

Adaptations to different habitats

KEY STAGE(S): 3-4

SUBJECT(S): Geography, science

TOPIC: Adaptations to different habitats

LANGUAGE LEVEL: Early acquisition - Fluent

RESOURCE CONTENTS

- PowerPoint presentation (for whole class)
- PowerPoint presentation (beginners)
- Worksheet
- Checklist
- Explanations sheet

CURRICULUM OBJECTIVES

- To be able to compare and contrast two different habitats and explain and describe the adaptations of a polar bear and camel to survive in those environments.

Language functions

Useful Language

Comparing

- as well as
- similarly
- this is the same as
- also
- unlike
- this is different from
- however
- although

Explaining

- this is because
- so that
- which
- because it needs to

Justifying

- it needs ... so that it can
- its... help it to
- it can ... so that

Vocabulary

arid, cold, dry, dusty, extreme temperatures, freezing, frosty, harsh weather, hot, icy, monotonous, no trees, sandy, scorching snowy, sparse vegetation, bleak, bitterly cold, searing heat, parched, severe climatic conditions, glaring sunlight, desolate, blubber, hump

PREPARATION

You will need:

- a copy of each Adaptations to different habitats and Adaptations – explanations worksheet for each pupil. One Adaptations – checklist worksheet between three.
- a copy of Adaptations to different habitats – Early acquisition worksheet for each learner who is in the early stages of learning English. You will also either need a bilingual dictionary or access to an online translator.
- a projector and whiteboard if you are going to use the PowerPoint presentations.

You will need to:

- photocopy the worksheets.
- cut up the Adaptations – checklist.

IDEAS FOR USING THE RESOURCE

What to do:

- The Adaptations to different habitats – Early acquisition worksheet can be used as a differentiated activity in class or may be used as a one-to-one or small group lesson. Learners will need to have access to bilingual dictionaries either online or in book form and it may be easier to print out the PowerPoint slides if they are working alongside the whole class.
- Give out the Adaptations to different habitats worksheet to pupils and ask them to find as many similarities and differences between the Arctic and desert habitats as they can. The PowerPoint is designed as a way of introducing new vocabulary so deliberately contains some quite difficult words. Similarly, the beginners' worksheet contains a list of words that are quite high level but that are needed for the topic. If there is no projector available, the words on the PowerPoint can be put on a whiteboard or the slide can be photocopied as a worksheet. Pupils could be asked to see how many different words they can think of before using the PowerPoint.
- Learners then work out the adaptations for the two animals and check the answers. The Early acquisition worksheet asks pupils to circle the correct answer whereas the rest of the class will need to write the list in their books. Next, learners work in pairs to try to work out why the animals have adapted as they have. This exploratory talk should help them complete the activity on the next sheet. If there are learners at the early stages of learning English in the class, this would be a good opportunity to place them with someone who speaks the same language so they can develop these ideas in the first language.
- Learners then complete the Adaptations – explanations worksheet by matching the adaptation to the correct phrase. The Early acquisition worksheet version is differentiated and is a substitution table so the answers (from the PowerPoint presentation) will need to be printed out if they are working with the whole class. Check the answers on the PowerPoint or orally if you do not have access to a projector and screen.

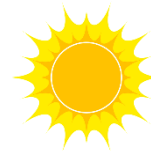
- The final task is for pupils to write about the habitats and the animals. The checklist has been included so that they can focus on using the specific vocabulary that has been introduced. It may be necessary to give further explanations for the words for comparing, contrasting and explaining to some pupils. They should be able to write a few paragraphs using some of the vocabulary that has been introduced.
- The Early acquisition worksheet task is differentiated here as they need to correct sentences. This may be enough for some learners but others may be able to go on to write some sentences independently. It is not necessary for learners to copy out the sentences particularly if they are going on to write their own.
- Other ideas for making the best use of this resource
- The checklist could be used for peer assessment. It allows for giving feedback in a constructive fashion because each target is very clear. Learners can then correct their own work based on the feedback.
- If the resource is being used in Key Stage 4 in Geography or Science, learners could be given a sample question from a GCSE paper rather than just writing some paragraphs.

POSSIBLE EXTENSION ACTIVITIES

- Learners could research other habitats and animals that live there and write about the adaptations needed to survive. They could then work in pairs to produce a written comparison between their two chosen habitats.

Adaptations to different habitats

Here are two different habitats. Write the words below under the correct picture.



