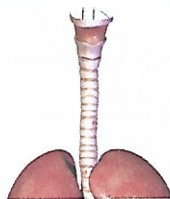
reproductive system



blood vessels



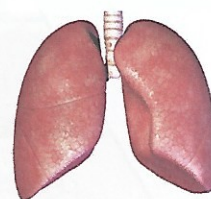
heart



trachea



larynx



lungs

16 Look and read. Mark Y (yes) or N (no).



Example

Everyone in the picture is breathing clean air.

They are watching too much television.

Y	N
☒	☐
☐	☒

Questions

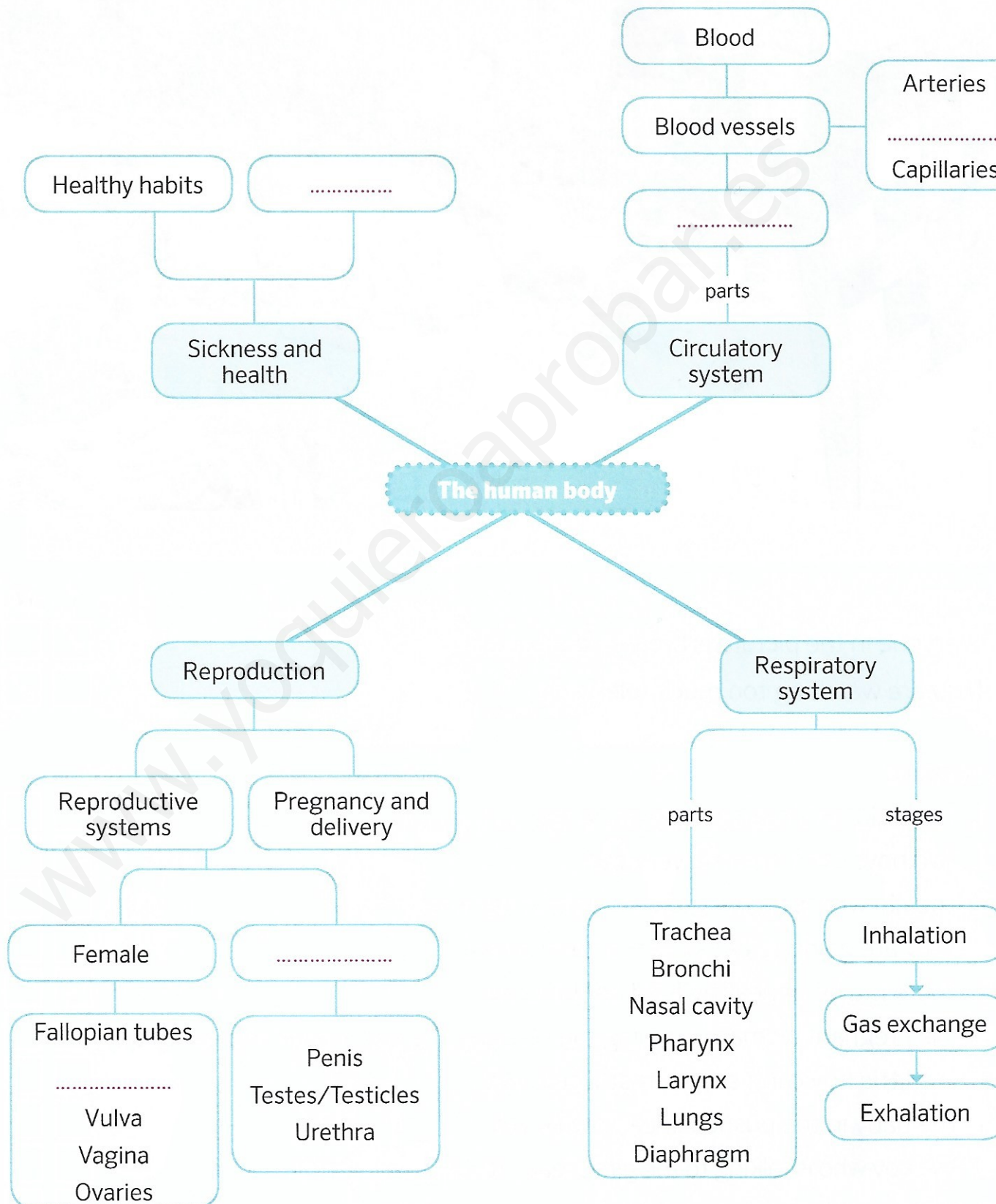
- The children's hearts are beating fast as they run.
- Two boys can't breathe very well.
- The girl who is on the ground has hurt her knee.
- They are going to eat sweets after the race.
- There is a lot of healthy food on the table.
- The pregnant woman watching the race is in the first month of pregnancy.
- The little boy can't say his first words yet.
- The baby in the pushchair can't walk yet.
- The boy who is talking to the girl is ready to run away quickly.
- All the children in the race are doing exercise.

☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐

To sum up

17 Complete the mind map with the words given below.

uterus • heart • male • vaccines • veins



18 Complete the sentences with the words provided.

1> The system distributes and to different parts of the body and removes all the substances. It is made up of blood, blood vessels and the heart.

The heart and to move the blood.

oxygen
contracts
nutrients
unwanted
relaxes
circulatory

2> The system delivers to all parts of the body. It is made up of the and the The stages of respiration are inhalation, exchange and exhalation. The process of respiration takes place inside the lungs. Oxygen passes into the blood and goes out of the body.

oxygen
gas
airways
respiratory
carbon dioxide
lungs

3> The male and the female systems are different but both are necessary to make other beings.

The stage of is when a baby forms and inside the mother. During this stage the body develops the sac and the cord.

umbilical
pregnancy
human
amniotic
grows
reproductive

4> There are habits that keep our body working at an optimal level. They keep us feeling strong and help us to avoid Physical and a healthy are some important habits. protect us by making the body build necessary to fight illness.

exercise
healthy
vaccines
diet
defenses
illnesses

5

Interaction and health

- 1 Complete the table with the senses and the organs we use in each case.

	SENSE	ORGAN
Drinking a cup of coffee	smell / taste	nose / tongue
Watching a movie		
Enjoying a cup of warm milk		
Riding a bike		
Hugging someone		

- 2 Explain what is happening in the pictures and how a person that notices the fire would interact.



.....

.....

.....

.....

- 3 Listen to the sentences and decide whether they are true (T) or false (F). Then copy the false ones.

18

☐

☐

☐

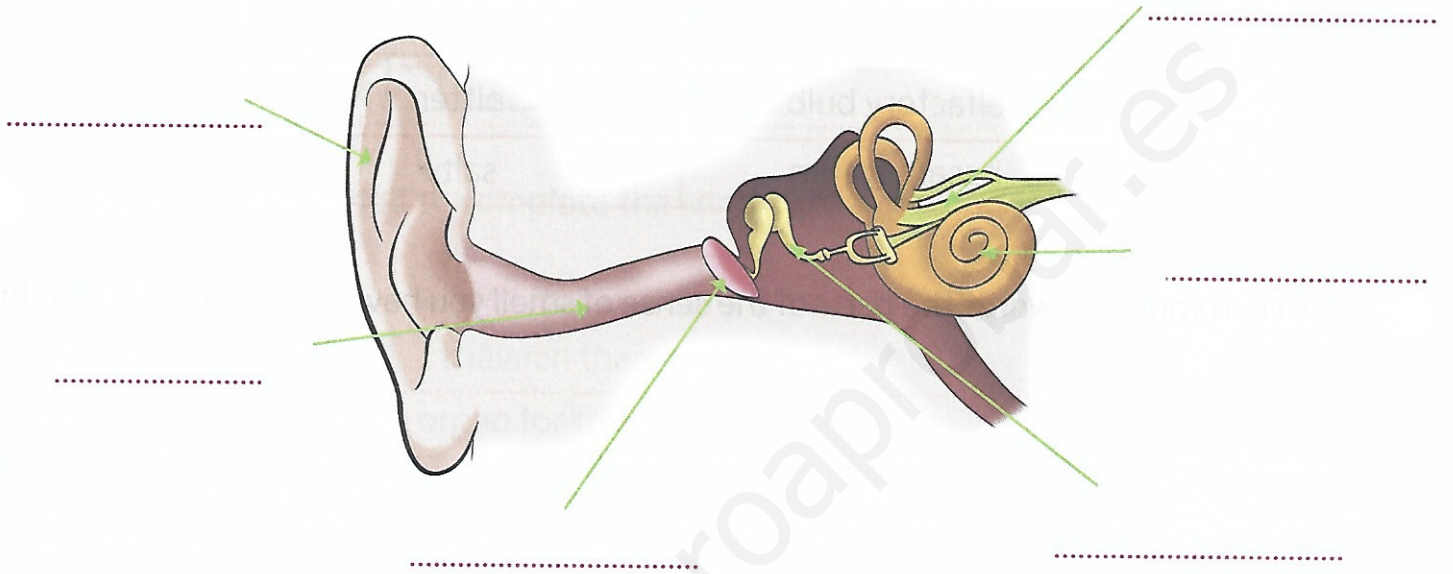
☐

.....

4 Listen and write which part of the eyes they are.

- 19 a) d)
 b) e)
 c) f)

5 Label the picture.



6 Classify the words from the previous activity in the columns.

Outer ear	Middle ear	Inner ear
.....		
.....		

7 Explain the process for this boy listening to the music that comes out of the earphones. Use the words in activity five and six to help you.

.....

.....

.....

.....

.....

.....



