



It takes 300 million years for coal to form.

Plastic is made out of fossil fuels.

Oil

Gas

Deep wells are drilled into the ground to take out gas and oil.

Gas well

Plastic football

Petrol truck

Fossil fuels are the main fuels used in transport.

Fossil fuels

Fossil fuels, such as petrol and coal, are made from the ancient remains of living things. Fossil fuels are burned to power vehicles, to heat homes, and to make electricity. These fuels take millions of years to form.

Earth's resources

Planet

Earth is full of useful materials, from fresh water to glittering gold. These are called natural resources. We use them for so many things that it's hard to imagine a world without them. However, we need to be careful not to use them all up.

Water

There is a fixed amount of water on the Earth. The same amount of water exists now as it did when our planet was formed! Unfortunately, most of this water is no good to us. Water in the oceans is too salty to drink, and we have made a lot of the Earth's water dirty with our waste.

Water is used in the process of making things in factories.

Less than one per cent of the Earth's water is ready to drink.

Ocean

Timber forest

Wooden table

The main reason we chop down trees is for farmland.

Wooden chair

Wooden spoon

Toilet paper

Book

Forest Stewardship Council (FSC) paper is from forests in which more trees are planted than cut down.

Wood

Wood is an important material. It is used to build houses, make furniture, and as a source of fuel. We also use trees to make books, magazines, and toilet paper.

Minerals

Minerals are solid materials that form underground over millions of years. There are thousands of different minerals, including silver and gold. Minerals can be valuable, but mining them can greatly damage the environment. We are starting to run out of some rare minerals.

Gold mine

Tin is used to coat other metals to stop them rusting.

Aluminium bike

Bauxite is used to make a light, strong metal called aluminium.

Laptop

Gold was one of the first minerals to be mined.

Tungsten doesn't melt easily and can be found in rockets, laptops, and X-ray machines.

Quartz is used in glassmaking.

Glass bottle

An electronic tablet contains around 35 different minerals.

Earth's atmosphere

The ozone layer absorbs up to 98% of the sun's

Ozone is a form of the gas oxygen. The ozone layer is high up in the atmosphere.

Power plant

Power plants generate electricity and many are powered by coal or gas. When these fuels are burned, they release large amounts of carbon dioxide. This is the greenhouse gas most commonly produced by human activities.

Transport

Cars, trucks, buses, trains, and planes give off huge amounts of greenhouse gases. This is because most of these vehicles are currently powered by burning fossil fuels.

Greenhouse gases

When energy from the Sun hits the Earth's surface, some is absorbed but a lot is reflected back as heat. Greenhouse gases act like a blanket, preventing this reflected heat from leaving the atmosphere. So, if there is an increase in greenhouse gases, the planet becomes warmer. This rise in temperature is called global warming.

Trees capture greenhouse gases. Cutting down trees removes the world's best air filter!

A single cow can release up to
120 kg
(265 lb) of the greenhouse gas methane each year.

The atmosphere is a layer of gases surrounding our planet that protects us from the Sun's heat. Gases that keep the Earth warm are called greenhouse gases. Activities such as burning fuel to power vehicles produce more of these. This causes a rise in temperature all over the world.

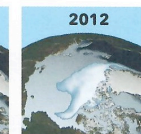
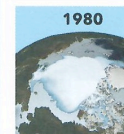
UV rays, which damage skin.

Extreme weather

Global warming causes extreme weather. In recent years, heatwaves, droughts, wildfires, and rain and snow storms have become much more common.

Melting ice

Rising temperatures across the world are causing large areas of ice, such as mountain glaciers, ice caps, and ice sheets in polar regions, to melt. The resulting meltwater flows into the ocean, raising the sea level.



Sea ice covering the Arctic Ocean is shrinking. Look at the amount of ice in the summer of 1980 (left) compared with the amount in the summer of 2012 (right).

Smog

Smog is a thick fog of toxic gases and particles, usually found over cities. It is worst on hot days when there is no wind to carry it away.

Extreme weather can cause problems such as flooding.

Coastal areas are most at risk from rising sea levels due to melting ice.

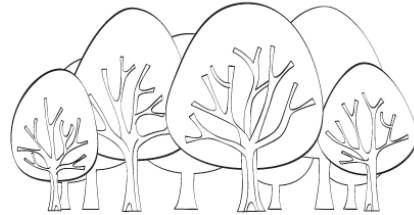
Hot weather and low rainfall increase the risk of dangerous wildfires.

