

6

Machines

1 Find ten machines in this wordsearch.

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

2 Complete the table with the words above.

Simple machines	Complex machines
scissors	computer
.....
.....
.....

3 Listen and guess.



train



bus



motorbike



bicycle

a) It's a train.

b)



lawnmower



garden shears

c)

4 Identify these simple machines.



pulley



5 Listen and complete.

25



There are many simple machines you can see at home.

For example, you can use a spoon as a

and open a jar!



In the street there are also many simple machines. Have you ever noticed a slide is a? And look at the in my skates!



In this well there's a so that it's very easy to and raise a bucket full of water!

6 Study the picture. What simple machines make up this complex one? Listen and check.

26



1. Pulleys

2.

3.

7 Answer these questions.

a) How are complex machines different to simple machines?

.....

b) Why do machines change over time?

.....

c) In what way can machines harm the environment?

.....

d) How can we avoid causing harm to ourselves when we use machines?

.....

8 Describe how these objects have changed over time.



.....

.....

.....



.....

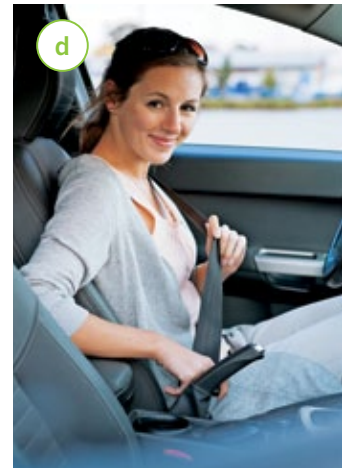
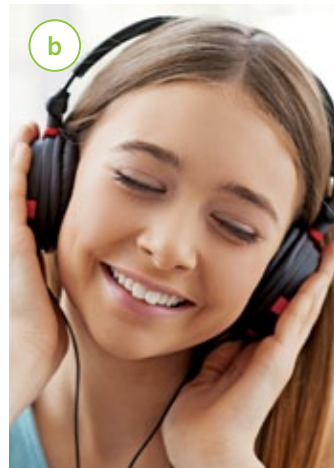
.....

.....



9 What do they do to avoid hurting themselves? Listen and write.

27



a) He always wears a helmet to protect his head when he rides his bike.

b)

c)

d)

External exams

10 Read the text and complete the sentences with one word.

How do boats move?



The first boats were very simple manual machines. Paddles or oars acted like levers that helped to move the boat through the water.

During the early 1800s, they built large steamships. They used steam to power the boat through the water. These large steamships transported a lot of people and heavy goods over long distances, often between continents.

Example: The first boats had *paddles* and oars to move them.

- 1 They built large during the early 1800s.
- 2 powered these steamships.
- 3 In these boats people and heavy goods could go long.....

Today, many large ships move by burning oil or gas in large engines. Even small motorboats have engines that burn fuel to move quickly through the water. People have begun searching for better ways to move boats, without causing harm to the environment. Solar powered boats use solar panels to transform the heat and light from the sun into electricity to power the boat.

- 4 Today, many large ships and small motorboats need
or gas to move.
- 5 People are now worried about the environment so they are searching for new ways to
move
- 6 Some boats use solar panels to transform the heat and light from the sun into
..... to move the boat.

11 Choose the correct option to complete the text.

Future machines

What do you think machines will *look like* in the future? Modern machines, like mobile phones and computers, are (1) smaller and lighter. It's likely that machines will continue to become (2) portable.



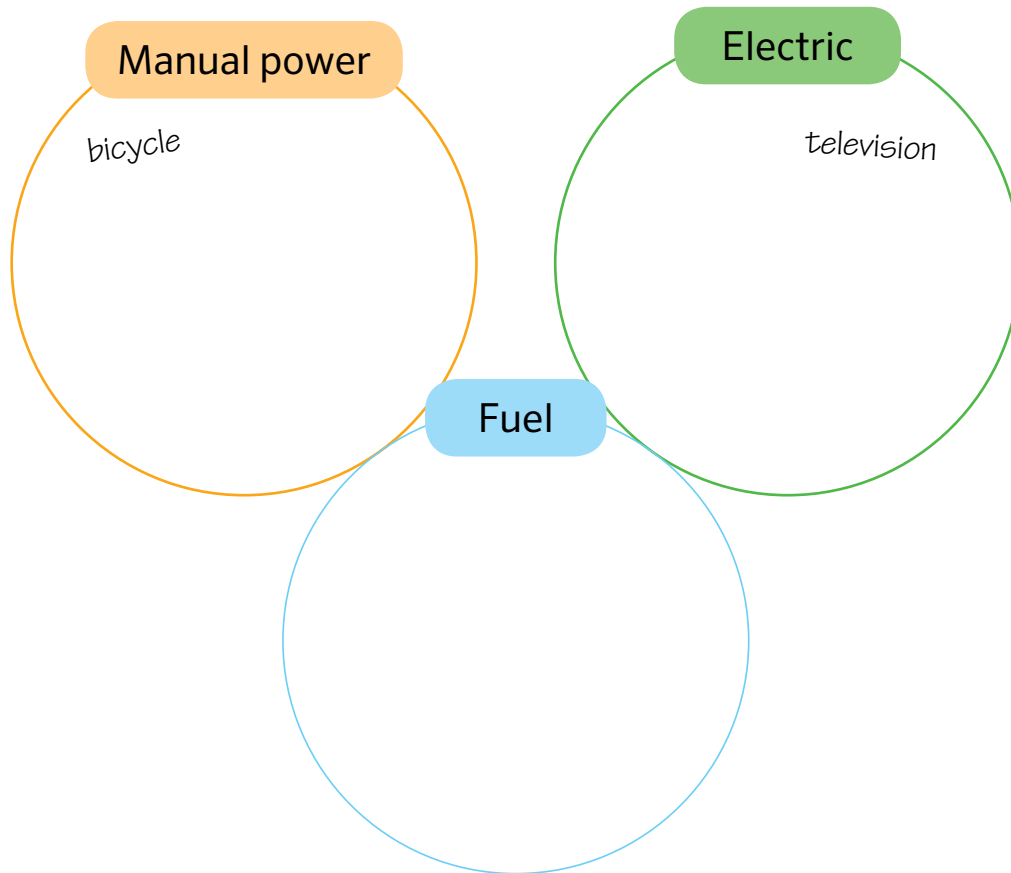
As we travel through space and find new planets, we'll find new materials with properties that are out of this world. Imagine if we (3) a material that is as (4) as iron and bends as easily as paper. What machine could we build using this?

