Dear Parents

Firstly, we are sorry about the delay in the move and thank you for your understanding.

I have put together a work pack, which is aimed at providing about 3 days' worth of work focused round the theme of the environment, which has been in the news a lot recently. Pupils work at different paces and in different ways and so I have tried to make sure that there is enough to keep most pupils busy. As this was not a planned closure we have not had much time to put this together and during the build many of the materials we usually have available have not been accessible due to the move.

I know many pupils will need help with reading and will probably need to talk through the ideas. The main aim is to raise the pupil's awareness and understanding of global warming and how it affects the weather and things like animals habitats. All pupils are being asked to think about they can make changes to help reduce global warming.

You are welcome to add to the pack with internet research and any interactive tasks you find. We will add links to the website.

I have added some colouring pages, as I know many pupils enjoy therapeutic colouring. Many others hate colouring - If this is not your child's thing they do not need to do these.

We are looking forward to welcoming all the pupils back as soon as possible.

Kind regards

Claire Caddell

Deputy Head Teacher

Polar Animals

Polar Bears

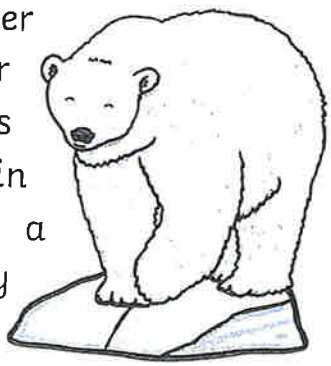
Polar bears are very large, meat-eating mammals that can be found in the Arctic. Mammals are animals with fur and warm blood. Fully-grown polar bears can measure over 2.5m long and weigh around 700kg. They are not like other bears because they spend most of their lives swimming and hunting on ice for food. They only come onto land to have babies.

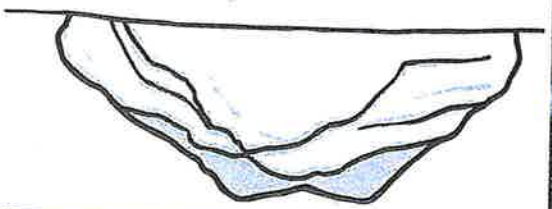
Polar bear cubs stay in their dens for up to five months after they are born and stay with their mums for up to 2 years after that.

Wow!

Polar bears are strong swimmers, using their huge feet like paddles to push through the water. They can swim for hours to get from one piece of ice to another.

Polar bears live at the very top of our planet, and it is bitterly cold there. Water and steam will freeze almost instantly in the Arctic in winter. Thankfully, polar bears are adapted for this environment. They have a thick layer of fat which keeps heat trapped inside their bodies. They also have a thick coat that keeps them warm and also helps them to blend in with the snow. Despite how it might look, a polar bear's fur isn't really white. It's actually transparent (see-through) and it reflects light to look white.



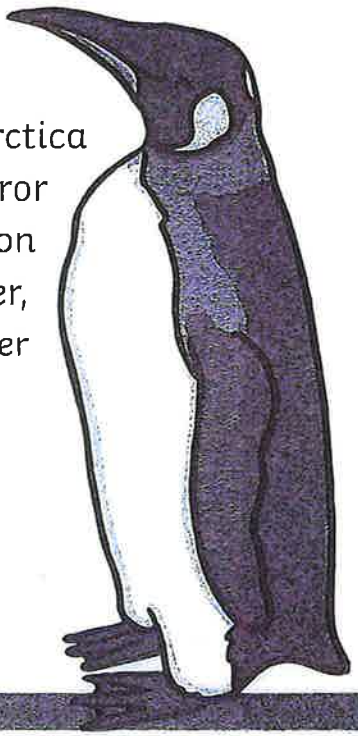


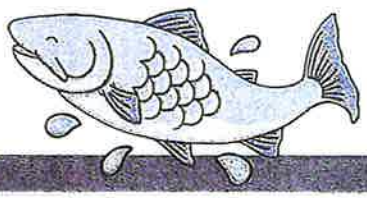
Penguins

Penguins are birds that spend much of their lives in the water and unlike most other birds, they cannot fly. Penguins do have wings but they are more like flippers to help them swim. As they live in water, their bodies have adapted so that they can swim brilliantly to catch food. Their bodies are smooth and dart-shaped so they glide easily through the water. They have dark feathers with light patches which help them to blend in so they are difficult to spot. This is a very useful way to trick predators and avoid being eaten!

Penguins don't have to swim in deep water as the fish they catch are found near to the surface. Their feathers make their bodies waterproof.

Penguins are found on every continent in the southern hemisphere (the bottom half of the world). Most people think that penguins only live in the ice and snow but there are some species that live in warmer climates. The hottest penguin habitat is the Galapagos Islands, where temperatures can reach as high as 32°C. Emperor and Adélie penguins live in Antarctica in temperatures as low as -60°C. Emperor penguins are the only animals to stay on the open ice during an Antarctic winter, huddling together to survive the worst weather conditions on earth.





Questions

1. What is a mammal?

2. How long are adult polar bears?

3. What happens to steam and water in an Arctic winter?

4. What colour is a polar bear's fur?

5. What does 'adapted' mean?

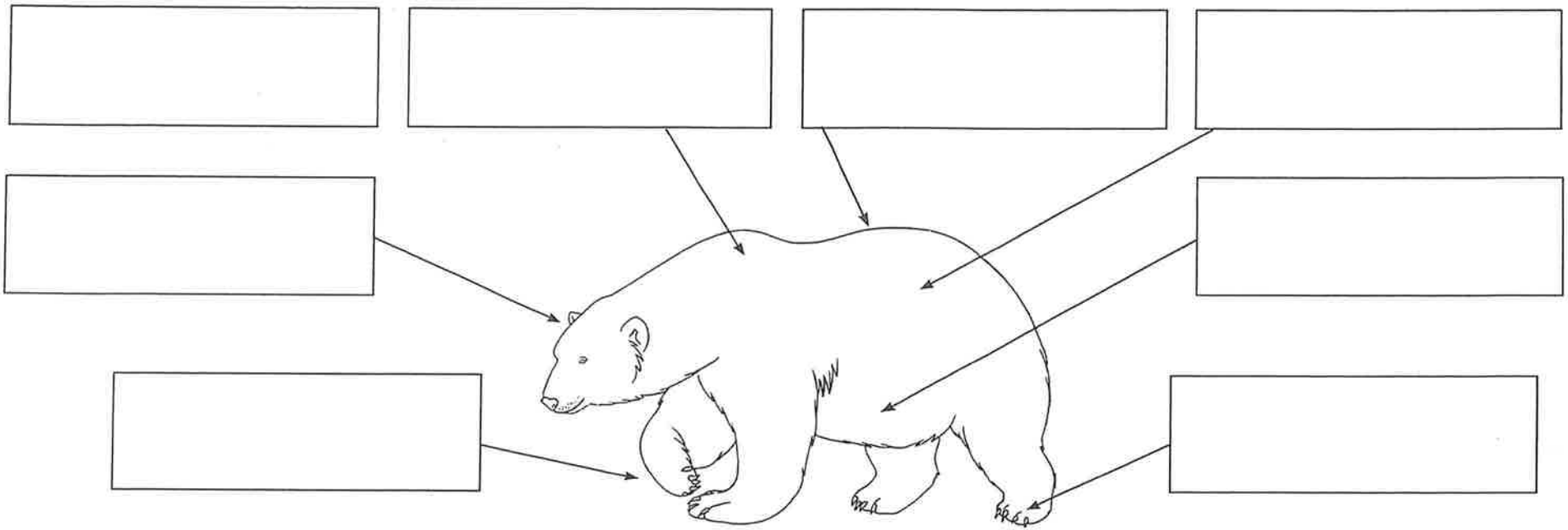
6. Why do penguins have dark feathers with light patches?

7. Where are emperor penguins found?

8. Which is your favourite: a polar bear or penguin? Why?

How Have Polar Bears Adapted to the Polar Environment?