8 Complete the table below.

	Sense of	Sense of
Organ	.....	.....
Distinguish	.....	.....
	Parts:	Can be:
		
		
	olfactory bulb	bitter
	nasal septum	salty

9 Explain in your own words the parts of the sense of smell you have got from activity e

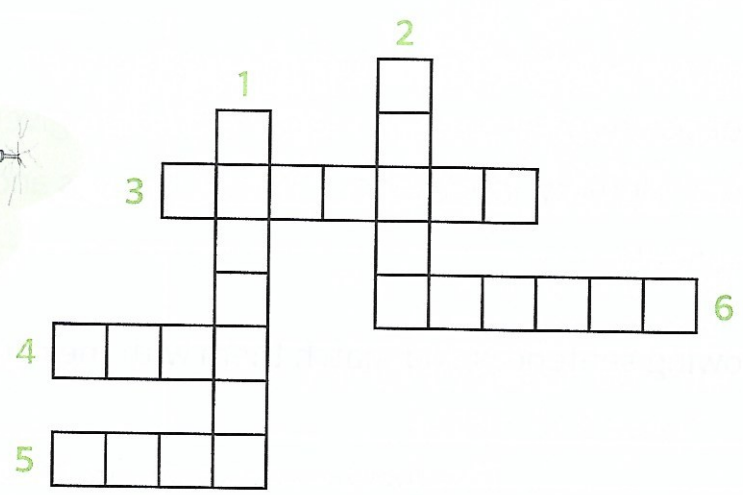
-
-
-
-

10 Listen and circle the words that are being referred to.



- a) Olfactory bulb Nasal septum Nostrils
- b) Nostrils Air Nasal cavity
- c) Nasal septum Nasal cavity Olfactory bulb
- d) Sense of taste Sense of touch Sense of hearing
- e) Ear Eyes Tongue
- f) Air Saliva Dust

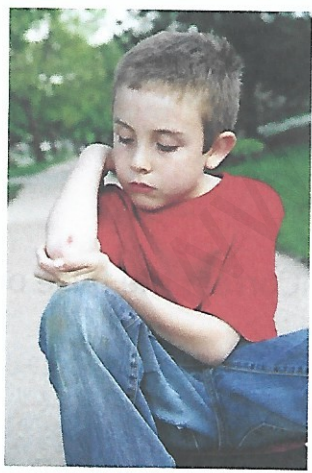
11 Listen to the clues. Use the answers to complete the crossword.



12 Find the words needed to complete the sentences.

- The allows us to experience hot and cold.
- Dark skin has melanin than skin.
- is the sense organ for touch.
- gives skin its colour.
- Through we can also feel and the of an object.
- Melanin is also responsible for the colour of your

13 Explain what the people in the pictures feel. Then answer the question.



.....

- What else can you feel through the sense of touch? Give some examples.

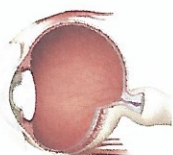
.....

.....

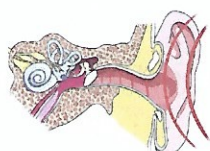
14 Read the sentences and circle the correct words.

The nervous system is the body's *control centre* / *waste system*. Here, messages *come in* / *go out*, decisions are made and *ideas* / *orders* are given to the rest of the body to *smell* / *react*. Memory, *intelligence* / *family*, feelings and emotions also come from our nervous system.

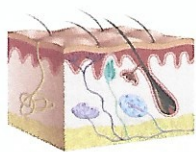
15 Complete the following sentences and match them with the corresponding image.



The olfactory nerve carries information about from the to the brain.



The optic nerve carries from to the brain.



The auditory nerve carries information about sound from the.....



The taste buds carry information about



The receptors in the

16 Listen and tick to say whether the sentence is true or false. Correct the false ones.

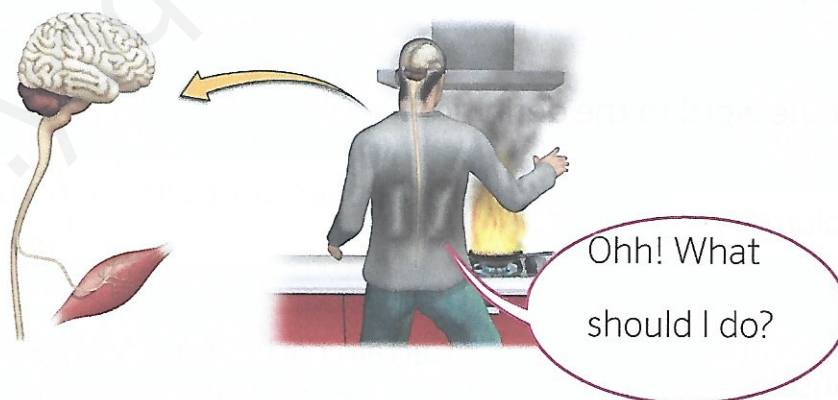
22

	TRUE	FALSE	
1.	✓		
2.			
3.			
4.			
5.			

- 17 Read the sentences and complete the table, tick the correct option.

The	send vibrations to the brain through the nerves.	
	send vibrations to the nerves through the brain.	
The	carry information from the brain to the sense organs.	
	carry information from the sense organs to the brain.	
The	produces responses and sends them to the sense organs.	
	produces responses and sends them to the musculoskeletal system.	
The	carries out the order from the brain.	
	carries out the order from the sense organs.	

- 18 Explain what has happened in the picture.



1.
2.
3.
4.

19 Write the definition and function of skeleton and muscles with the words provided.

Skeleton

structure

bones

shape

protect

.....

.....

.....

Muscles

move

messages

brain

joint

.....

.....

.....

20 Listen and number the muscles you hear being described. Then add a description of where the muscle can be found in the body.

23

- | | | |
|--------------------------|--------------|-------|
| ☐ | Quadriceps | ..... |
| ☐ | Abdominals | ..... |
| ☐ | Gluteus | ..... |
| ☐ | Biceps | ..... |
| ☐ | Jaw muscle | ..... |
| ☐ | Calf muscles | ..... |

21 Match the word to the definition.

Involuntary

These are controlled and slow movements that are done deliberately.

Muscles

Certain parts of the body are connected through nerves. They enable our body to move in different ways.

Joints

These are rapid movements that we do automatically, such as blinking our eyes.

Voluntary

These contain nerves that carry messages to and from the brain. They are flexible and soft and help you move your body.

22 Listen to the interview with the nutritionist. What four things does he recommend to the woman and why?

24

1. To eat a
2. To try to eat
3. To avoid
4. To make sure her diet includes

23 Categorise the following habits if they are related to the senses (S), the nervous system (N) or muscles and skeleton (M). Then, give more examples of healthy habits.

1. Sleep nine hours a day.
2. Eat healthy food.
3. Avoid looking directly at the sun.
4. Carry your bag on your back using both shoulders and avoid carrying too much weight.
5. Spend time with your family and friends.
6. Don't spend excessive time watching TV, playing computer games or talking on the phone.
7. Brush your teeth after every meal.
8. Maintain good posture by sitting up and walking straight.
9. Protect your skin from the sunlight.



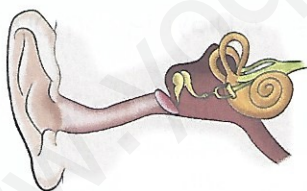
External exams

4 Look and read. Choose the correct words from below. The first one has been done for you.

1. The sense that tells us the colour, shape and size of objects. sight
2. This is a small opening in the eye that lets in light.
3. This is the part of our body that allows us to hear.
4. We use our noses for this sense.
5. This sense allows us to perceive different flavours.
6. The body's control centre where messages come in through the different nerves.
7. The nerve that carries information about sound to the brain.
8. This system in our bodies is made up of our bones and muscles.
.....
9. These bones form a cage and protect the lungs and heart.
10. These are soft and flexible and help our bodies to move.