No one knows for certain what machines will be like in the future. But we do know that machines are invented to make our lives (5) So in the future, we're likely to have very easy lives.

Example:	look	look like	look at
1	get	gets	getting
2	more and more	more or less	most
3	discovery	discover	discovers
4	flexible	strong	brittle
5	difficult	more difficult	easier

To sum up

12 Copy and complete the mind map with the words given below.



scissors



television



train



motorboat



bicycle



motorbike



rowing boat



wheelbarrow



mobile phone



aeroplane



tractor



mixer

13 Complete the sentences with the words provided.

1

Machines help us carry out activities with less
 They can be or depending on
 how they are made. Machines need to work.
 machines use the force of a person while other
 machines need Some machines have an
 that burns fuel.

electricity
 simple
 manual
 effort
 energy
 engine
 complex

2

The wheel is a simple machine that we use to
 objects. We use a lever to a heavy load and we use a
 pulley to and an object using a wheel
 and a rope. A ramp is a smooth surface with an incline. We use it to
 heavy objects uphill.

raise
 lift
 push
 move
 lower

3

..... machines are made up of many
 machines that work together.

Machines have improved over time thanks to new energy
 and Machines that burn fuel harm
 the environment because they produce We need to
 read a machine's to avoid hurting ourselves.

sources
 simple
 instructions
 complex
 pollution
 materials

1 Animal planet

Defining living things

- ▶ Nutrition, interaction and reproduction characterise living things.
- ▶ Living things need energy, which comes from food.
- ▶ Living things receive information from the world through the senses.
- ▶ Living things reproduce with the same species.



Describing animal groups

- ▶ Animals with a backbone are called vertebrates.
- ▶ Animals without a backbone are called invertebrates.
- ▶ Invertebrates are the largest group of animals.

2 Vertebrates

Describing vertebrates

- ▶ Amphibians have moist skin.
- ▶ Reptiles are covered in dry scaly skin.
- ▶ Mammals have hair or fur on their bodies.
- ▶ Mammals can be carnivores, herbivores or omnivores.



Asking questions about animals

- ▶ Is a whale a mammal?
- ▶ Is a snake a reptile?
- ▶ Is a frog an amphibian?

3 Life and health

Describing healthy habits

- ▶ Sleep eight or nine hours every night and rest when you are tired.
- ▶ Eat a balanced diet.
- ▶ Eat five meals a day and always eat breakfast.
- ▶ Wash your hands before meals and have a shower every day.
- ▶ Breathe fresh air and avoid places with smoke.



Defining types of illnesses

- ▶ Infectious illnesses are caused by harmful bacteria or viruses.
- ▶ An illness is contagious when an ill person transmits the illness to a healthy one.

4 Energy

Defining energy

- ▶ Energy makes things change and move.
- ▶ There are different types of energy: heat or thermal, light, chemical, electric, kinetic and sound.



Describing how energy changes

- ▶ One form of energy can transform into a different form of energy.
- ▶ When we turn on the light, electric energy changes into light energy.

5 Matter and materials

Identifying the states of matter and its changes

- ▶ There are three states of matter: solid, liquid and gas.
- ▶ When cooling, liquid matter changes to solid matter.
- ▶ Condensation means a gas changes to a liquid.



Describing the properties of materials

- ▶ We can stretch elastic materials.
- ▶ A tablecloth folds many times without breaking.
- ▶ Transparent materials let light pass through them.

6 Machines

Telling the difference between simple and complex machines

- ▶ Simple machines are made up of a few components.
- ▶ Complex machines are made up of many simple machines.



Identifying different machines and their uses

- ▶ We can raise and lower objects using a ramp.
- ▶ A bike is a complex machine made up of many simple machines.