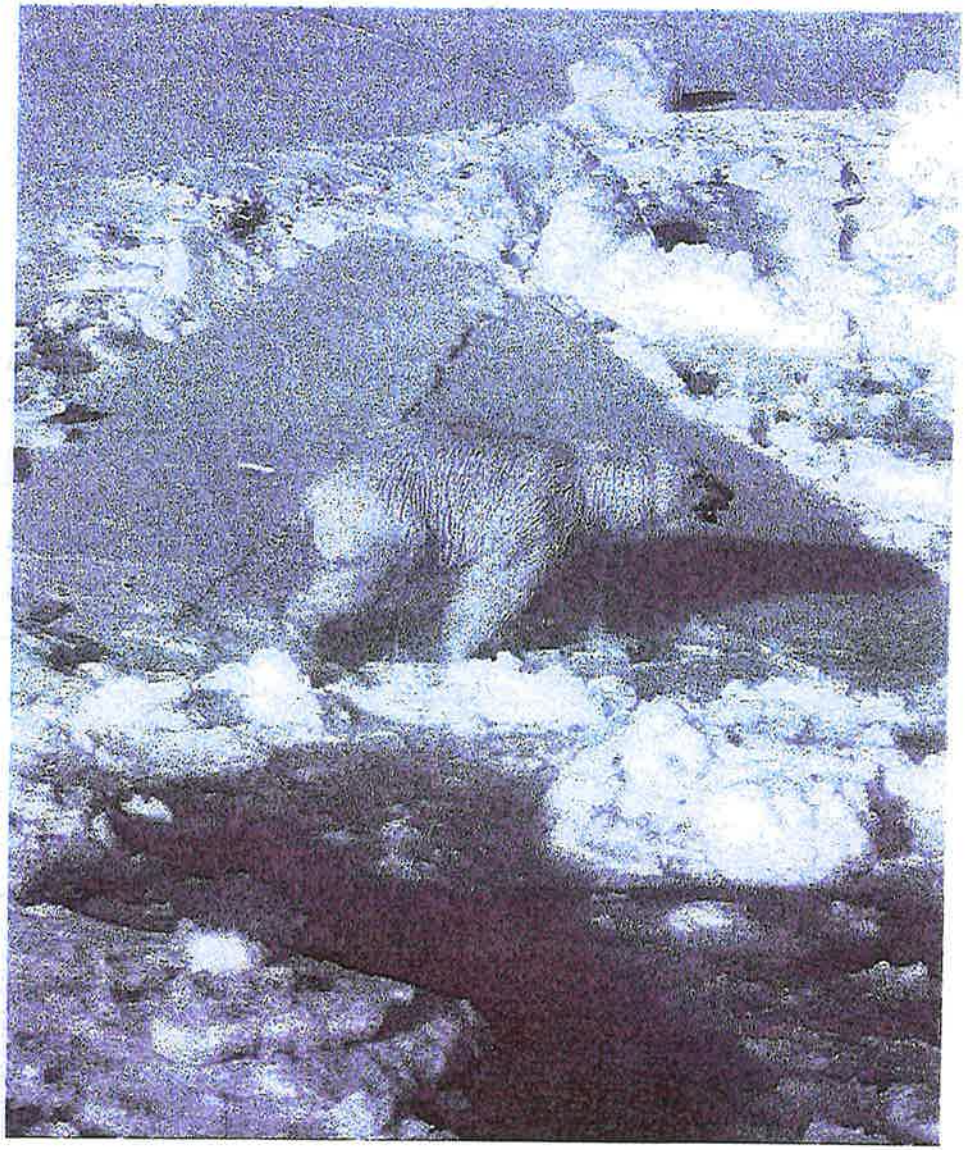
Polar bears are the world's biggest land-based carnivores! They mainly eat seals but can hunt small whales. They are found across the Arctic Ocean, in parts of Canada, Alaska, Russia, Greenland and Norway (Svalbard). Cut out the labels and stick them in the right place on the polar bear.



Secondary

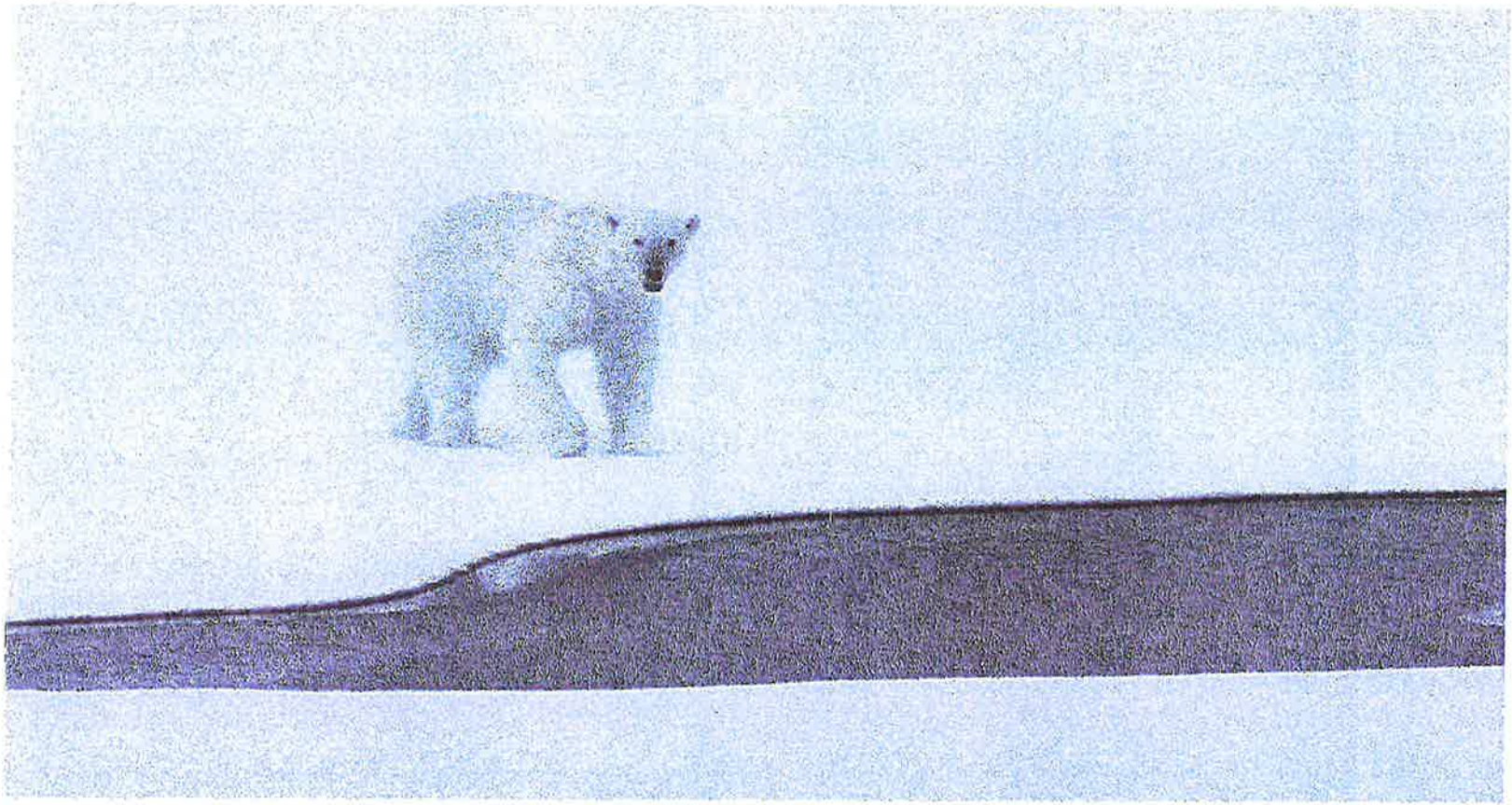
Short legs, tail and ears so less heat is lost from these areas.	Thick layer of body fat for warmth.	Large paws to prevent the polar bear from sinking into the snow.	Their skin beneath their fur is black, helping them absorb heat and keep warm.
Very high fat diet e.g. seal blubber, which provides energy.	Hollow, transparent fur reflects visible light to camouflage them against the ice and snow.	Strong claws for hunting and to grip the ice and snow.	They are strong swimmers, allowing them to hunt over large distances.

They spend most of the year surrounded by snow and ice, and their fur lets them blend in. It also traps heat from their bodies to help keep them warm in freezing temperatures.



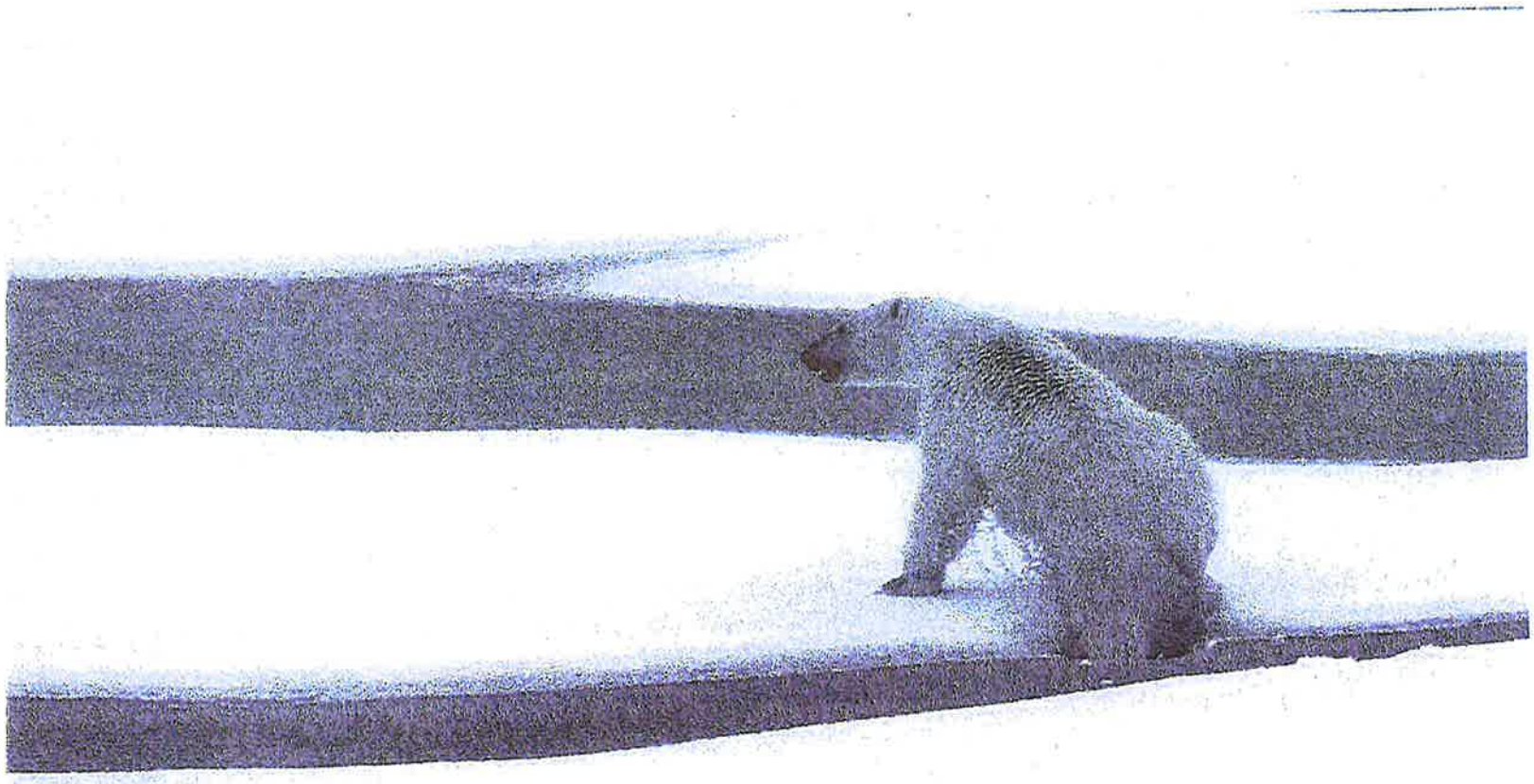
Polar bears are found in the Arctic. This is in the northern hemisphere, in the top half of the world.