pupil



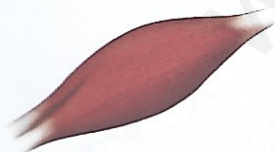
auditory nerve



smell



ribs



muscles



musculoskeletal system



nervous system



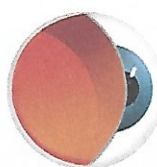
taste



tongue



ears

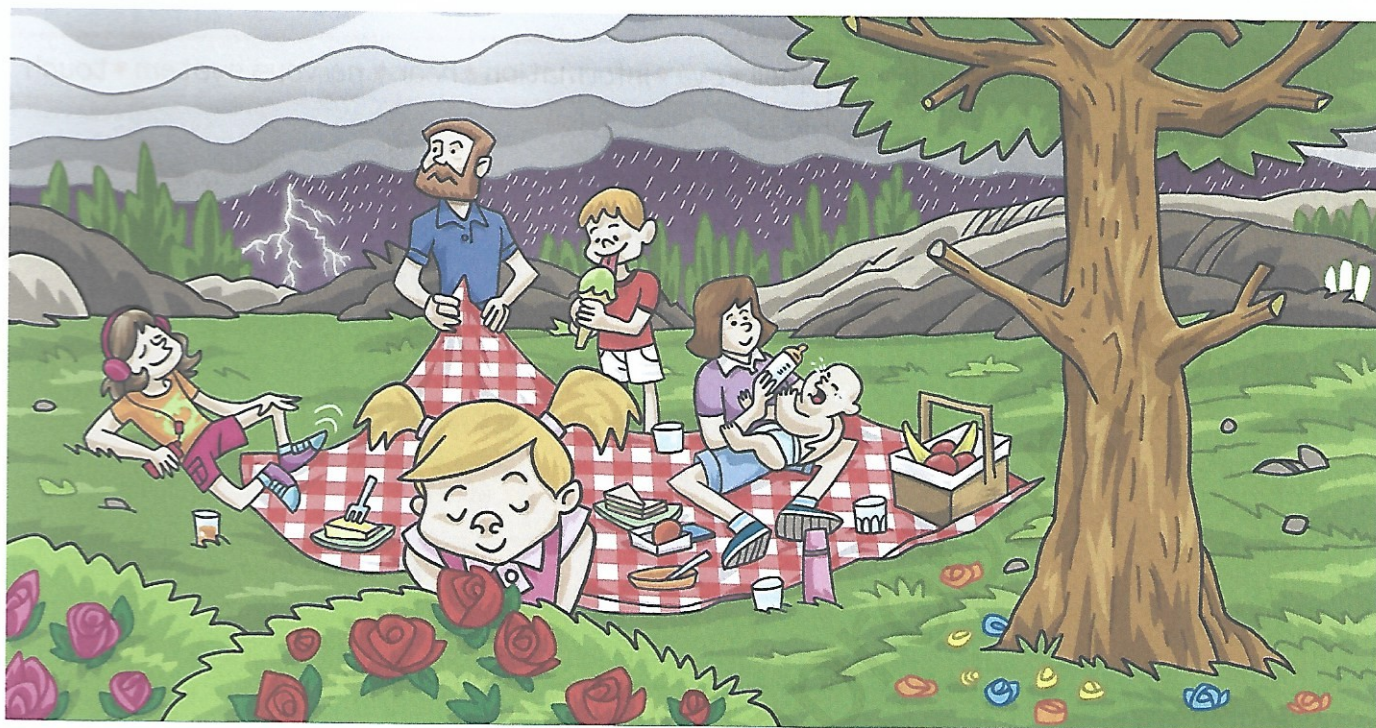


eyes



sight

25 Look and read. Mark Y (yes) or N (no).



Example

The family is interacting with the world around them.

Y	N
☒	☐
☐	☒

Their musculoskeletal system is telling them about the world.

Questions

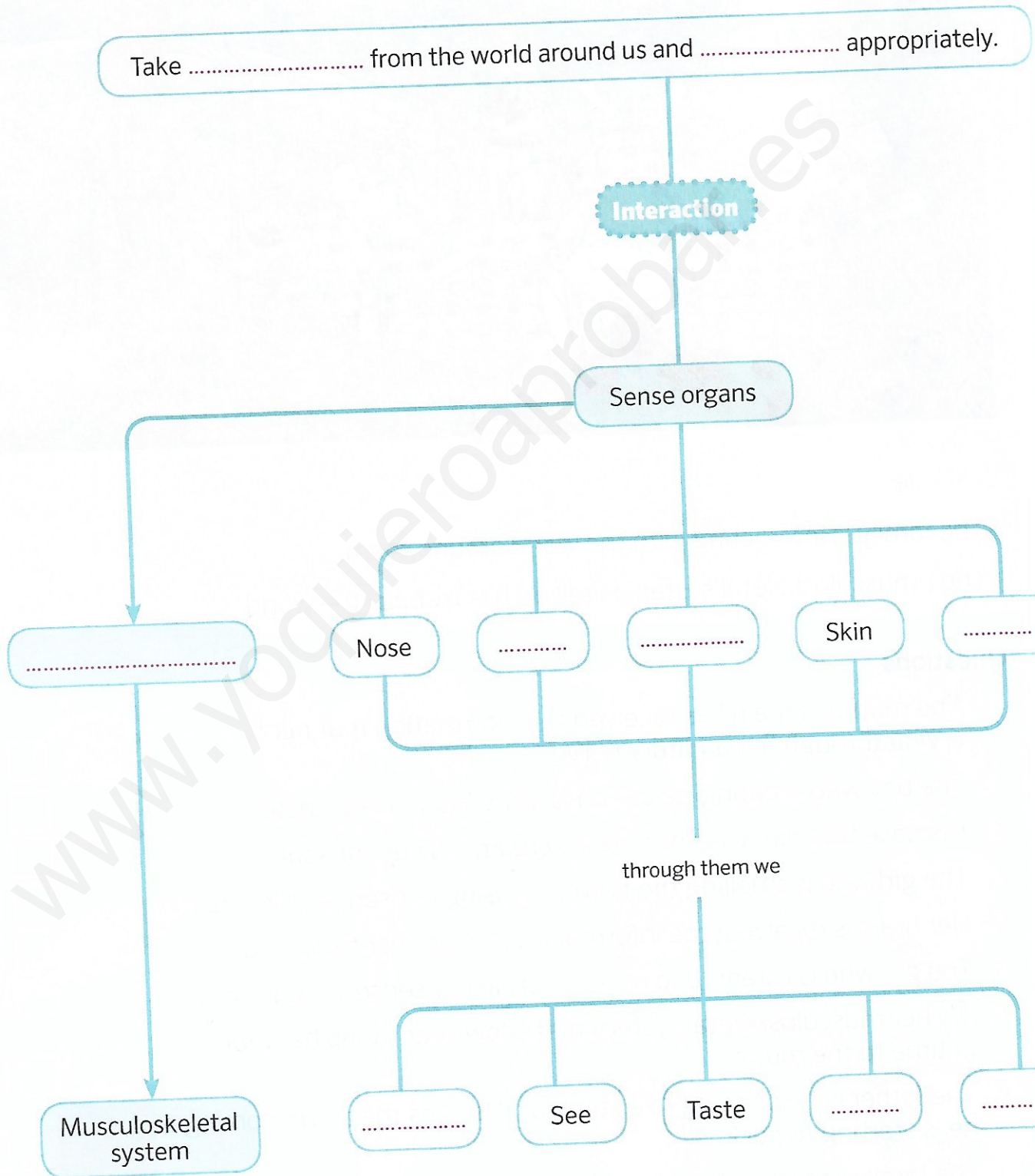
- The mother's brain has received the information that her baby is crying through her auditory nerve.
- The boy who is eating ice cream is using his sense of taste.
- His nose tells him whether the ice cream is sweet or sour.
- The girl who is smelling the flowers is using her sense of touch.
- Her brain is receiving the information through her taste bud.
- The girl who is listening to music is using her sense of hearing.
- It's her musculoskeletal system that allows her to tap her foot in time to the music.
- The father is responding to a stimulus. He sees the storm coming and he is starting to pack.
- The family spending time together is looking after their nervous system.
- This family has healthy habits, such as eating fruit.

☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐

To sum up

26 Complete the mind map with the words given below.

ears • tongue • respond • smell • eye • information • hear • nervous system • touch



27 Complete the sentences with the words provided.

Human beings have five senses: sight,, smell, taste and, These allow us to send information to the brain so we can appropriately. This is known as

respond
interaction
touch
hearing

The are the sense organs that allow us to see. Our ears are the sense that allow us to

organs
hear
eyes

The sense of helps us distinguish and We experience different through the sense of

fragrances
taste
odours
flavours
smell

..... is the sense organ for We experience hot and cold, and of things through touch.

pain
texture
temperatures
skin
touch

The nervous system is in charge of sending, making decisions and giving to the rest of the body to react. The main parts are the and the

brain
orders
messages
nerves

The musculoskeletal system is made of and

muscles
bones

It is important to have We should look after our and our muscles and in order to stay healthy.

senses
healthy habits
bones

6

Energy

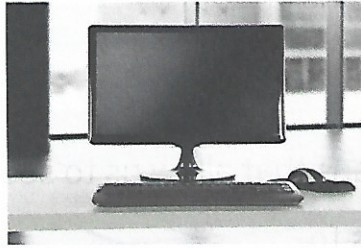
1 Say what kind of energy can be observed in these examples:

a)



.....

b)



.....

c)



.....

2 Listen and number the type of energy when it is described.

25

Kinetic energy	.....	Light energy	.....
Sound energy	.....	Heat energy	1
Electrical energy	.....	Chemical energy	.....

3 Complete the sentences that are examples of the types of energy. Name them if necessary.

Kinetic energy You a ball and it

..... energy You bang on a drum, its membrane..... and people can

Electrical energy You move a switch, the..... flows and to work.

..... energy You in the mirror and you can

..... energy You an ice-cream cone in the sun and it melts.

Chemical energy This type of energy is inside objects until a happens. For example, a battery.

- 4 Complete the sentences. Then give the groups a title.

..... **energy sources:**

To produce energy from the sun, solar panels.

To the wind, we need to use

To produce energy from hydroelectric

..... **energy sources:**

..... is mined from the ground. It is used to produce energy.

..... is found when we drill It is used mostly for heating.

..... is found when we dig in the ground. It is used to

.....

- 5 Read the sentences and tick the correct column.

	Renewable sources	Non-renewable sources
One example is the sun.		
One example is coal.		
This kind of energy source cannot run out.		
This kind of energy source is constantly renewed.		
This kind of source takes a long time to be created.		

- 6 In what ways could you reduce the energy you use? Use the words in the box to help you form the sentences. Can you think of any others?

switch / lights

walk / school

sweater / heating

watch / television

- a) I could.....
- b) I could.....
- c) I could.....
- d) I could.....
- e)
-

- 7 Complete the change of state diagram and give an example. Then explain with your own words how this happens.

Getting colder

Gas Liquid

 to
 Liquid Solid

Getting hotter

Liquid Gas

 to
 Solid Liquid

- 8 Listen and circle the change of state that the people are talking about. Then answer the question.

