Duration: 60 minutes

How the camel got his hump

Science and English — Year 6

Teachers' Notes

Objectives:
- To learn how animals and plants in different habitats are adapted to their environment.

Curriculum links:
SCIENCE Y6: Evolution and inheritance c
ENGLISH: Spoken language years 1-6

Resources:
- *How the camel got its hump* story
- BBC Bitesize clip How are camels adapted to live in the desert? http://www.bbc.co.uk/education/clips/z8fpyrd (link on the AnimalKind website)
- Animal adaptations worksheets (and answers) and IWB slides
- Two foxes image
- Large sticky (Post-it) notes
- Habitat backdrops

AnimalKind film link - Section 1: The wonderful world of animals

Starter activity:

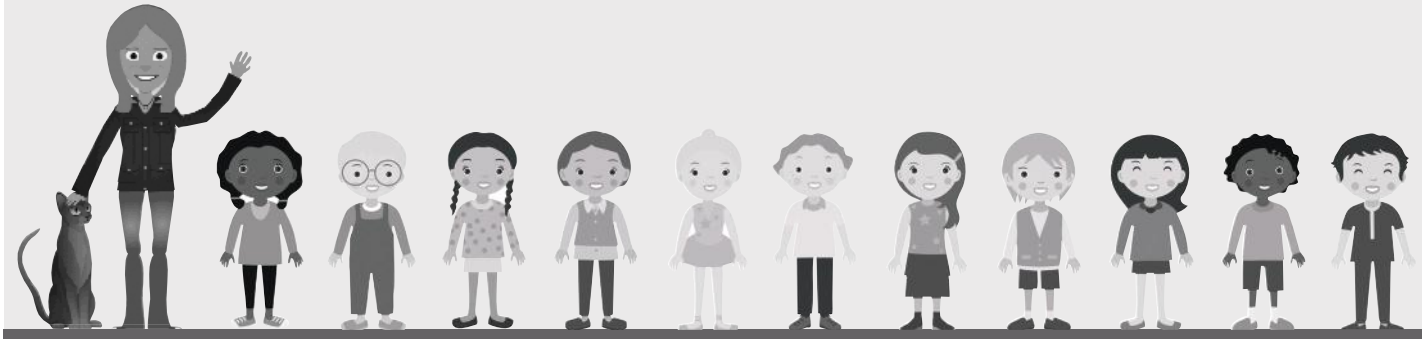
- Read to the class the story *How the camel got its hump* by Rudyard Kipling.

Main activity:

1) Ask the children if they think that was the real reason why camels have a hump (or humps*). Ask pupils if they know what the camel's hump is actually for. Ensure that no one has the misconception that a camel's hump is for storing water – inform children that the camel uses it to store fat as nourishment when food is scarce. The hump is not used for water storage, but camels can go for long periods of time without water - they can survive for nearly six months without drinking water – due to other adaptations such as losing very little water through urination and sweating.

* There are two species of camel: the dromedary, or one-humped camel (C. dromedarius), which inhabits the Middle East and the Horn of Africa; and the Bactrian, or two-humped camel (C. bactrianus), which lives in Central Asia.

2) Display the Camel adaptations IWB slide on the whiteboard.



- Put pupils into pairs. Give each pair a copy of the Camel adaptations worksheet.
- Discuss where camels live and what the weather is like in their 'dry, hot desert' environment or habitat.
- Show the short animation on the BBC Bitesize website which explains how camels are adapted to the hot desert environment (4 mins)

3) Ask pairs to discuss why each of the four features or characteristics might be useful for camels in the habitat where they live and therefore why they have evolved the adaptations. Tell them to pencil in their ideas in the blank labels on the sheet.

- Gather ideas from pupils and discuss suggestions with the class. Ask pupils giving the correct answer to add the correct label (reason for adaptation) to the image on the whiteboard.
- Display the Polar bear adaptations image on the whiteboard.
- Give each pair a copy of the Polar bear adaptations worksheet.
- Display the Polar bear adaptations IWB slide.
- Ask children how the polar bear's environment or habitat differs from that of the camel (cold/ freezing rather than hot, wet rather than dry, white rather than brown, sandy rather than snowy/icy).
- Invite pupils to repeat the above procedure with the Polar bear adaptations worksheet.
- Discuss contrasting adaptations to the two very different environments.

OPTIONS

4a) Form pairs of students into four groups and provide each group with a different adaptations worksheet: **Fennec fox**, **Arctic fox**, **Mole** and **Bat**.