The temperature falls so low in winter that the sea freezes.



Polar bears will travel for miles on the sea ice to find food.

They use their excellent sense of smell to find seals hiding under the snow.
They can smell an injured seal from over a mile away.



Polar bears are carnivores, which means that they eat meat.

As well as having an excellent sense of smell, they have very sharp teeth and powerful jaws.

Polar Bears

Do Polar Bears live at the top of the bottom of the world?

Describe the weather at the North Pole?

What do Polar bears like to eat?

How do they find their prey?

They spend most of the year surrounded by snow and ice, and their fur lets them blend in. It also traps heat from their bodies to help keep them warm in freezing temperatures.

Arctic Fox

Arctic foxes have the warmest fur on the planet.

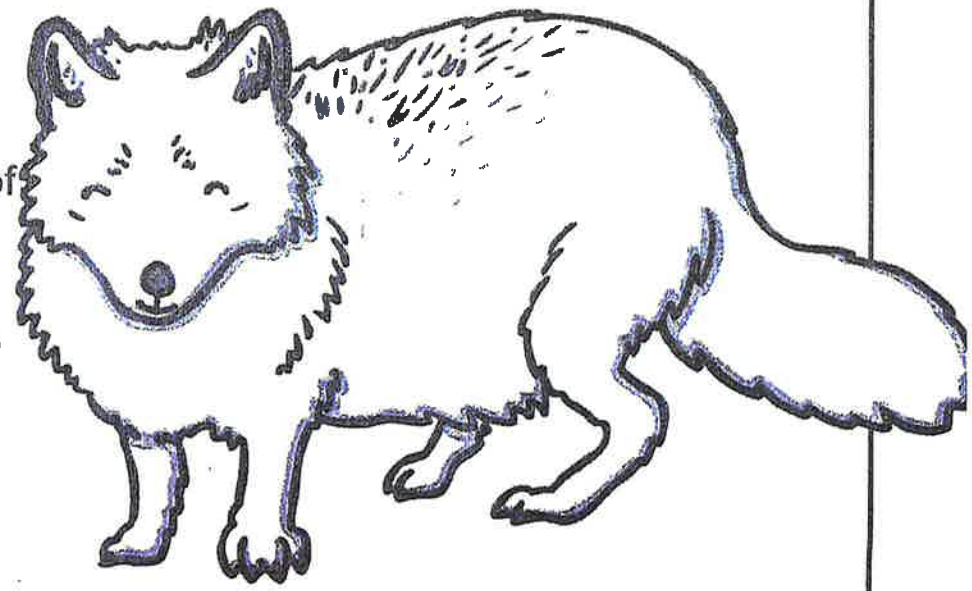
Their fur is brown/grey in the summer so it can blend in with the rocks. In winter their fur turns white to blend with the snow.

They have a round body, short legs and short ears and a big bushy tail which is used as a blanket.

They live in underground burrows.

They have excellent hearing and sense of smell for hunting.

Female arctic foxes give birth to between 6 and 16 pups.



Arctic Fox

What world record do Arctic Foxes hold? _____

Why do you think their fur changes colour? _____

_____

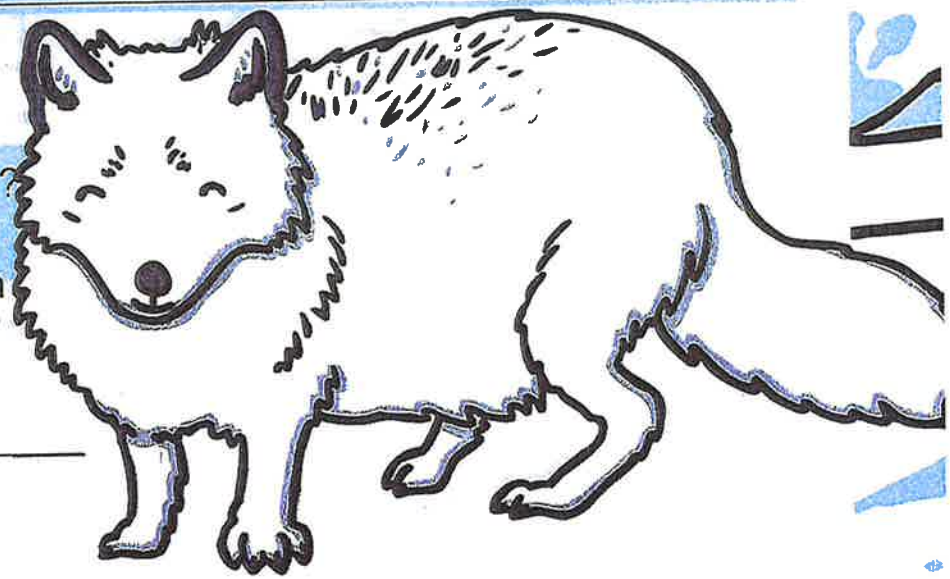
What do they use their tails for? _____

_____

Why do you think they live in underground?

How many pups does the vixen have each year? _____

What do they eat? _____



Snowy Owl

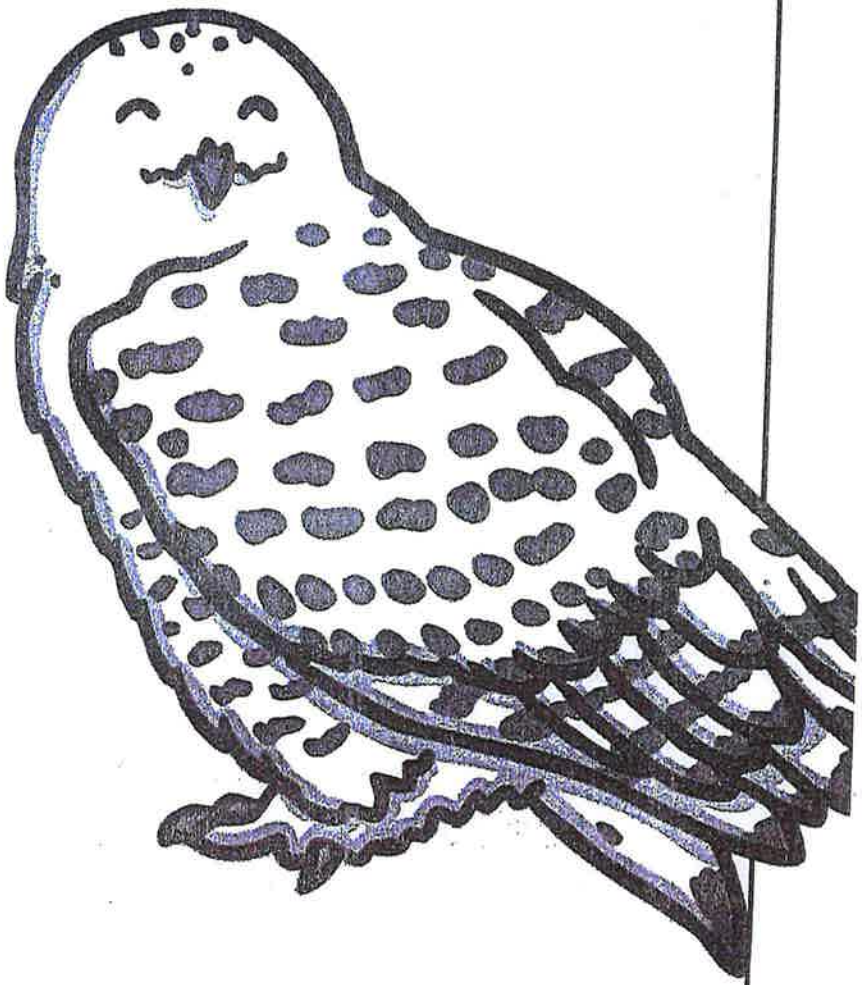
Snowy owls hunt at day and night.