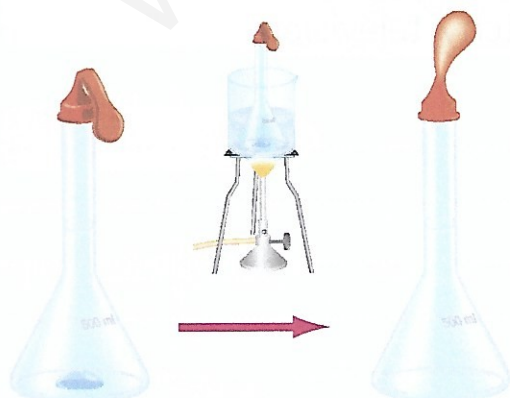
26

- a) condensation / evaporation d) evaporation / solidification
 b) fusion / thermal equilibrium e) condensation / thermal equilibrium
 c) fusion / solidification

- Which types of change are they talking about?

.....

- 9 Look at the picture and answer the questions below.



- a) What has happened in the experiment?

.....

- b) How do we call this phenomena?

.....

- c) What type of change it is?

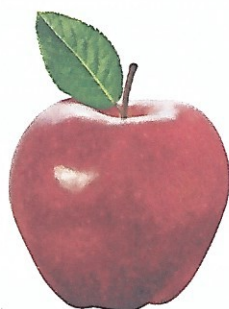
.....

- 10 Listen and decide whether the sentences are true or false. Then write the correct ones and correct the wrong ones.

	True	False	
1			
2			
3			
4			
5			
6			

- 11 Classify the objects as transparent, opaque or translucent. Then give some more examples of objects for each category.

a)



b)



c)



.....

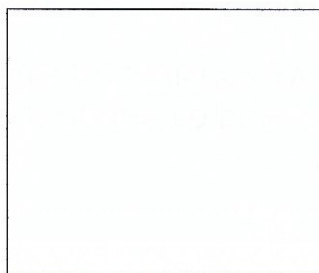
.....

- 12 Draw the pencil in the mirror to show what happens. Then answer the question.

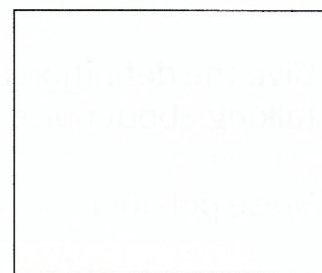
a) Flat mirror



b) Concave mirror



c) Convex mirror



d) How do we call this property of light?

e) Explain what happens there.

f) What does it allow us to see?

13 Write true (T) or false (F) for the sentences below.

☐ Sound, just like light, travels in all directions and in a straight line.

☐ Sound is transmitted faster through the air.

☐ Through our eyes we can perceive sound, a form of energy.

14 Decide which quality of sound each picture represents. Then explain each term.



.....

.....

.....

.....



.....

.....

.....

.....



.....

.....

.....

.....

15 Give the definition of what we consider 'noise pollution'. Then listen to the people talking about noise pollution and complete the table.

28

Noise pollution

	Problem	Where?	Solution
1	Loud music		Turn down the volume.
2		In the street	
3	Children shouting		Tell them to be quiet.
4		In the city	
5	The dog barking	In the house	

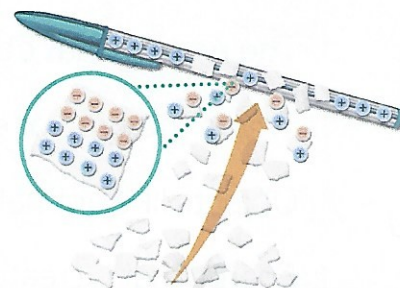
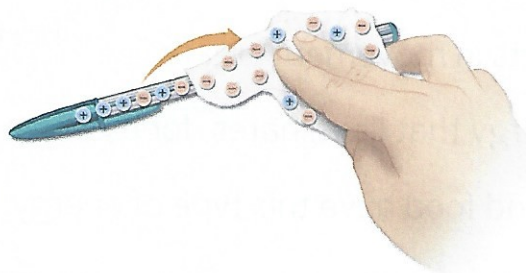
- 16 What does the picture show? You have some words to help you.

Attraction

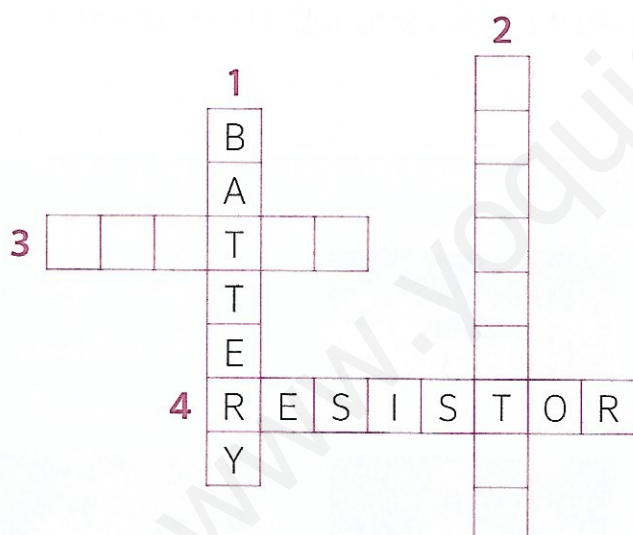
Repulsion

Positive charge

Negative charge



- 17 Read the clues and complete the crossword.



Down:

1.

2. This allows the electricity to flow through the circuit.

Across:

3. It opens or closes a circuit.

4.

- 18 Listen and complete the text.



Electricity can be of energy. Here are some examples. When you use a, electrical energy is turned into energy. When you, electrical energy is turned into energy. When you turn on a, electrical energy is transformed into

External exams

19 Look and read. Choose the correct words from below. The first one has been done for you.

1. The energy that objects in movement create. kinetic
2. This is the type of energy that illuminates, for example fire.
3. Objects like animals and food have this type of energy.....
4. Energy that is created when vibrations occur, like a volcano erupting.
5. The type of energy source that will run out in the end.
6. The type of energy source that will never run out.
7. The name of the energy produced from the heat of the sun.
8. Energy transferred from on object to another colder one.
9. This is what occurs when heat is applied to an object producing a change in volume.
10. This is the change of direction of light when it passes through a translucent or transparent object.



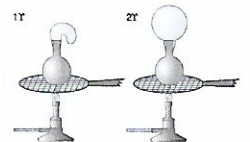
kinetic



light energy



solar energy



expansion



wind energy



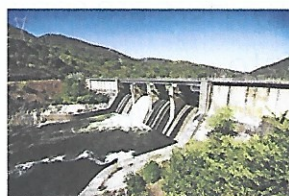
heat



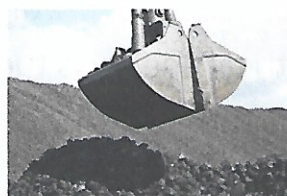
refraction



sound energy



renewable energy



non-renewable energy

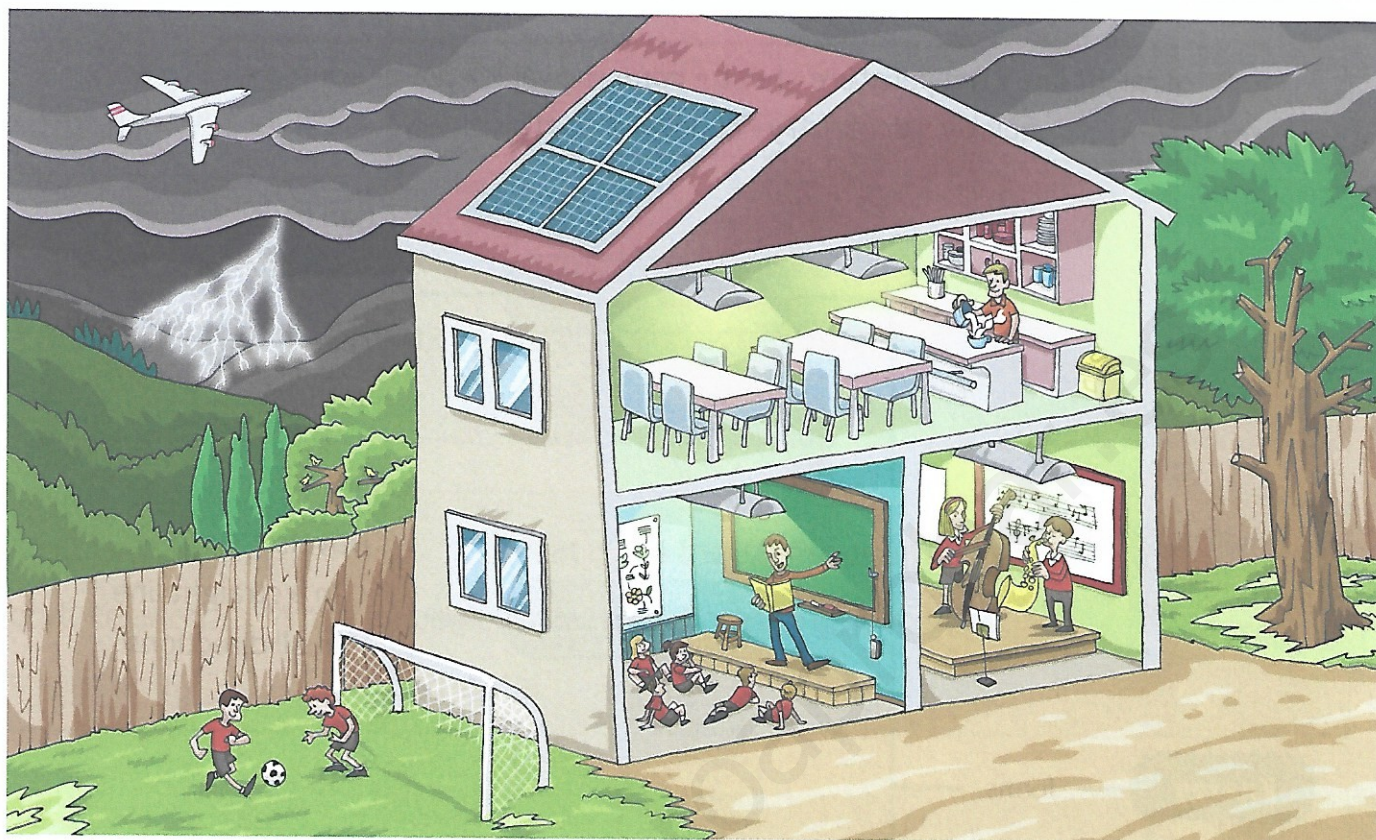


chemical energy



electrical energy

20 Look and read. Mark Y (yes) or N (no).



Example

In the picture there are several examples of electrical energy.