Report Writing Tips & Examples

Trees

There are millions of trees growing in this country.

Some trees lose their leaves in the autumn and grow new ones in the spring. These trees are called deciduous trees.



The leaves on a deciduous tree change colour in the autumn. Some of them turn brown, some turn yellow, some turn orange and some turn red. When the wind blows, the leaves fall off the branches and land on the ground.

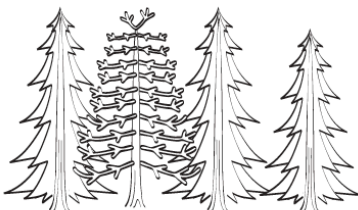


This is why autumn is sometimes called 'the fall'. Often the dead leaves will become very dry and will rustle and scrunch when you walk through them.

Through the cold winter months the deciduous trees have no leaves and you can see all the branches and twigs very clearly.

In the spring, new leaves grow on the trees. They are fresh and bright green. All through the summer the trees are covered in beautiful green leaves.

Trees that don't lose their leaves in the winter are called evergreen trees because they are ever green. Evergreen trees include holly trees, pine trees and monkey puzzle trees.



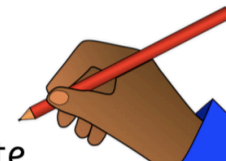
The structure

- 1 A general statement about the subject of the report.
- 2 Facts about the subject set out in paragraphs.



Features of the text

- 1 Write it in the present tense.
- 2 Use a formal style and write in the third person.
- 3 Begin with general information and then state details and specific facts.



Remember we call paragraphs POINTS

Report Writing Tips & Examples

Writing a report

Write a report about giant pandas or African elephants.

MAMMALS Giant Panda

HABITAT



Pandas live alone in the cold, high bamboo forests in the mountains of China.

BREEDING

Female pandas produce one or two babies (cubs) every two or three years. Cubs weigh only about 100g and have no fur. Cubs need a lot of care and usually only one survives.



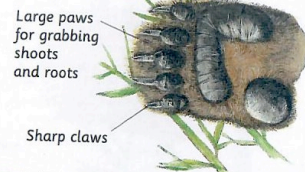
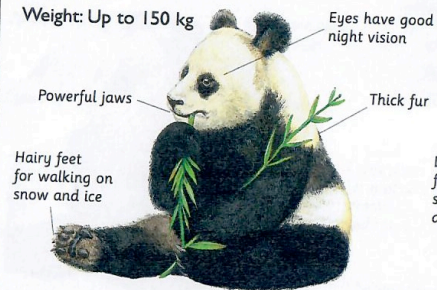
FEEDING

Pandas live mostly on bamboo shoots and roots. Sometimes they eat small animals, birds and fish. Adult pandas eat up to 38 kg of bamboo each day.

APPEARANCE

Height: 1.7m

Weight: Up to 150 kg



MAMMALS African Elephant

HABITAT



Elephants live in large groups called herds on the grassy plains of Africa.

BREEDING

Females (cows) give birth to one baby (calf) every four or five years. The calves weigh 90 kg and are 1 metre tall. They drink their mother's milk until they are six years old.



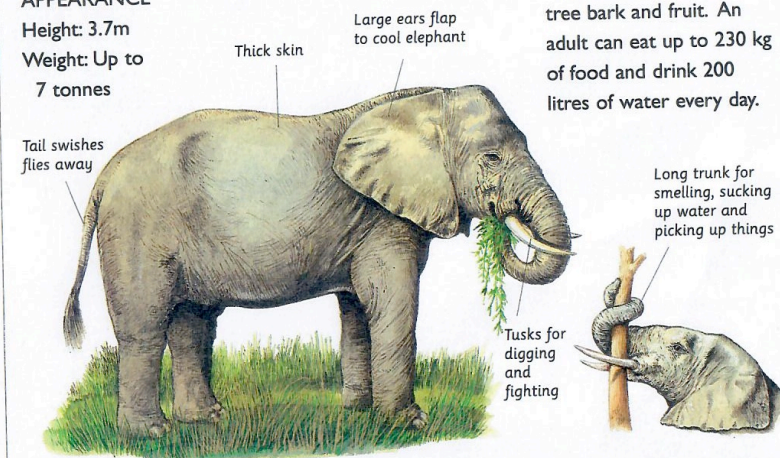
FEEDING

Elephants spend up to 18 hours a day grazing on grasses, leaves, roots, tree bark and fruit. An adult can eat up to 230 kg of food and drink 200 litres of water every day.