Their favourite food is lemmings (a small rodent) but they also hunt other animals such as the Arctic hare.

They have feathery legs and toes to keep them warm.

They perch on rocks as there are no trees.

Once young owls (owlets) hatch, the male owl provides food for the female and young owls which do not leave their nest for around 25 days. The owlets are able to fly after around 50 days.



Snowy Owl

When do snowy owls hunt?

_____

What is their favourite prey? _____

Why do they have feathery legs and toes?

_____

Why don't they nest in trees? _____

_____

What are baby owls called? _____

Write one other fact you have learned about owls. _____

_____

Reindeer

Reindeer are also known as caribou.

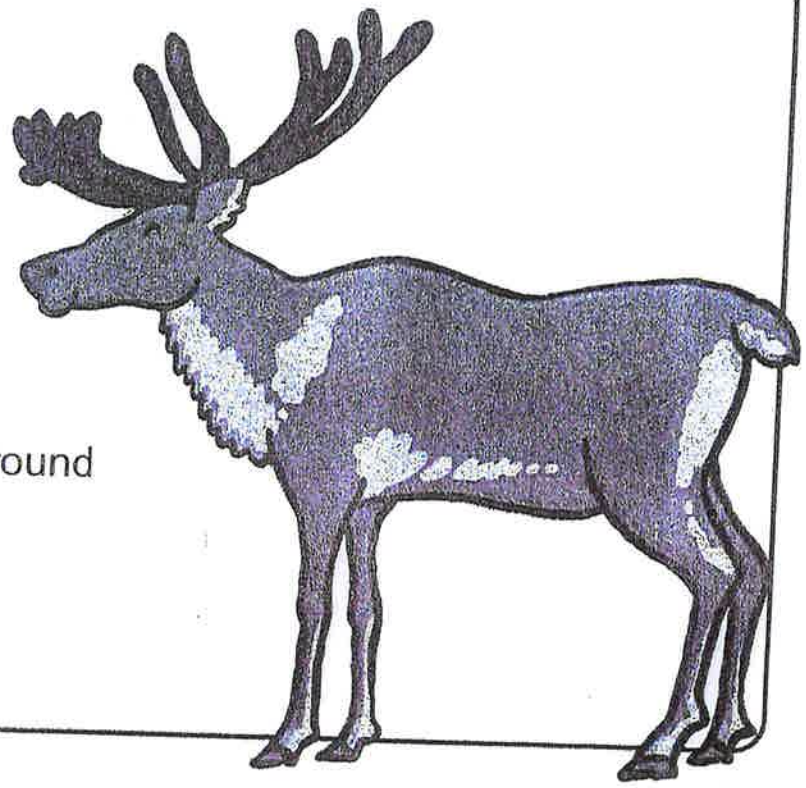
They feed on moss, grass and plants.

Males and females have very large antlers.

In winter, reindeer travel south to avoid the cold weather.

Their hooves are sharp which help them walk on ice and rocks.

At birth, a baby reindeer, called a calf, weighs 5 to 20 lbs. (2.5 to 9 kg).
Calves start growing their first set of antlers around their second birthday.



Reindeer

What other name is used for reindeer? _____

What do they eat? _____

Do you think they live at the polar cap where there is just ice? _____

Why do you think they move south ? _____

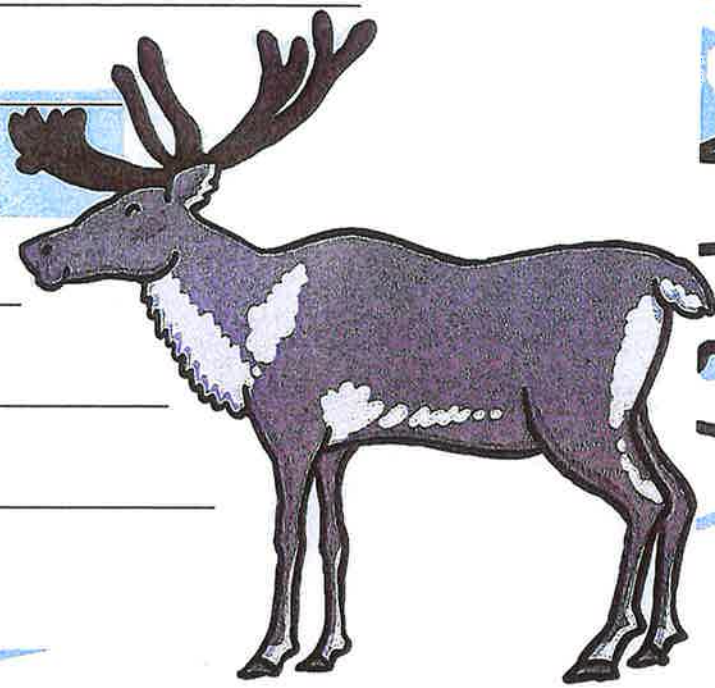
How do sharp hooves help them ? _____

_____

_____

What is a baby Reindeer called ? _____

How old are they when they get this first antlers? _____



Seal

Seals in the Arctic live on the sea ice and dive into the water through gaps to hunt for fish and crustaceans.

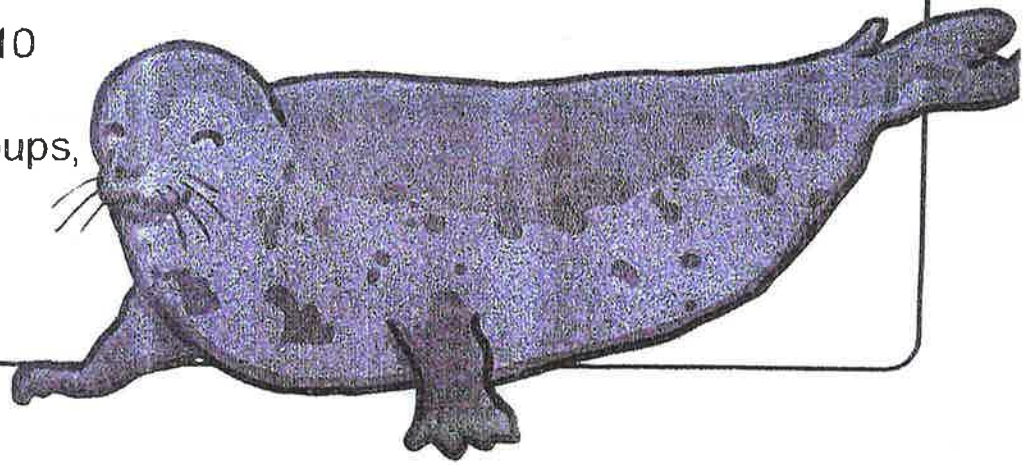
They pull themselves along the sea ice with their front flippers which have strong claws.

They have a thick layer of fat called blubber beneath their skin to keep them warm.

Baby seals are born with thick fur to keep them warm. This thins as the seals get fatter.

They are hunted by polar bears.

Mothers carry their young for around 10 months then dig nests in the sand to have their young. Baby seals, called pups, waterproof fur which can take around a month.



Seal

What do seals eat? _____

What do they have on their flippers to help them? _____

What is blubber and how does it help? _____

_____

Why do baby seal have more fur then their parents? _____

What eats seals? _____

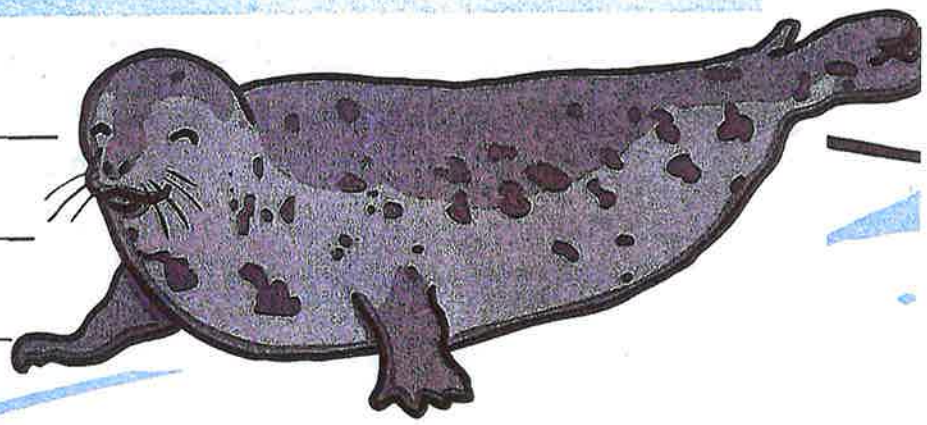
What are baby seals called? _____

How do Seal Mums look after their young?