The two musical instruments emit a high pitched sound.

Y N

☒	☐
☐	☒

Questions

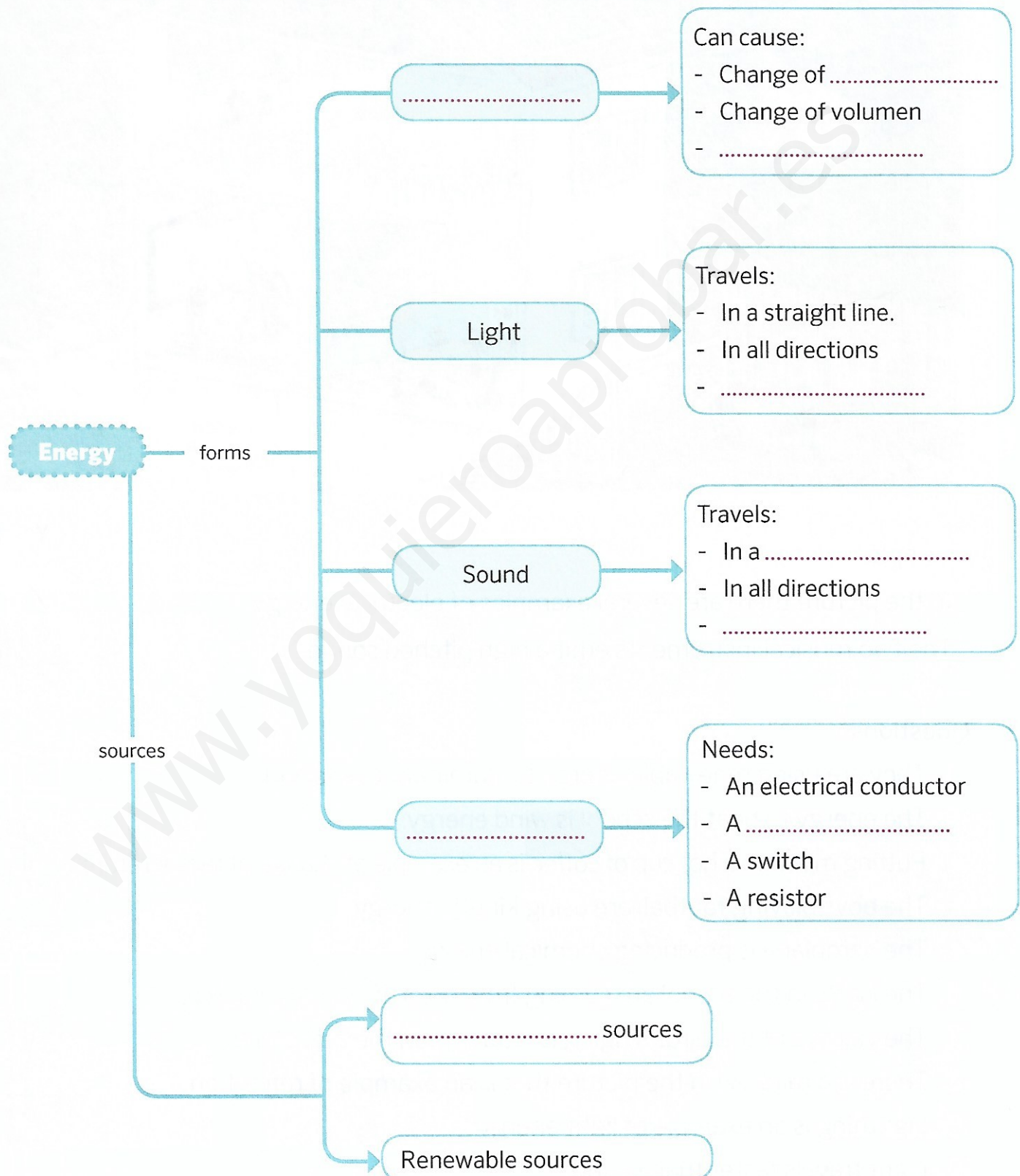
1. They are using renewable energy to illuminate the school.
2. The energy to heat the school is wind energy.
3. Putting milk into a hot cup of coffee is an example of change of temperature.
4. The boys playing football are using kinetic energy.
5. The aeroplane is producing chemical energy.
6. The lights in the school are coming from an artificial light source.
7. The volume of the birds singing is louder than the aeroplane.
8. There is a rainbow in the picture that is an example of refraction.
9. Lightning is an example of light energy.
10. Light travels faster than sound.

☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐

To sum up

21 Complete the mind map with the words given below.

straight line • temperature • heat • non-renewable • power source •
quickly • electricity • change of state • slowly



22 Complete the sentences with the words provided.

1>

There are many different kinds of energy, they are called: energy, kinetic energy, light energy, energy, heat energy and energy.

Some sources of energy are renewable and some others are

electrical
chemical
non-renewable
sound

2>

All objects have a Heat is the transfer of energy from one body to another. When an object is heated, three things can: temperature, and state.

change
volume
temperature

3>

Light sources can be classified as or artificial. Light moves at a speed, in a line and in directions.

..... is when light hits an object and changes direction.

..... is when light passes from one medium to another.

high
natural
reflection
refraction
straight
all

4>

Sound is a form of energy produced by the of bodies.

Sound travels in a straight line and in all directions, but it travels

Qualities of a sound are: volume, pitch and

vibration
slowly
timbre

5>

Electrical is a property that causes attraction and repulsion between some objects. When an electric charge moves, it creates an electric current. An electric current can be used to produce many different kinds of

energy
charge

7

Matter and forces

1 Identify the instrument or object and say which property it measures.

a)



.....
.....

b)



.....
.....

c)



.....
.....

d)



.....
.....

2 Listen and decide which element of matter they are describing. Mark the order in which you hear the descriptions in.



..... Density Volume Mass

3 Using the information you've heard, write definitions in your own words and describe the examples given in Activity one. Volume has been completed as an example.

a) Volume is the space that a substance occupies. The example in the listening track was comparing two quantities of lemonade in containers of different size and shape. Even though the two containers were different in shape, the quantities of lemonade were the same.

b) Density is

.....

.....

.....

c) Mass is

.....

.....

.....

- 4 Name each material in the images below. Then select and write the properties from the coloured boxes for each material.

insulating

flexible

fragile

rigid

soft

conductive

resistant

strong



.....

.....

.....

.....

.....

.....



.....

.....

.....

.....

.....

.....

- 5 Now choose four materials from above and explain why each material is used to make certain objects we use.

Example: Bricks are used to make buildings because they are very strong and can support a lot of weight.....

.....

.....

.....

.....

.....

.....

.....

6
31

Identify in the picture the pure substances, homogeneous mixtures and heterogeneous mixtures they talk about. Then answer the question.



Pure substances:

.....

Heterogeneous mixtures:

.....

Homogeneous mixtures:

.....

- The father said 'mum wants us to be healthy'. What is he referring to and what is it exactly?

.....

7 Complete the sentences below and give an example.

a) A solution is... ..

.....

b) A solvent is... ..

.....

c) A solute is... ..

.....