- Instruct the pairs of pupils to pencil in suggestions in the relevant labels for why the animals have evolved the adaptations.
- Ask one pair in turn from each of the four groups to present their findings to the class using the relevant adaptations IWB slide on the whiteboard.

or

4b) Display the images of the Fennec fox and Arctic fox next to each other on the whiteboard and ask pupils to discuss in pairs the ways that these two types of fox are adapted to their contrasting desert and polar habitats and to write them down on large sticky (Post-it) notes.

- Ask students to add their adaptations on sticky notes to the images of each type of fox on the whiteboard.
- Discuss the correct answers and ask the children what they think would happen if the animals did not have these adaptations - i.e. would they be less able to survive than an animal that did have them? Introduce the concepts of evolution and adaptation.

5) If not already shown, play the *Animalkind* film section 1: The wonderful world of animals. Discuss examples of adaptations shown in the film.

- Point out that not all adaptations are easy to see – for example, the bat has developed echolocation, to 'see' in the dark. (Ask if any children know of any other animals that can do this – dolphins, orcas and shrews).

6) Ask children to choose a picture of a certain habitat and ask them to draw an imaginary animal that could live there, labelling its features with their suitability for the habitat.

- Tell the children that while they are drawing, you will be judging their pictures and selecting a shortlist to be presented to the class.

Plenary:

- Ask the children on the shortlist to describe their imaginary animal to the class and to explain its special adaptations. Take a vote on which is the winner – best adapted to its environment and why.

Optional lesson development:

- Children produce more detailed annotated posters showing their animal in its habitat.
- Children make a model of their animal using Play-Doh.

Resources available on the AnimalKind website

- ***How the camel gots its hump* story by Rudyard Kipling**
- Link to **BBC Bitesize clip which explains how camels are adapted to the hot desert environment** (for displaying on whiteboard)
- **Animal adaptations worksheets (x 6)** (one copy per pair of students)
- **Animal adaptations answer sheets (x 6)** (teacher information)
- **Animal adaptations IWB slides (x 6)** (for displaying on whiteboard)
- **Two foxes image** (for displaying on whiteboard)
- **Habitat backdrops (x19)** (one copy per student)

How the camel got its hump story (p1)

Info sheet

How The Camel Got Its Hump

by Rudyard Kipling

In the beginning of years, when the world was so new and all, and the Animals were just beginning to work for Man, there was a Camel, and he lived in the middle of a Howling Desert because he did not want to work and when anybody spoke to him he said 'Humph!' Just 'Humph!' and no more.

Presently the Horse came to him on Monday morning, with a saddle on his back and a bit in his mouth, and said, 'Camel, O Camel, come out and trot like the rest of us.'

'Humph!' said the Camel; and the Horse went away and told the Man.

Presently the Dog came to him, with a stick in his mouth, and said, 'Camel, O Camel, come and fetch and carry like the rest of us.'

'Humph!' said the Camel; and the Dog went away and told the Man. Presently the Ox came to him, with the yoke on his neck and said, 'Camel, O Camel, come and plough like the rest of us.'

'Humph!' said the Camel; and the Ox went away and told the Man.

At the end of the day the Man called the Horse and the Dog and the Ox together, and said, 'Three, O Three, I'm very sorry for you (with the world so new-and-all); but that Humph-thing in the Desert can't work, or he would have been here by now, so I am going to leave him alone, and you must work double-time to make up for it.'

That made the Three very angry.

Presently there came along the Djinn in charge of All Deserts, rolling in a cloud of dust (Djinns always travel that way because it is Magic), and he stopped to talk with the Three.

'Djinn of All Deserts,' said the Horse, 'is it right for any one to be idle, with the world so new-and-all?'

'Certainly not,' said the Djinn.

'Well,' said the Horse, 'there's a thing in the middle of your Howling Desert with a long neck and long legs, and he hasn't done a stroke of work since Monday morning.'

How the camel got its hump story (p2)

Info sheet

Whew!' said the Djinn, 'that's my Camel, for all the gold in Arabia! What does he say about it?'

'He says "Humph!"' said the Dog; 'and he won't fetch and carry.'

The Djinn rolled himself up in his dust-cloak, and took a bearing across the desert, and found the Camel.

'My friend,' said the Djinn, 'what's this I hear of your doing no work, with the world so new-and-all?'

'Humph!' said the Camel.

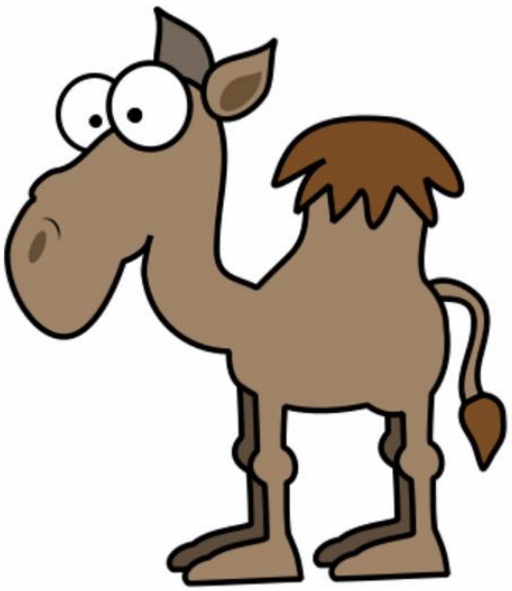
'I shouldn't say that again if I were you,' said the Djinn; you might say it once too often. Bubbles, I want you to work.'