APPEARANCE

Height: 3.7m

Weight: Up to 7 tonnes



1 First read the information. Look up any words you do not understand in a dictionary.

2 Make a list of the following questions and jot down the answers as you find them.

- What does the animal look like?
- Where does it live?
- What does it eat?
- What do you know about its babies?

3 The neat copy. Write the title.

4 Write your report using the answers to your questions.

5 Add facts of your own. Look in other books to make sure they are correct.

WRITING TIPS

When you write a report:

- write in the present tense.
- start a new paragraph for every answer.
- end with a short conclusion.

Report Writing Tips & Examples

ALL ABOUT ANIMALS

Reports are factual. They explain the way things are. This information about penguins is from an animal handbook.



BIRDS Emperor Penguin

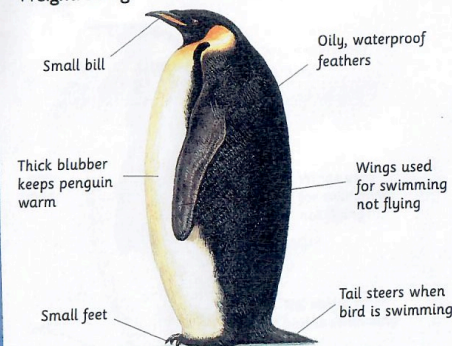
HABITAT



Emperor Penguins live in seas around Antarctica, in large groups called flocks.

APPEARANCE

The Emperor Penguin is the largest of all penguins.
Height: 1.15m
Weight: 30 kg



BREEDING

In the autumn, male and female penguins travel 100 km south to a nesting site. There, they meet a life-long mate. Three weeks later, the female lays one egg. She returns north to feed, leaving the male to care for the egg.

The male keeps the egg warm on his feet under a flap of skin. He does this for two months. He eats nothing and huddles together with other males to keep warm. When the egg hatches, the female returns to feed the chick. The male can feed at last.



FEEDING

Penguins are fast swimmers (up to 30 km per hour). They catch fish, squid and krill in their beaks which they eat under the water.



This report is based on the information and pictures found in the handbook.

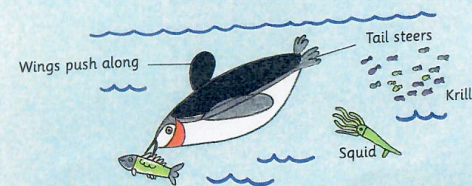


Emperor Penguins

Emperor penguins have black heads, wings and feet and white tummies. Their necks are bright yellow. They are the biggest of all the penguins.

They live in Antarctica, which is a very cold place. They have waterproof feathers to keep dry and fat to keep warm.

Penguins have wings but they cannot fly, though they swim fast. They use their wings like flippers and steer with their tails. They catch their food while they are swimming.



In the autumn, penguins travel to nesting sites. The female penguin lays one white egg. The male puts it on top of his feet to keep it warm. The female goes away to eat. The male penguins stand close together to keep warm. They do not eat for two months. The female returns when the egg hatches and then the male can eat. Baby penguins are called chicks.



I saw some chicks at the zoo. They had soft, fluffy, grey feathers instead of black and white ones. The mother was feeding them with fish straight from her mouth into theirs. Most people love penguins and we need to protect them.

A good ending



Report Writing Tips & Examples

Factual sentence starters for information texts

- _____ are ...
- _____ is ...
- They are ...
- They are also ...
- They like to ...
- They don't like ...
- They avoid ... because ...
- They don't ...
- It doesn't ...
- They can ...
- It can ...
- Instead they ...
- In addition, ...
- Usually ...
- Generally ...
- Normally ...
- As a rule ...
- Frequently ...
- They can be ...
- They are usually ... (It is usually ...)
- They are rarely ... (It is rarely ...)
- They are never ... (It is never ...)
- They are a very ... (It is a very ...)
- Like many ...
- Unlike ...
- This is a ...
- Although ...
- Even though ...
- Despite ...
- Despite the fact that ...
- Sometimes ...
- Often ...

Links - Openers

Words to start or open sentences with.



Links - openers and conjunctions



Sentence Starters

One interesting
fact about this
is...

Another thing
to note is...

Even though...

Lots of people
think... but it
is actually...