8 Match the separation techniques with their descriptions.

decantation •

The homogeneous mixture is heated. After a while, the water will evaporate and the solid component of the mixture will be left behind.

distillation •

Some mixtures will separate themselves according to density of the substance.

evaporation •

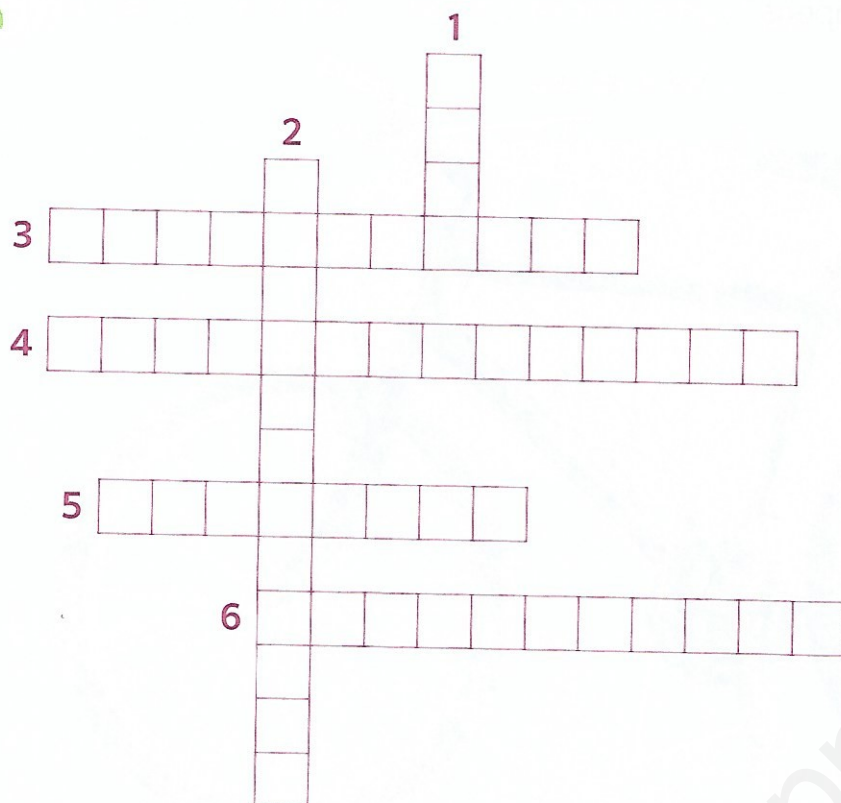
Pour a heterogeneous mixture (such as sand and water) through a funnel containing filter paper. The paper will trap the bigger particles in the mixture and let the water pass through into the beaker.

filtration •

A homogeneous mixture of liquids is heated until one of the liquids evaporates. It is collected in liquid form after cooling and condensing in the tube between the two beakers.

- 9 Listen to the clues and use the answers to complete the puzzle.

32



- 10 What type of change can be seen in the picture? Explain what is happening.



.....

.....

- 11 Look at the statements below. Decide whether they are true (T) or false (F) and then re-write the incorrect ones correctly.

- ☐ Substances which undergo chemical changes are called reagents.
- ☐ Fermentation needs oxygen in order to occur.
- ☐ Iron oxide is made from certain metals exposed to oxygen in the air and water.
- ☐ The new substance made in a physical reaction is called a material.

- 12 Look at the diagram of the bicycle and try to predict how forces might affect how each labelled part moves or what happens.



- The handlebars:
- The pedals:
- The brakes:

- 13 Listen and complete the table.



Number	Body type	Example	Result when force applied
1	Rigid	.....	.....
2	.....	.....	Returns to original shape when force removed.
3	.....	Clay model	.....

- 14 Look at the materials you can see in the picture of a car and say why you think they are used for each part. The first example has been done for you.



Example: Bumpers are made of plastic to be lighter and can be shaped to fit different car shapes.

- The seats are made of because it is for people of different and to sit on.
- The body is made of because it is
- The windscreen
- The steering wheel
- The lights
- Suspension

- 15 Listen and fill in the missing information in the table. Then record which parts of the car have changed in design over the years and why.

Car part	Reason why the material was chosen
.....	In case of impact. The fabric is flexible so when it inflates with air, it can change shape easily.
.....	Originally wood, changed to metal springs for durability when going over uneven surfaces.
.....	In case the car collides with something. Changed from metal to plastic to be lighter and could be shaped.

External exams

16 Look and read. Choose the correct words to complete the sentences.

1. This is what everything around us – clothes, water, air – is made up of.^{matter}.....
2. The amount of matter of an object measured in grams and kilograms.
3. Something used to measure the volume of an object.
4. The name of a mixture when you can see the two substances that make up the mix.
.....
5. The solvent in the homogeneous mix of hot chocolate.
6. The name of the process to separate two homogeneous mixes.
7. The name of the process that occurs when a gas becomes a liquid.
8. The name of the process that occurs when a substance combined with oxygen becomes a new substance.
9. The property of materials that do not allow liquid to pass through them.
.....
10. The property of materials that return to their previous shape when the force is no longer applied.



milk



impermeability



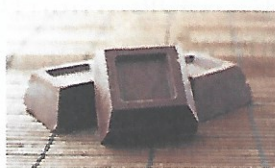
condensation



distillation



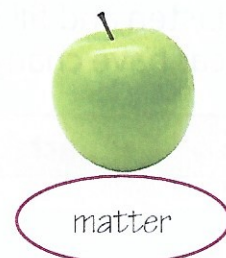
elasticity



chocolate



mass



matter



oxidation



measuring cylinder



homogeneous mixture



heterogeneous mixture

- 17 Look and read. Mark Y (yes) or N (no).



Example

The sofa is made from an elastic material.

Y N

☒	☐
-------------------------------------	--------------------------

The baby is drinking a heterogeneous mixture.

☐	☒
--------------------------	-------------------------------------

Questions

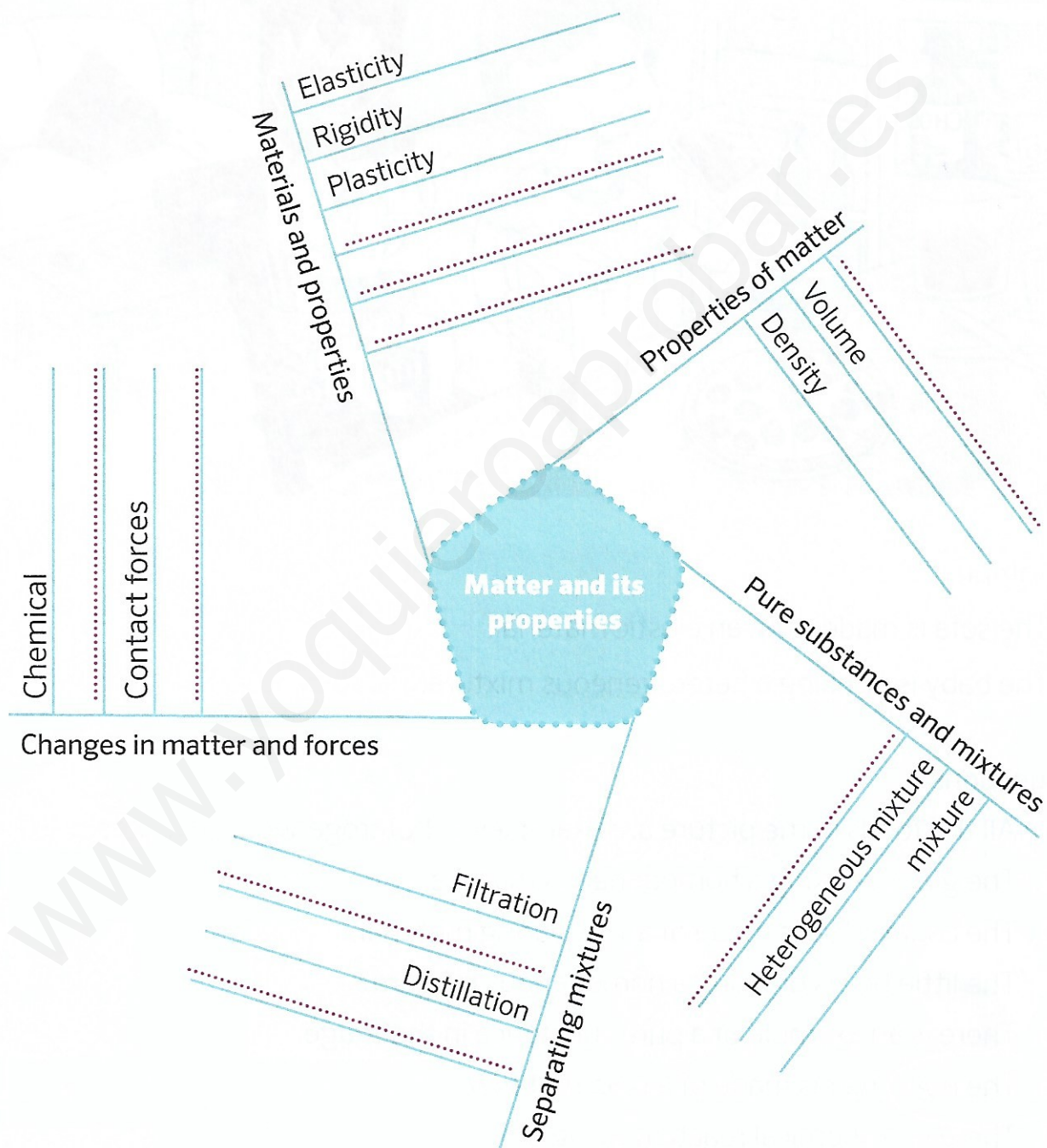
- All the foods in the picture are examples of heterogeneous mixtures.
- The girl is drinking a homogeneous mixture.
- The countertop is made of an insulating material.
- The little boy is drinking a homogenous mixture.
- There is an example of a pure substance in the fridge.
- The high chair is made of a rigid material.
- There is a chemical reaction going on.
- There are two objects made of a transparent material on the table.
- The ice in the glass is an example of condensation.
- There are three examples of physical changes.

☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐

To sum up

18 Complete the mind map with the words given below.

mass • strength • physical • impermeability • non-contact forces • decantation •
pure substances • homogeneous • evaporation • transparency



19 Complete the sentences with the words provided.

1

Everything around us is made of Three elements define matter:, mass and is the name we give to matter we use to make an The of a material, such as if it is flexible or fragile, can help us decide if it is suitable to make the object.

properties
matter
volume
material
object
density

2

A pure substance is made from a single, whereas a is formed from several. There are two types of mixtures: and We can mixtures using techniques such as, distillation, evaporation and

homogeneous
separate
heterogeneous
filtration
substances
mixture
decantation

3

Matter can undergo and chemical changes. Physical changes do not alter the of matter but chemical changes do. In chemical reactions, the components called are turned into components called

composition
products
reactants
physical

4

Forces can be defined as between bodies. They can be contact or forces and can cause a body to and change or speed.

directions
interactions
non-contact
move

5

The materials we use have different which make them different to others. We can classify materials according to, impermeability, and transparency.

strength
properties
elasticity

8

Machines

1 Classify the words in the correct column.

shovel bicycle television wheel car pencil sharpener
hammer scissors laptop dishwasher ship

Simple machines	Complex machines
.....	
.....	
.....	
.....	
.....	
.....	