_____

_____

_____



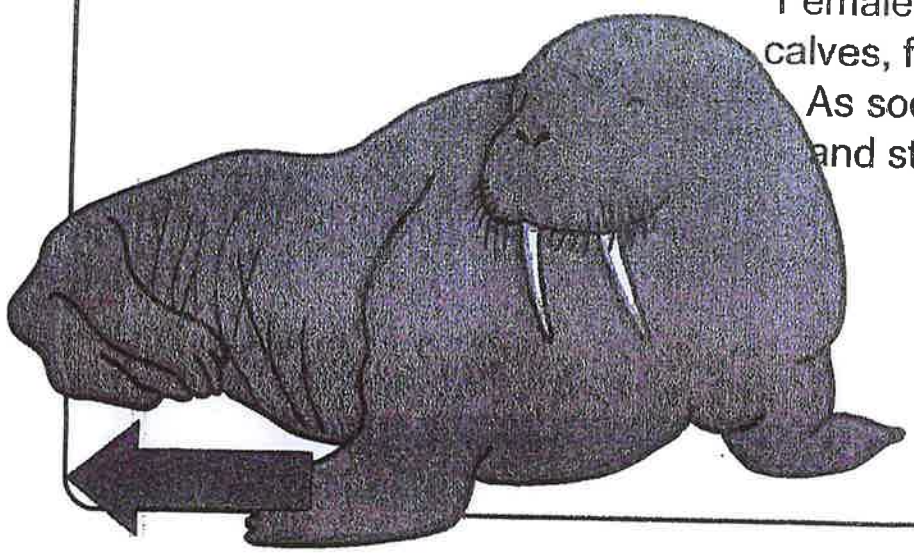
Walrus

Walruses have two large tusks which are used for cutting through ice, defence and getting out of the water.

They also have whiskers which help them find shellfish to eat.

They have a thick layer of fat called blubber beneath their skin to keep them warm.

Walruses are social animals and can be found in big groups on the ice.



Female walruses carry their young, called calves, for 15 to 16 months before giving birth. As soon as a calf is born, they can swim and stay close to their mothers for 3 years.

Optional Experiments

What is Climate Change?

Melting Sea Ice

Set up two small play trays (plastic freezable food containers are perfect for this), cover in water and freeze overnight.

Place polar animals onto each. Put one back into the freezer and the other somewhere warm, making sure one melts and one stays frozen.

Ask the children what happens to the polar bear's home in each.

Rising Sea Levels

Place plastic figures or building brick buildings in a large activity tray each. Fill each tray with ice cubes. Put one in the coolest area you can find and one in the warmest area - outside in the sun, or a warm cupboard in your classroom. Children then take photos and measure the water level with a ruler.

Leave the trays for as long as it needs to melt. Then, take another photo and measure the water level again.

Ask children what the difference in the sea levels were.

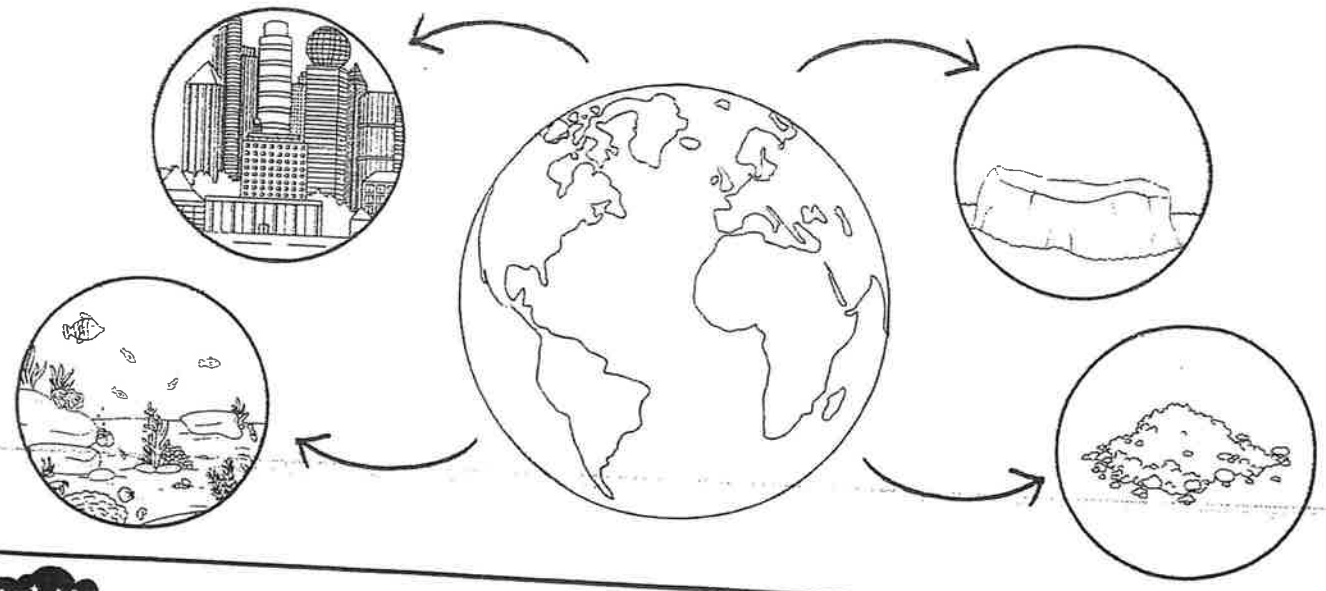
Which water level rose the quickest? Why?

Soil Change

Place soil in two trays. Water one really well and leave the other dry. Put the dry soil on the windowsill or somewhere it will get plenty of sun. After a couple of days, add water to the dry soil. Watch what happens. The water should run off the soil and it should break up. Talk about how a flood after a drought would do the same to crops. How would this affect farming communities?

Urban Heat Islands

Urban areas are warmer than rural areas. This is because urban areas have less green space and lots of tall buildings made from dark materials that absorb heat. Place a black T-shirt and a white T-shirt side by side in the sunshine. After a short while, touch each T-shirt. What do you notice about the temperature of each one? The white T-shirt, like the rural environment, reflects the heat. The black T-shirt, like the urban environment, absorbs it. Think about what it must be like to live and work in the city during the hottest months of the year.



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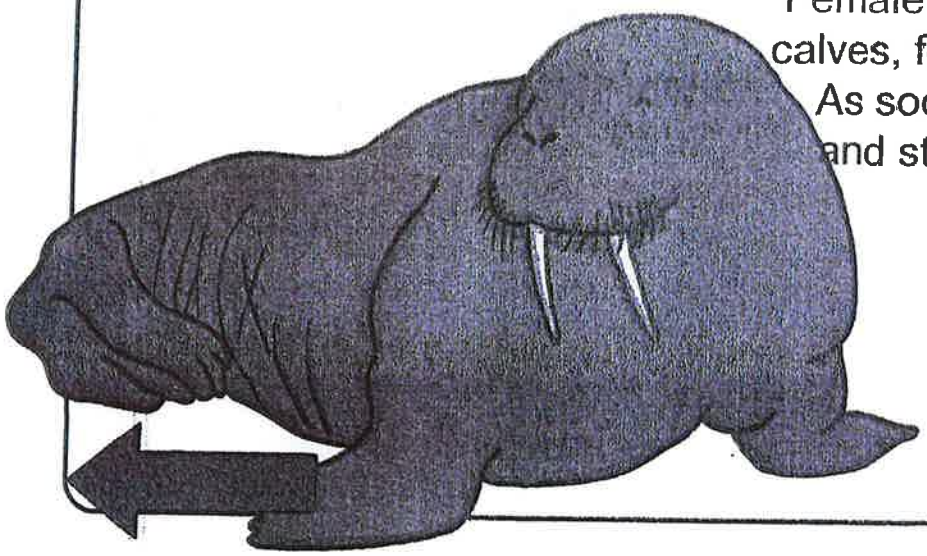


Female walruses carry their young, called calves, for 15 to 16 months before giving birth. As soon as a calf is born, they can swim and stay close to their mothers for 3 years.

Walrus

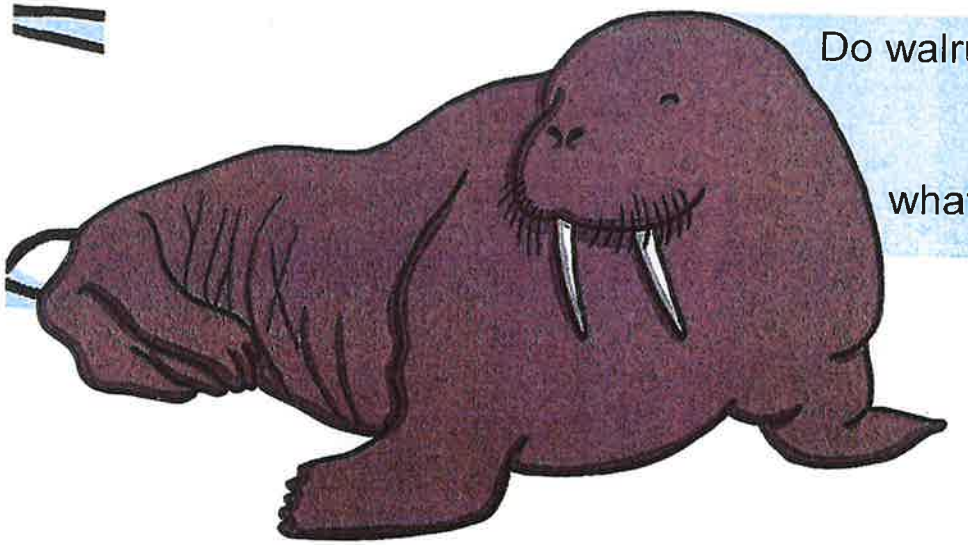
What do walruses use their tusks for? _____