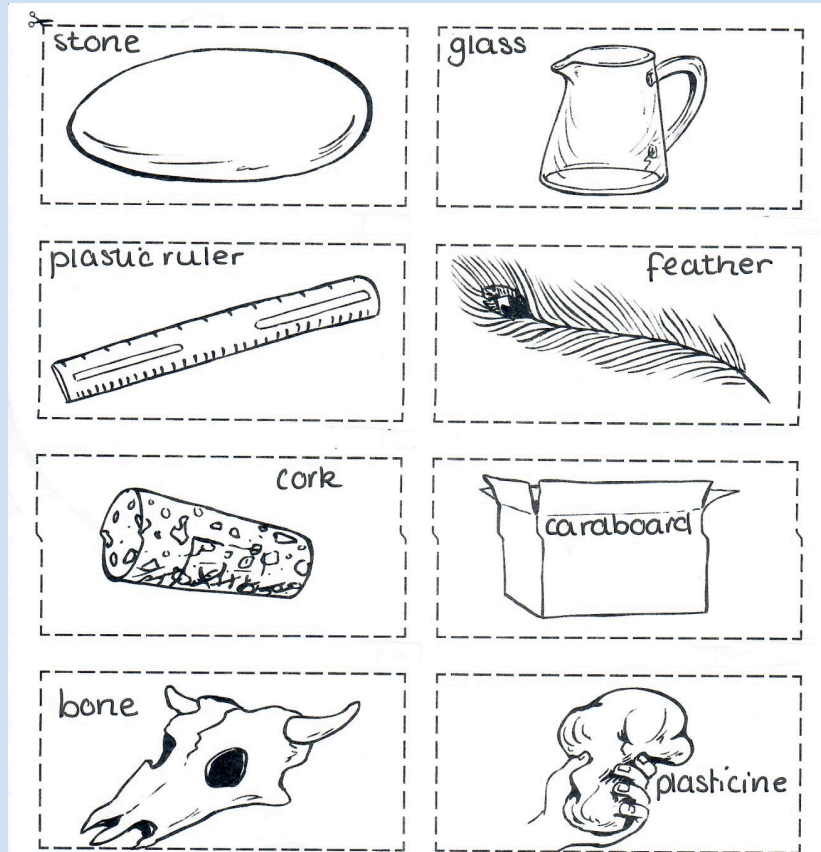
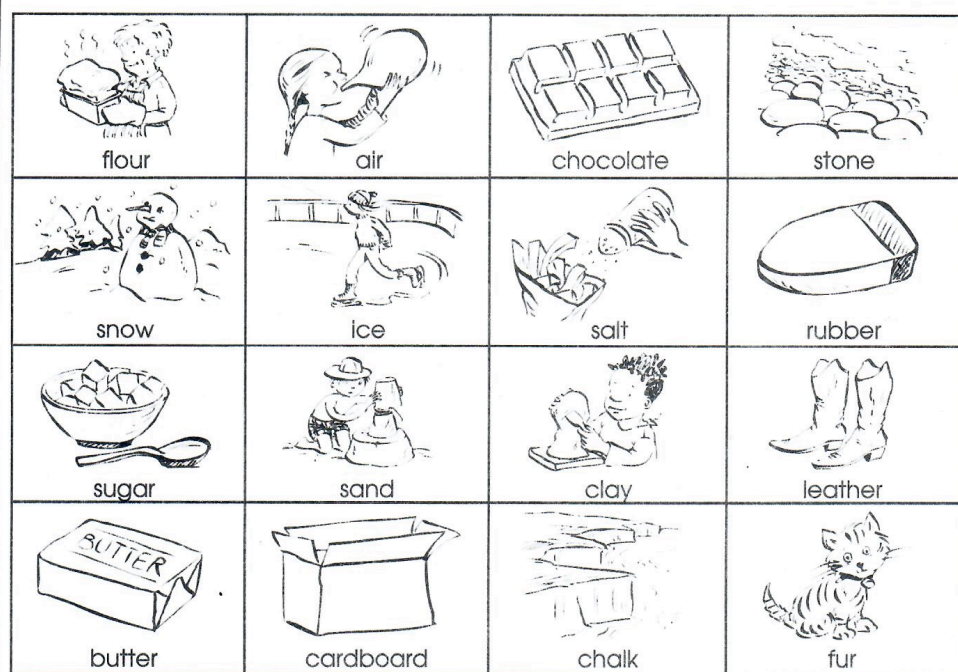
Some...
others...

Amazingly,...

It is known that...

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Monday Afternoon Activity



Monday/Tuesday Afternoon Activity

Where are materials from?

We get materials from all kinds of places to make the things we need. Materials are made from animals or plants, or come from the Earth.