2 Write what type of machine these are depending on the energy they use.

a)



b)



c)



.....

3 Listen and answer the following questions.

35

- How many pillars do they need to make the shelf?.....
- How many girders is Dani's father going to use?.....
- Which girder do you think has more possibilities of bending? Why?.....
.....
- What does Dani want to put on the second shelf?.....

- 4 Look at the different classes of levers. Match each class to the correct example of lever. Then add more examples.

Class 1 lever ●

●



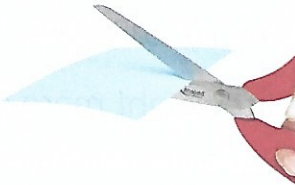
.....

.....

.....

Class 2 lever ●

●



.....

.....

.....

Class 3 lever ●

●



.....

.....

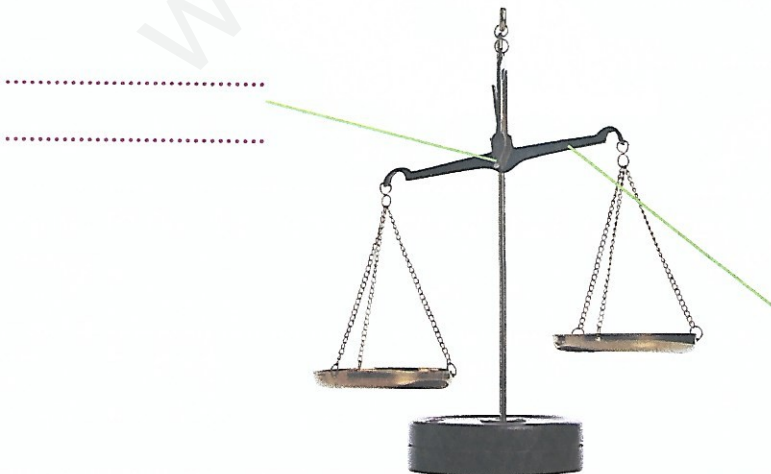
.....

- 5 Listen and name the objects they are talking about. Then complete the second column with the class of levers they will use to carry out the different jobs.

36

1. ....	→	.....
2. ....	→	.....
3. ....	→	.....
4. ....	→	.....
5. ....	→	.....
6. ....	→	.....

- 6 Label the parts of the lever you see in the picture. Then explain what they are.



.....

.....

.....

7 Read and mark the sentences as true (T) or false (F). Correct the false sentences.

- ☐ Some simple machines allow us to move heavy objects.
- ☐ An inclined plane is also called a pulley.
- ☐ In a group of pulleys there are two or more connected pulleys.
- ☐ A pulley has three wheels.
- ☐ A television is an example of simple machine.
- ☐ A pulley makes it possible to lift weight more easily than doing it manually.

8 Decide if the pictures show an example of an inclined plane, pulley or a group of pulleys.



bucket



crane



slide

9 Listen and decide whether they should use an inclined plane or a pulley. Then listen again and answer the questions.

37

- a)
- b)
- c)
- d) What is Marta's birthday present?
.....
- e) What does the family need to move?
.....
- f) What happened to Simon?
.....

10 Copy what you hear and then try to guess the name of the inventions.

38

- a)
- b)
- c)
- d)
- e)
- f)

11 Complete the fact file on Archimedes' inventions.

Name:

Lived:

City:

Inventions:

Name:

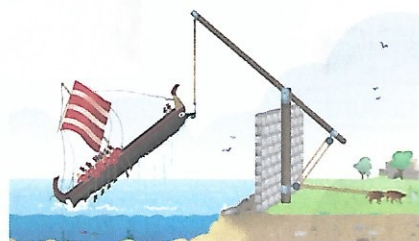
Name:

Use:

Use:

Parts:

Parts:



12 Now, think of a new invention that needs to be invented and explain it in your own words.

.....

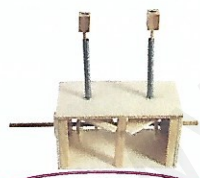
.....

.....

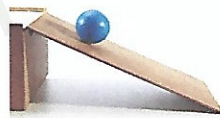
External exams

13 Look and read. Choose the correct words to complete the sentences.

1. A construction made up of different parts that can support heavy loads. structure
2. A complex machine that uses electrical energy to work.
3. A complex machine made up of simple machines.
4. A simple machine made up of a wheel with raised edges and a rope that goes through.
.....
5. A simple machine made up of a rigid bar and a central pivot.
6. A simple machine, also called a ramp that has one end higher than the other.
.....
7. A invention by Archimedes used to raise the level of water.
.....
8. A crane-like invention with a pulley used to lift ships.
9. Helicopters, cars, trains and spaceships are examples of advances in this field of inventions.
10. An invention in the field of communication that allows people all around the world to be connected.



structure



inclined plane



laptop



lever



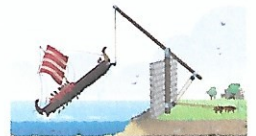
internet



transport



Archimedes' screw pump



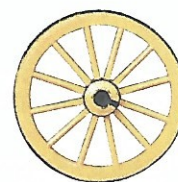
claw of Archimedes



pulley



swing

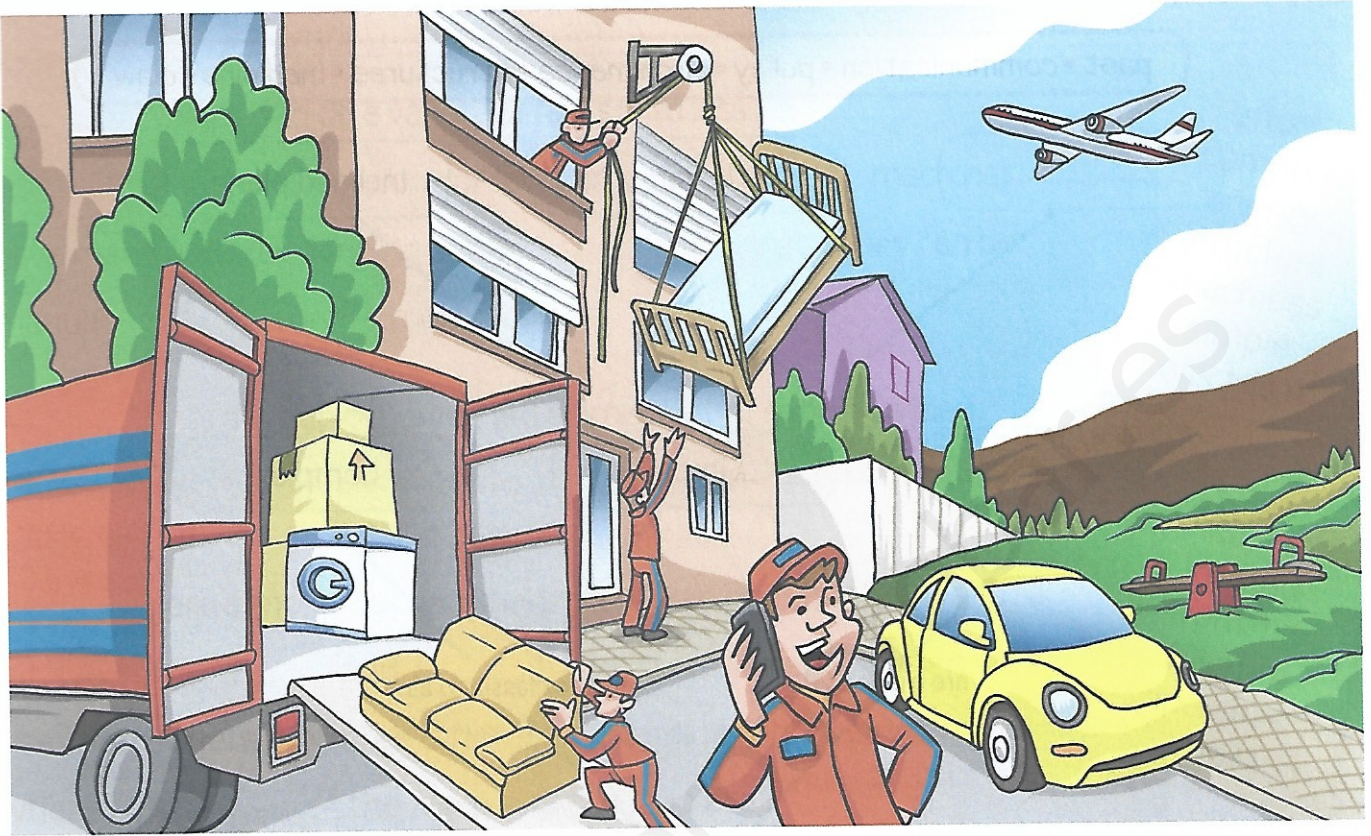


wheel



bicycle

14 Look and read. Mark Y (yes) or N (no).



Example

The building is an example of a structure.

Y N

✓	
---	--

The workers don't have any machines to help them to move the things.