Arctic

Temperature

Other

Desert

Temperature

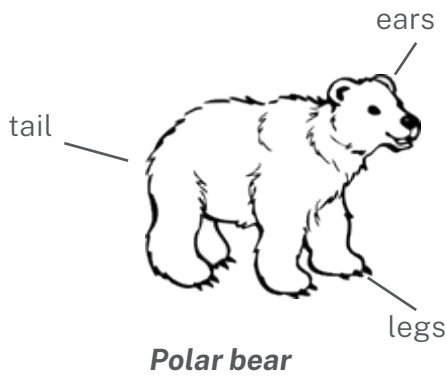
Other

Words for both habitats

	Translation		Translation
arid		hot	
cold		icy	
dry		monotonous	
dusty		no trees	
extreme temperatures		sandy	
freezing		scorching	
frosty		snowy	
harsh weather		sparse vegetation	



Adaptations to different habitats

Polar bears and camels need adaptations to survive. Read the adaptations below and circle either **polar bear** or **camel** (three are correct for both).



Adaptations

long legs





Polar bear | Camel



X doesn't sweat





Polar bear | Camel





brown fur

Polar bear | Camel





long eyelashes





Polar bear | Camel


has fat in its hump

Polar bear | Camel





black skin






Polar bear | Camel

covered in blubber (fat)

Polar bear | Camel



large (big) feet


Polar bear | Camel





transparent fur

Polar bear | Camel



fur-covered soles of feet

Polar bear | Camel





nostrils that can close






Polar bear | Camel

small ears and tail

Polar bear | Camel

thick fur

Polar bear | Camel

Make sentences from the table below to give reasons for the adaptations.

Example: ***A camel has long eyelashes to stop sand hurting it.***

A polar bear		fat in its hump	to keep it warm.
		lots of blubber	to absorb heat.
		long eyelashes	
		small ears and tail	to stop water going in its nose.
A camel	has	black skin	to help it walk on soft ground.
		large feet	to protect it from the sun.
		nostrils that can close	
		thick fur	to help when there is no water.
		fur covered feet	
	does not sweat	to stop sand hurting it.	

Adaptations to different habitats

The habitats and the animals are the same in some ways and different in others. These words help you to write about the similarities (how they are the same) and differences.

Words to show they are the same	Words to show they are different
and	unlike
as well as	this is different from
this is the same as	but
also	although

Change the words **in bold** so that the sentences are true.

- The Arctic and the desert are both **cold** environments. (*both comes after the verb to be*)
- The desert is scorching hot. This is **the same as** the Arctic which is very **hot**.
- They both have **a lot of** vegetation. (*both comes before other verbs*)
- A camel has thick fur to **keep it warm**.
- This is **different from** the polar bear, although a polar bear needs the fur to keep warm.
- Camels and polar bears are **not** the same because they have big feet which they need to help them walk on soft ground.

Now write some sentences on your own to describe the animals and the environments. Complete this checklist when you have finished.

In my sentences I have written about:	✓ or ✗
the desert and the Arctic using at least four of the words from my list	
at least three adaptations for the polar bear and the camel	
the reasons for the adaptations	
at least one adaptation that is the same and two that are different for the camel and the polar bear using some of these words: the same as/unlike/both/as well as/different from/but/although/and	

Adaptations to different habitats

Here is a list of adaptations for the polar bear and camel. Match the adaptation to the explanation. Some explanations are used more than once.

Polar bear	
1. black skin	a. to reflect the snow so the bear appears white
2. large feet	b. have a small surface area so less heat escapes
3. transparent fur	c. to provide insulation from the cold
4. thick fur	d. to stop the bear sinking into the snow
5. small ears and tail	e. to stop cold water going into the bear's nose
6. nostrils can close	f. to absorb heat to keep the bear warm
7. fur covered soles of feet	g. to give a good grip on ice
8. covered in blubber	

Camel	
1. long eyelashes	a. to keep its body away from the hot sand.
2. long legs	b. to provide energy if it has had no food or water for a while.
3. brown fur	c. to stop sand irritating it.
4. thick fur on its hump	d. to prevent water loss.
5. nostrils that can close	e. to protect its back from the sun.
6. stores fat in hump	f. to stop it sinking into the soft sand.
7. does not sweat	g. so it cannot be seen easily.
8. large feet	

Polar bear and camel adaptations - Checklist

I have:	✓ or ✗
<ul style="list-style-type: none"> described the desert and the Arctic using at least four of the words from my list 	
<ul style="list-style-type: none"> written about at least three adaptations for the polar bear and the camel 	
<ul style="list-style-type: none"> explained the reasons for the adaptations 	
<ul style="list-style-type: none"> used at least six different words to compare, contrast and explain. 	
<ul style="list-style-type: none"> described at least one similarity and two differences between the camel and the polar bear 	

Polar bear and camel adaptations – Checklist

I have:	✓ or ✗
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