And the Camel said 'Humph!' again; but no sooner had he said it than he saw his back, that he was so proud of, puffing up and puffing up into a great big lolloping humph.

'Do you see that?' said the Djinn. 'That's your very own humph that you've brought upon your very own self by not working. To-day is Thursday, and you've done no work since Monday, when the work began. Now you are going to work.'

'How can I,' said the Camel, 'with this humph on my back?'

'That's made a-purpose,' said the Djinn, 'all because you missed those three days. You will be able to work now for three days without eating, because you can live on your humph; and don't you ever say I never did anything for you. Come out of the Desert and go to the Three, and behave. Humph yourself!'



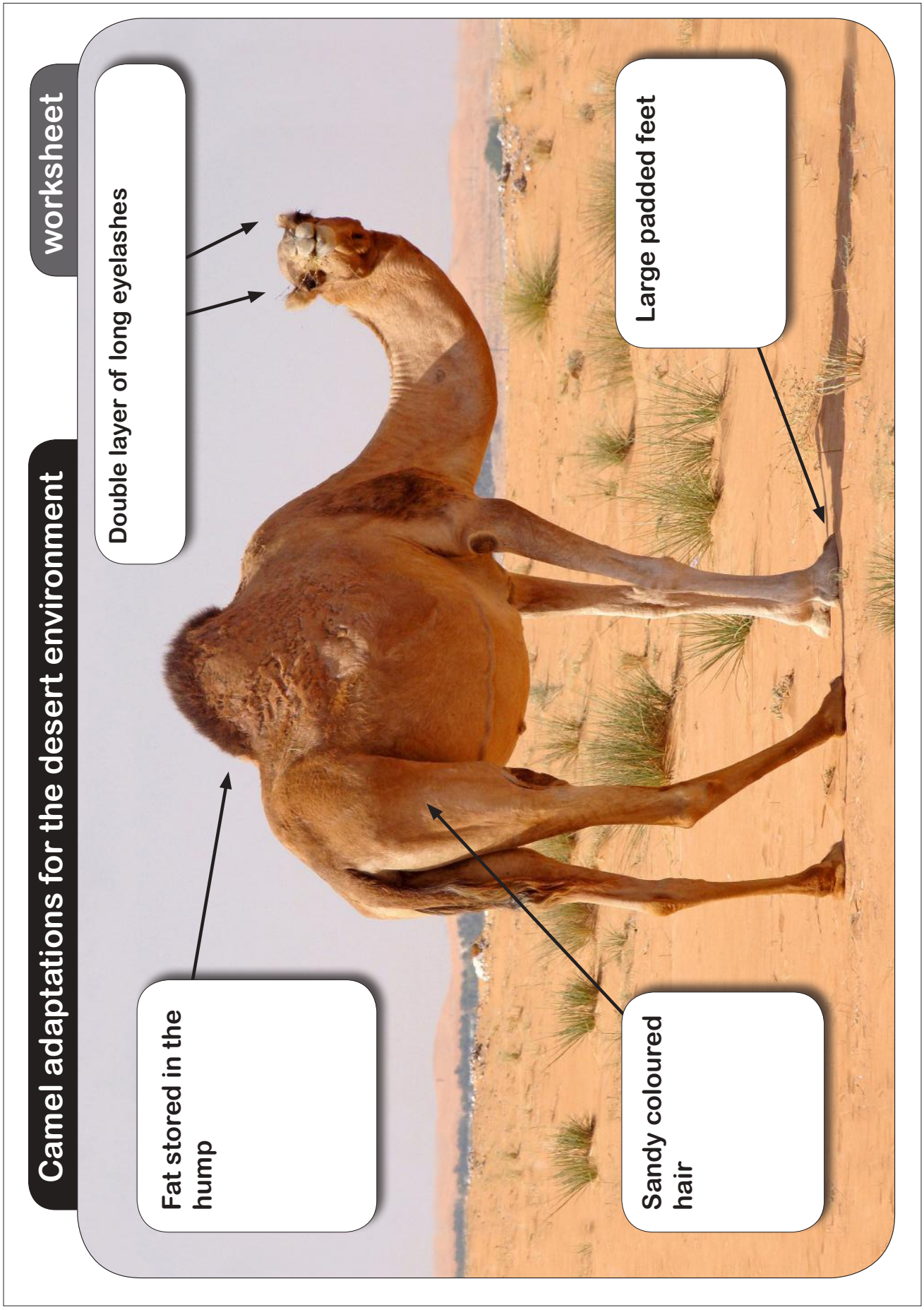
And the Camel humphed himself, humph and all, and went away to join the Three. And from that day to this the Camel always wears a humph (we call it 'hump' now, not to hurt his feelings); but he has never yet caught up with the three days that he missed at the beginning of the world, and he has never yet learned how to behave.