	✓
--	---

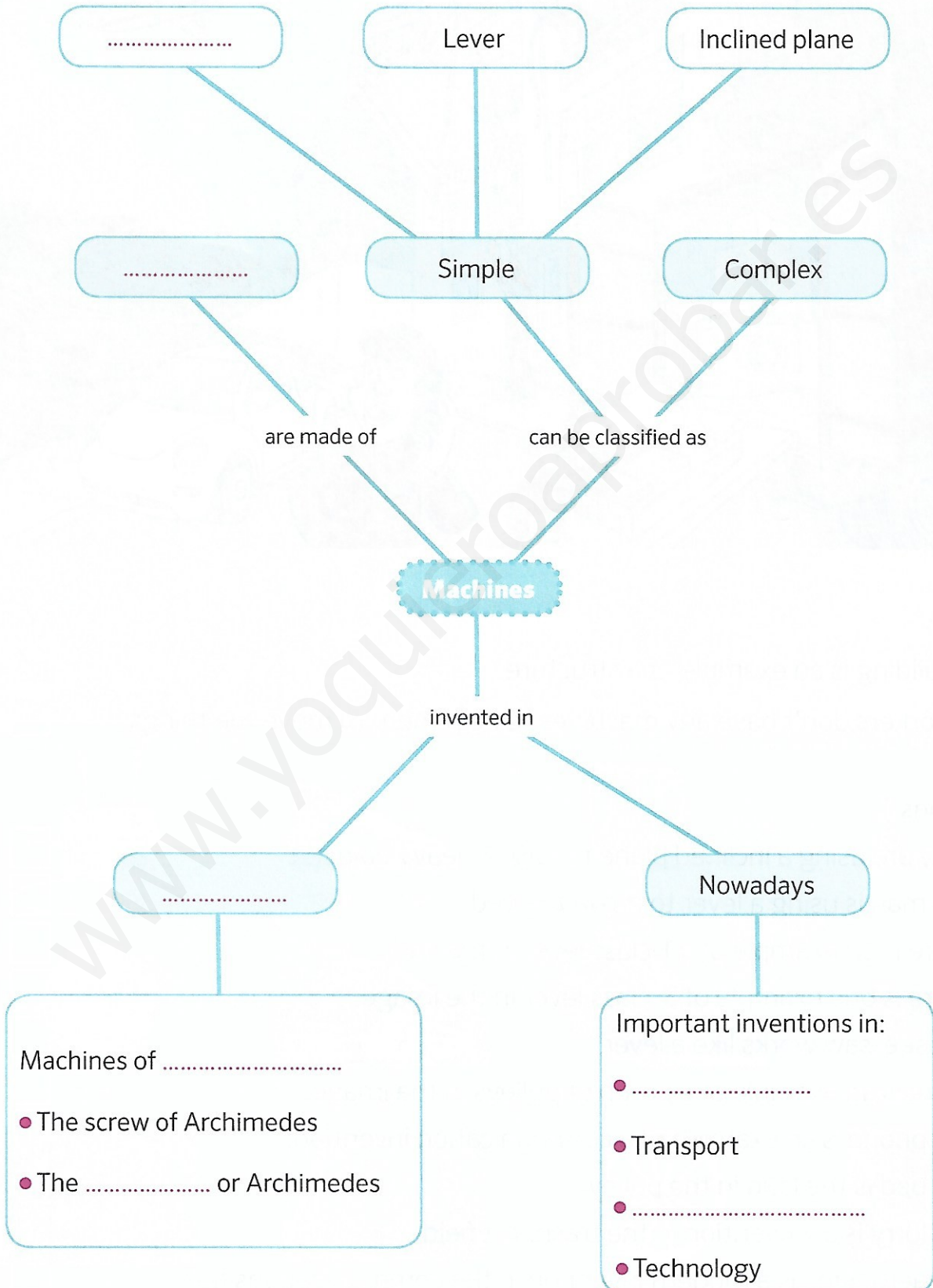
Questions

1. They are using a inclined plane to raise a heavy object.
2. The man is using a lever to move the bed.
3. There is an example of a 1-class lever in the park.
4. There is one example of 3-class lever in the image.
5. The see-saw works like a lever.
6. There is an example of a group of pulleys in the image.
7. The phone is an example of a communication invention.
8. The bed is the load in the pulley.
9. The lorry is an invention in the trasnport field.
10. The aeroplane is a modern invention in the communications field.

To sum up

15 Complete the mind map with the words given below.

past • communication • pulley • Archimedes • structures • medicine • claw



16 Complete the sentences with the words provided.

1

..... help us to do a variety of tasks with less
 machines have one or few parts and machines
 have many parts. Depending on the they use, they can be
 manual, or thermal machines.

A is a group of connected elements that support a load.

effort
complex
energy
structure
machines
simple
electrical

2

..... are simple machines used to move objects that weigh a
 lot. Levers and the force we apply when we
 use them. There are three different types of levers depending on
 where the, the force and the load are

located
transmit
fulcrum
increase
levers

3

Simple machines also allow us to move objects. The
 is used to raise or objects with less
 effort. The helps us lift weight easily. Some machines
 are made up two or more pulleys to reduce the
 needed to complete the work.

effort
pulley
inclined plane
slide
heavy

4

..... invented the screw of Archimedes to raise
 to irrigation channels and the of Archimedes to
 his city. Other advances in medicine, transport and
 have improved our lives. Some examples are the
 X-ray machine, and the mobile phone.

communication
claw
defend
aeroplanes
water
Archimedes

1 Who is carrying out a healthy habit?

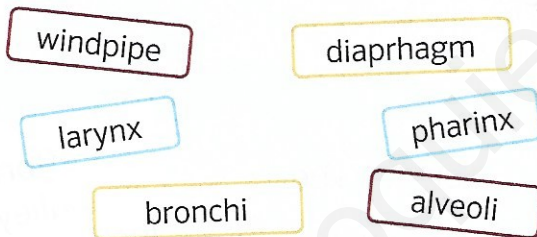


- a. David b. Susana c. Felipe

2 A structure ...

- a. ... can support weight.
b. ... transforms movement.
c. ... is a moving part.

3 Which system of the human body do these organs belong to?



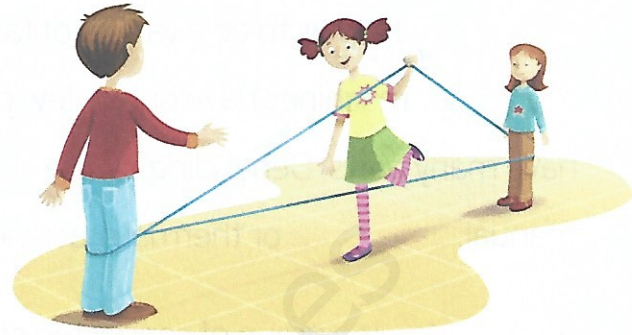
- a. the circulatory system
b. the respiratory system
c. the reproductive system

4 Which parts does this flower have?



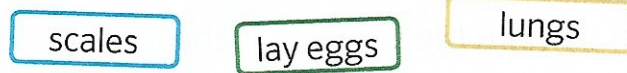
- a. 6 petals, 1 stamen, 1 pistil
b. 6 petals, 1 stamen, 6 pistils
c. 6 petals, 6 stamens, 1 pistil

5 A material is elastic if ...



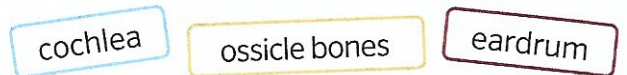
- a. ... it can bend without breaking.
b. ... it returns to its original shape after experiencing deformation.
c. ... water cannot pass through it.

6 What group of animals have all three of these characteristics?



- a. mammals
b. reptiles
c. fish

7 Which sense organ do the following parts belong to?



- a. eye b. ear c. skin

8 Which of these things uses renewable energy to work?

- a. motorbikes
b. wind turbines
c. cars

9 When an inclined plane has a larger gradient, ...

- a. ... it requires less effort to raise the load.
b. ... it requires more effort to raise the load.
c. ... it requires the same effort to raise the load as with a smaller gradient.

- 10 Which organ has sent a command to hit the ball?



- a. The eye, when it sees the ball coming towards the body.
- b. The brain, after it receives the message from the eye.
- c. The arm, which takes orders from the muscle.

- 11 What are amphibians? Choose the correct answer.

- a. Amphibians have fins and live only in water.
- b. Amphibians do not have scales and their skin is permeable. They can live in water and on land.

- 12 Which animals can you see here?

- a. Molluscs, echinoderms and worms.
- b. Molluscs, arthropods and jellyfish.
- c. Arthropods, sponges and jellyfish.



- 13 The elements of a pulley are ...



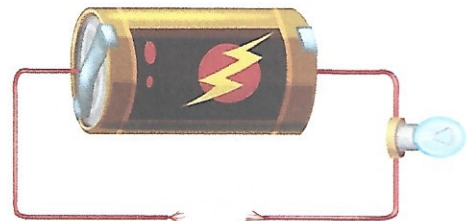
- a. ... a rope, groove and bucket.
- b. ... a groove, wheel and rope.
- c. ... a wheel, rope and bucket.

- 14 Which of these objects is a class 2 lever?



- a. the pliers
- b. the tongs
- c. the bottle opener

- 15 Which element would you use to allow an electric current to flow through this circuit?



- a. a wooden ruler
- b. a metal fork
- c. a cloth serviette

- 16 When a force acts on a body, ...

- a. ... it cannot change its speed.
- b. ... it can change its speed and cause deformation.
- c. ... it cannot cause deformation.