What do walruses use their whiskers for? _____

_____

What is blubber used for? _____

_____



Do walrus like being on their own? _____

what are baby Walruses called ? _____

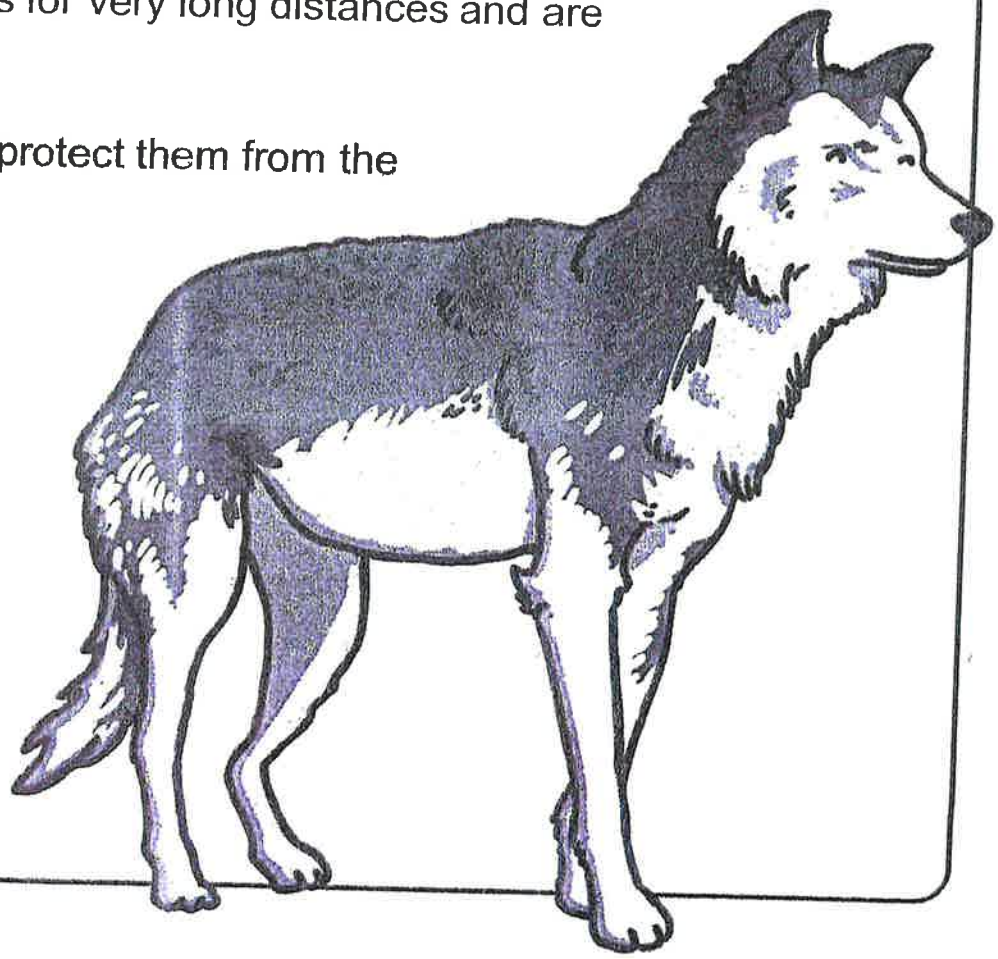
Husky

Huskies are dogs that pull sleds in the Arctic regions.

They are really good at pulling sleds for very long distances and are also used in sled dog races.

Huskies have thick double coats to protect them from the harsh weather.

Husky pups are usually born in a litter of between 4 and 8 pups.



Husky

What are huskies used for? _____

_____

Why do you think this helps people who live there? _____

_____

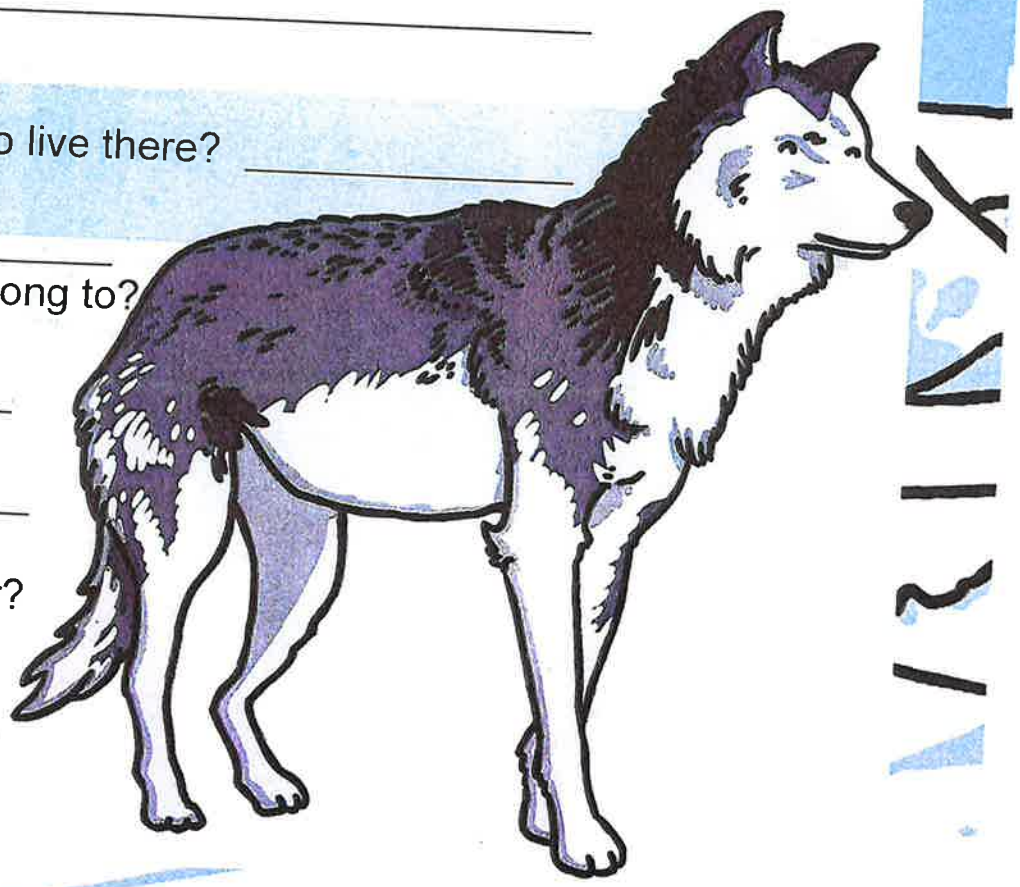
What groups of animals do Huskies belong to?

_____

What are baby Huskie called? _____

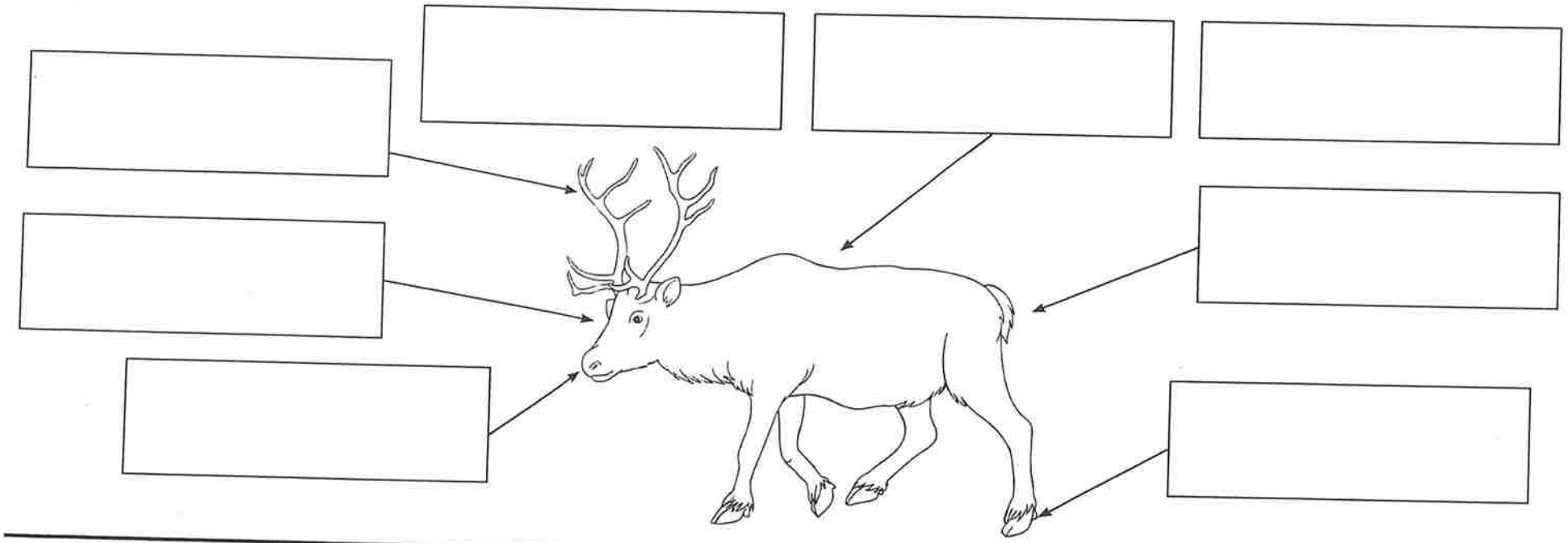
How many Huskies are usually in a litter?