Try this

You need a pile of different materials.

Try to sort the materials into three piles.



Cheese



Shell

1. Things that come from an animal.

Wool comes from sheep. Cheese is usually made from cows' milk. Seashells are made by sea creatures.



Wool



Paper

2. Things that come from plants.

Wood comes from trees. Paper is made from wood. Cotton also comes from plants.



Wood



Cotton wool

3. Things that come from the Earth.

Rocks and metals come from the Earth. These materials are known as minerals.



Metal coin



Pebble

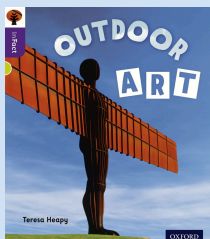


Chocolate

Some materials belong in more than one pile! Chocolate contains milk from an animal and cocoa from a plant.

MATERIALS we make

Some materials are made by people from natural things. Glass is made from sand and plastic is made from oil, from the Earth.



Thursday Afternoon Activity

Your Own Outdoor Art

You can make outdoor art anywhere you like! You can use *anything* you find, too – you don't need paper and pens!



Make it!

Use everything you've found to make different shapes such as circles, squares and spirals. You could make animal shapes, too! The sun can help you make shadows with different objects. You can stick things together with mud and grass. There are so many different things you can do!

Plan it.

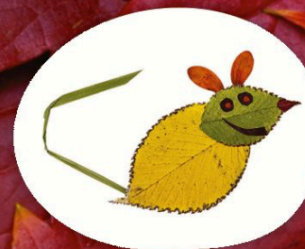
Think about what you want to create. You could get an idea from things you find outside. You don't have to be in a forest or a park – you can find leaves and sticks as you walk along the street.

Talk about it.

Go outside and look at what's around you. Talk to someone about the colours or textures you can see. What season is it? What's the weather like?

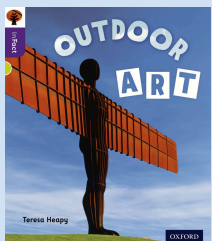
Collect it.

Collect leaves, sticks, petals, stones or berries that catch your eye. Try to only collect things that have fallen to the ground. Be careful though – some plants are poisonous, or sharp!



Sometimes you don't need much to make art. You could just find some leaves and arrange them on the grass, or make shapes with stones on the beach ... and you've made a work of art!





Thursday Afternoon Activity

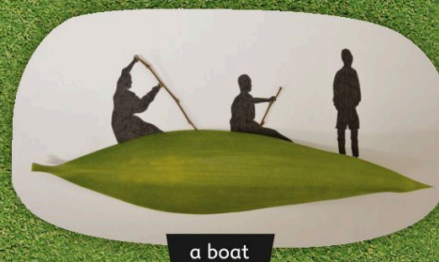
Story Art



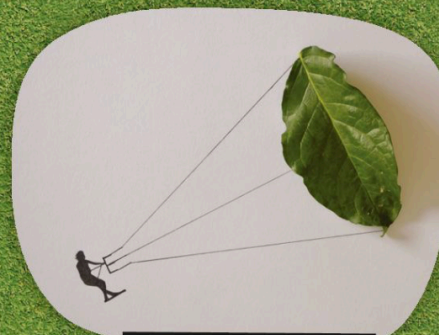
Sometimes you only need some leaves to make a picture – or even to make a whole story! Start by finding a few leaves. They can be green and bendy, or brown and crunchy.

Place one leaf on a blank piece of paper. Now think about all the things that leaf could be. Take a pen and draw some lines or people to make a picture. You could join different pictures together and make up a story about them.

This art was created by Tang Chiew Ling. She is an artist who makes pictures using things she finds around her.



a boat



someone wind-surfing



a rain cloud

Friday Afternoon Activity - Well Being

YOU WILL NEED:

a toilet paper or paper towel roll, markers or other decorative things, streamers or thin ribbon that is light enough to be moved easily by their breath.

- Take a toilet paper or paper towel roll and cut off the top (about an inch thick) and set aside.
- Cut a straight line all the way up the remainder of the roll.
- Use this cut to tighten the roll to roll it thinner and tape on top and bottom to hold it in place.
- Decorate the roll with paint, markers, stickers, etc.
- Tape strands of thin light decorative ribbon or streamers along the inside of the small ring you cut off earlier. Thin strips of paper might work too.
- Tape the ring on top of the thinner roll to make the wand.
- BREATHE and notice what you notice.