_____



How Have Reindeer Adapted to the Polar Environment?

Reindeer are a species of deer. They can be found in Northern Asia, Europe, Siberia, Alaska, Canada and Greenland.
Cut out the labels and stick them in the right place on the reindeer.



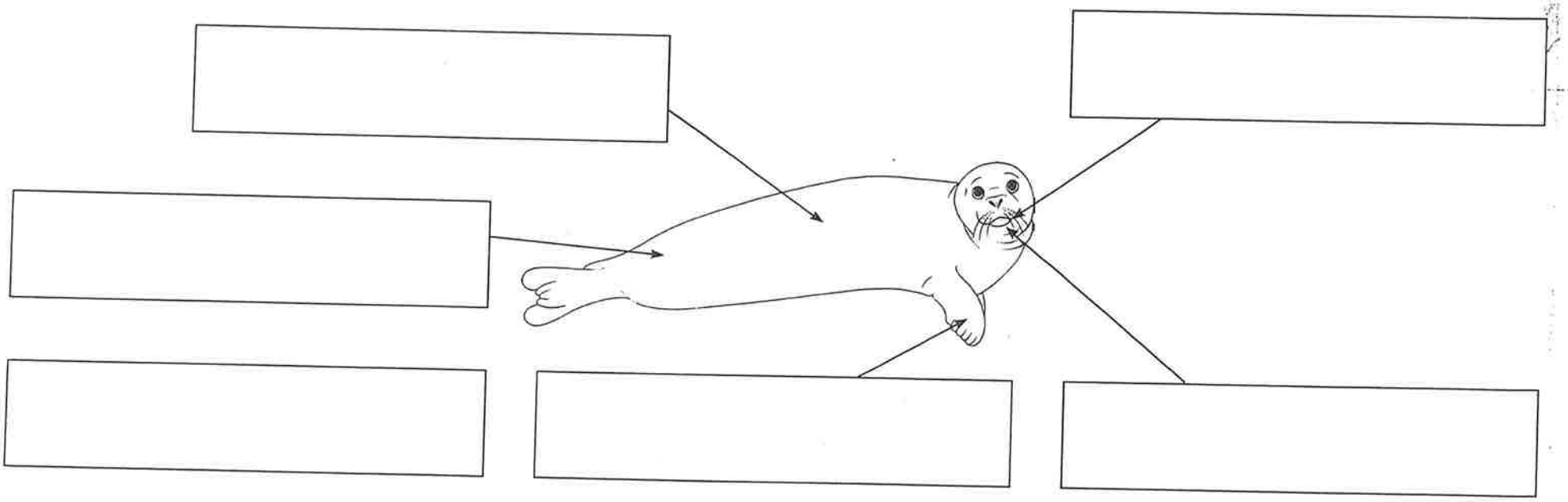
Secondary

Thick fur coat for warmth and protection from the weather.	Migrate long distances in search of food in winter and summer.	Ultraviolet vision to see predators against the snow.	A special chamber in their nose warms each breath as they breathe in.
A compact body and short tail reduces heat loss.	Sharp hooves grip into the ice and snow.	Antlers for clearing snow to find food and for defense.	Live in huge herds which provides protection against predators.

How Have Leopard Seals Adapted to the Polar Environment?

The leopard seal is the second largest species of seal in the Antarctic. It is one of Antarctica's top predators, second only to the orca (killer whale).

Cut out the labels and stick them in the right place on the leopard seal.

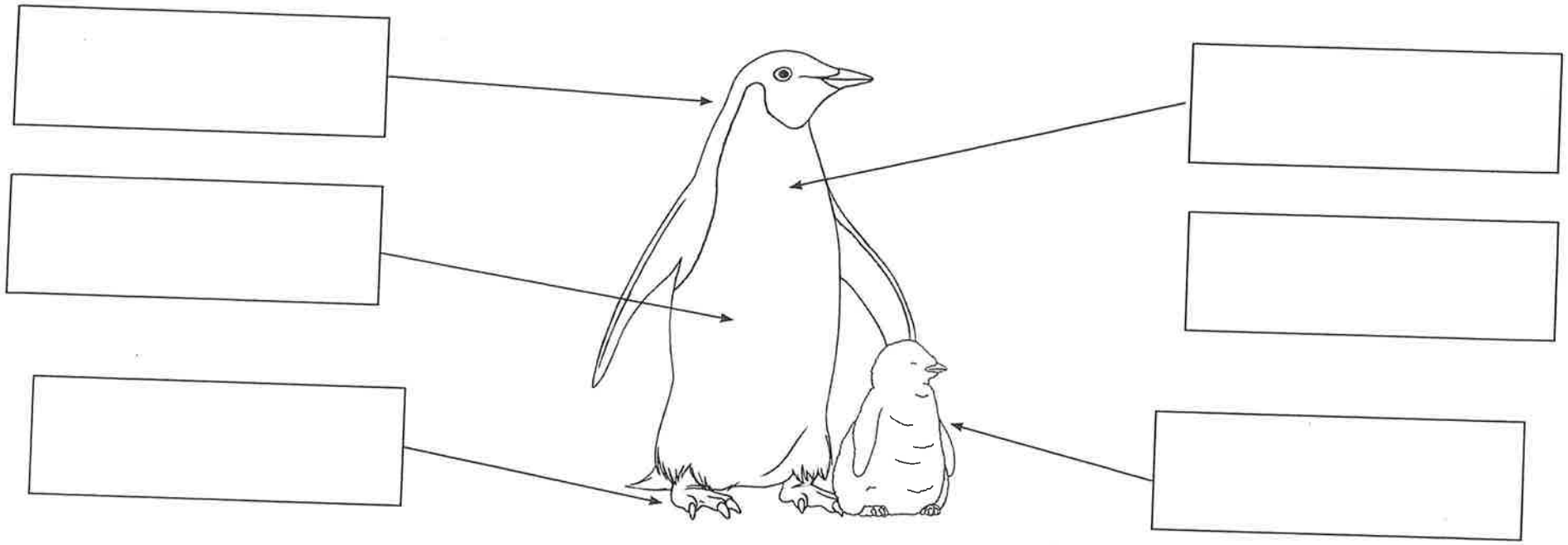


Secondary

Streamline body shape for efficient swimming.	Can survive in sea temperatures of up to -5 C.	A thick layer of blubber keeps them warm in the freezing water.
Strong jaws which open very wide so they can bite and seriously injure their prey.	Strong, sharp teeth to grip and tear their prey such as penguins or fur seals.	Large front flippers to swim fast through the water.

How Have Emperor Penguins Adapted to the Polar Environment?

Emperor penguins are the largest species of penguin. They are extremely well adapted to face the Antarctic winter where temperatures can reach -60°C. Cut out the labels and stick them in the right place on the Emperor penguin.



Secondary

Short neck, tail and legs so less heat is lost from these areas.	Powerful claws to help to grip the snow, ice or rock.	Thick feathers which can trap air for warmth.
Young chicks sit on their parent's feet to keep off the ice.	Huge groups of penguins huddle together to keep warm and shield each other from the wind.	Thick layer of blubber (fat) to protect against the cold.

An Energy Inefficient Kitchen

The picture below shows how a kitchen can be inefficient. Can you make a list of how it is wasting energy and suggest ways in which the kitchen could be made more efficient?

Have fun colouring in the kitchen above!

Weather

j	q	m	c	e	s	n	o	w	w	z	a
f	n	c	v	n	x	h	s	c	d	m	r
o	t	o	e	p	i	o	h	g	c	l	a
v	e	l	a	y	d	t	l	h	b	k	i
e	m	d	c	l	o	u	d	v	k	i	n
r	i	w	b	b	w	g	h	b	l	o	b
c	w	v	i	c	i	s	d	r	t	w	o
a	o	a	e	b	n	b	l	i	c	e	w
s	k	d	g	z	d	e	v	a	q	r	u
t	c	o	l	d	n	h	m	v	w	e	t
g	s	e	n	d	g	b	x	t	a	p	o
s	t	s	h	o	w	e	r	s	b	i	a

overcast
cloud
wet
hot
showers

wind
rainbow
cold
ice
snow

Word Match

The fourteen words printed below can be matched up to make seven new phrases. Match a word from the left hand column with a word from the right hand column, (choose a word from the left-hand column first) and see if you can do it!

CARBON	LEVEL
GREENHOUSE	EFFICIENCY
GLOBAL	VAPOUR
OZONE	EFFECT
WATER	DIOXIDE
ENERGY	HOLE
SEA	WARMING

The Earth's Environment

a	b	n	d	s	f	u	h	i	j	k	e
m	h	a	p	u	v	e	r	a	v	w	n
y	a	t	a	s	e	x	f	b	h	i	v
k	b	i	u	t	g	p	r	o	a	u	i
w	i	o	s	a	e	a	d	r	n	n	r
c	t	n	t	i	t	n	p	i	i	a	o
l	a	a	r	n	a	s	b	g	m	t	n
i	t	l	a	a	t	i	n	i	a	i	m
m	t	p	l	b	i	o	z	n	l	v	e
a	f	a	i	l	o	n	l	a	s	e	n
t	r	r	a	e	n	w	x	l	z	a	t
e	d	k	f	g	h	i	j	k	l	m	n

climate
vegetation
native
animals

Aboriginal
sustainable
habitat
environment

national parks
Australia
urban
expansion

The words printed at the bottom of the page are hidden in the word search box. How many can you find?

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

Words to Look For:

GREENHOUSE
WARMING
CFCS
GAS
OZONE
METHANE
GLOBAL
CARBONDIOXIDE
ENERGY

Can you solve this riddle to make two words connected with the greenhouse effect?

The first one has been done for you!

My 1st is in recycling and also in gas

My 2nd is in invisible and also in laugh

My 3rd is in coal but not in chalk

My 4th is in carbon but not in carton

My 5th is in air and also in man-made

My 6th is in layer but not in yesterday

My 7th is in weather and also in wind

My 8th is in car and also in walking

My 9th is in water but not in wasteful

My 10th is in tram but not in train

My 11th is in air but not in Earth

My 12th is in radiation and also in Sun

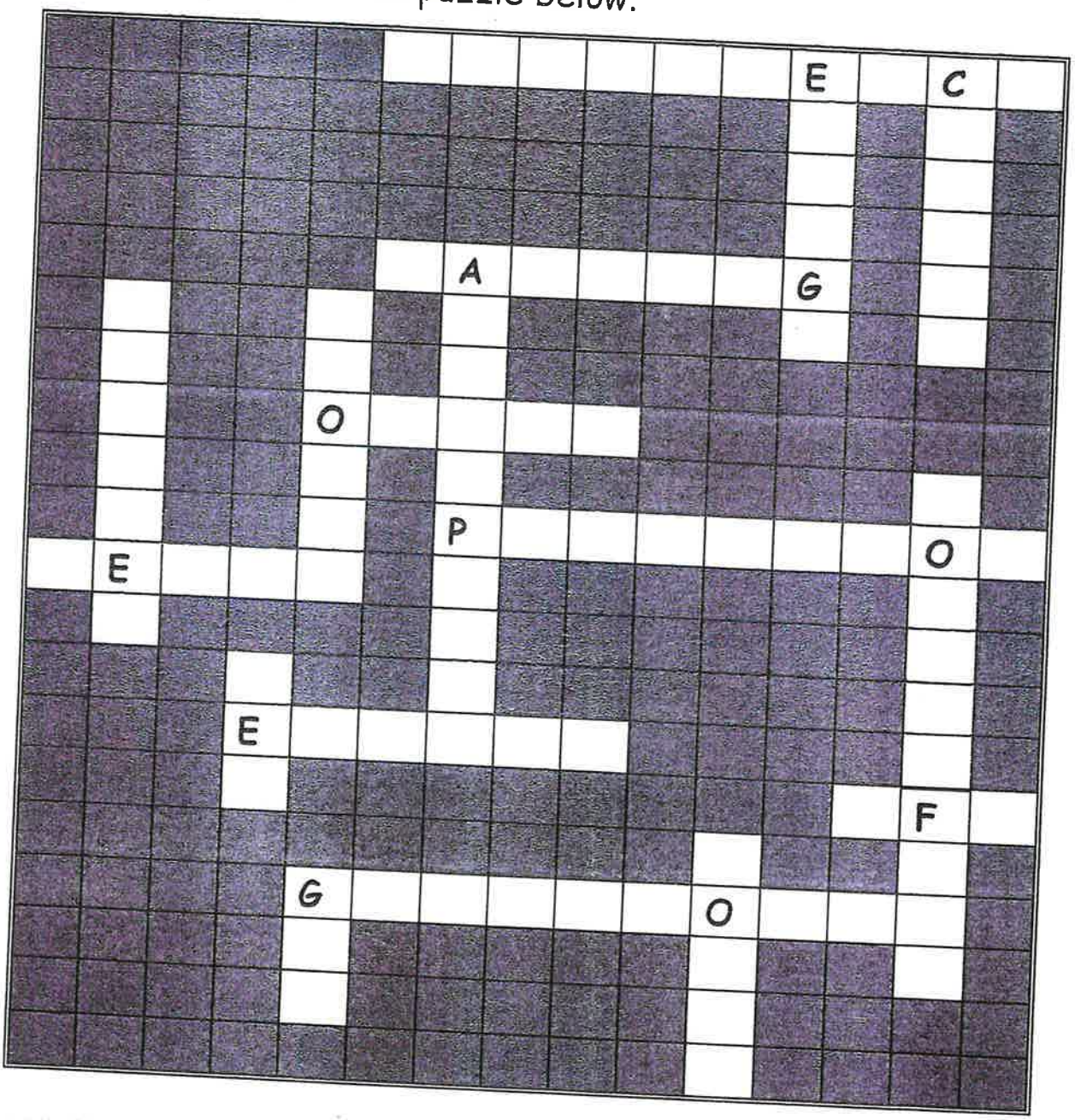
My 13th is in energy and also in gas

Enter the letter from each riddle in the boxes below

g												

Word Puzzle

See if you can fit the words on the next page into the correct spaces in the puzzle below.



SEA

LEVEL

CARBON

GLOBAL

SOLAR

FOSSIL FUEL

OZONE

WEATHER

CFC

ENERGY

GREENHOUSE

ATMOSPHERE

WARMING

EFFECT

GAS

POLLUTION

Eco School

e	n	v	i	r	o	n	m	e	n	t	f
h	r	t	i	d	y	m	w	a	t	e	r
x	r	q	v	i	i	q	a	p	z	g	j
w	x	s	t	r	a	v	e	l	f	n	w
e	l	e	c	t	r	i	c	i	t	y	a
b	i	o	d	i	v	e	r	s	i	t	y
l	w	b	e	t	h	e	n	e	r	g	y
i	a	w	s	p	e	c	i	e	s	f	h
t	s	a	t	r	a	n	s	p	o	r	t
t	t	h	e	a	t	i	n	g	p	l	l
e	e	f	j	s	c	y	t	i	r	r	o
r	z	b	j	s	o	d	j	s	k	r	n

biodiversity
species
energy
heating

electricity
litter
tidy
waste

water
environment
transport
travel

Good or Bad for the Environment?

Can you sort what is good and what is bad for the environment?

Cut out the activities and decide if they are good or bad for the environment.

Good for the environment

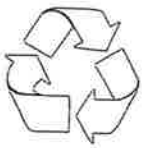
These activities will help keep our environment a pleasant place for all living things.

Bad for the environment

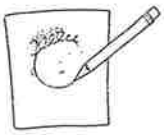
Try not to do these things. They cause damage to the environment.

Good or Bad for the Environment?


Walking to school


Recycling your rubbish


Turning off the TV


Using both sides of paper


Re-using plastic carrier bags


Turning off the tap while brushing


Feeding birds

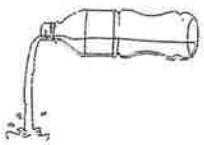

Having short showers


Giving old clothes to charity


Making compost

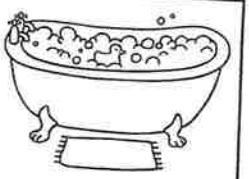

Growing vegetables


Drinking tap water

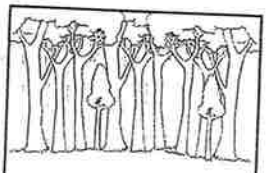

Pouring chemicals down the drain


Leaving the lights on


Wasting paper

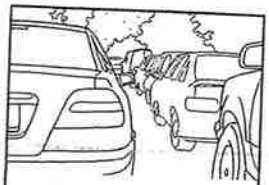

Having deep baths


Leaving the tap dripping


Cutting down trees


Buying bottled drinks


Buying lots of new things


Driving short distances


Throwing all your rubbish in the bin


Dropping litter


Wasting food

Helping the Environment

What can you do to help the environment and reduce global warming?

Think of 6 things that you can do to help the environment at home or at school. Draw them and write a sentence to describe them.

Earth Day Addition Riddle

Solve each addition problem. Find the sum that matches the letter.

Use the code to solve the riddle below:

B	3	A	10	T	5	F	7	E	12
I	11	L	4	U	9	C	1	R	14
W	13	N	2	G	8	S	6		

Why did the leaf go to the doctor?

___ ___ ___ ___ ___ ___ ___   ___ ___
2 + 1   8 + 4   0 + 1   6 + 4   3 + 6   2 + 4   7 + 5   8 + 3   1 + 4

___ ___ ___   ___ ___ ___ ___ ___ ___ ___
10 + 3   3 + 7   6 + 0   3 + 4   10 + 2   9 + 3   2 + 2   10 + 1   1 + 1   4 + 4

___ ___ ___ ___ ___ !
5 + 3   10 + 4   5 + 7   4 + 8   0 + 2