Camel adaptations worksheet

Worksheet

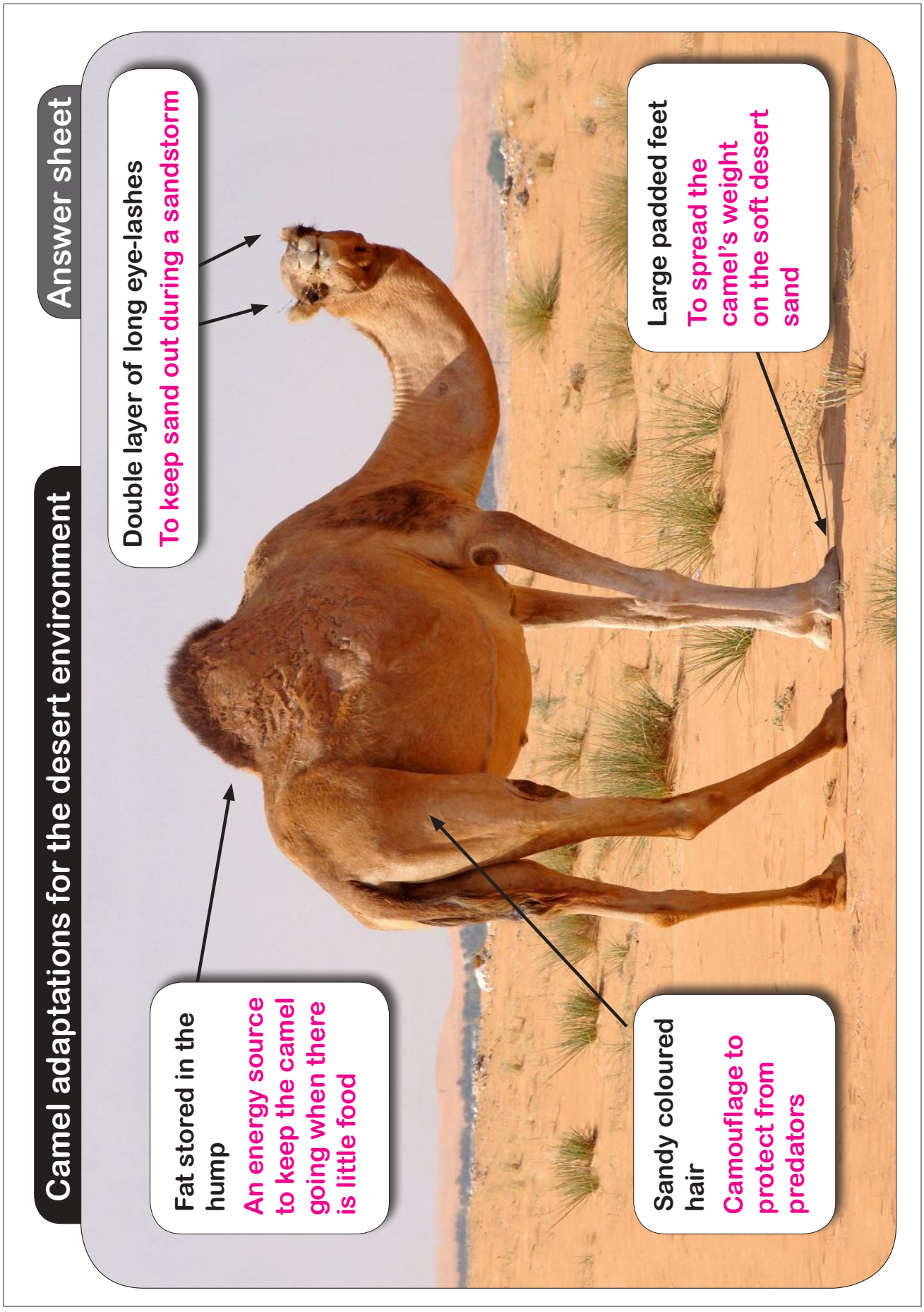
worksheet

Camel adaptations for the desert environment



Camel adaptations answer sheet

Info sheet

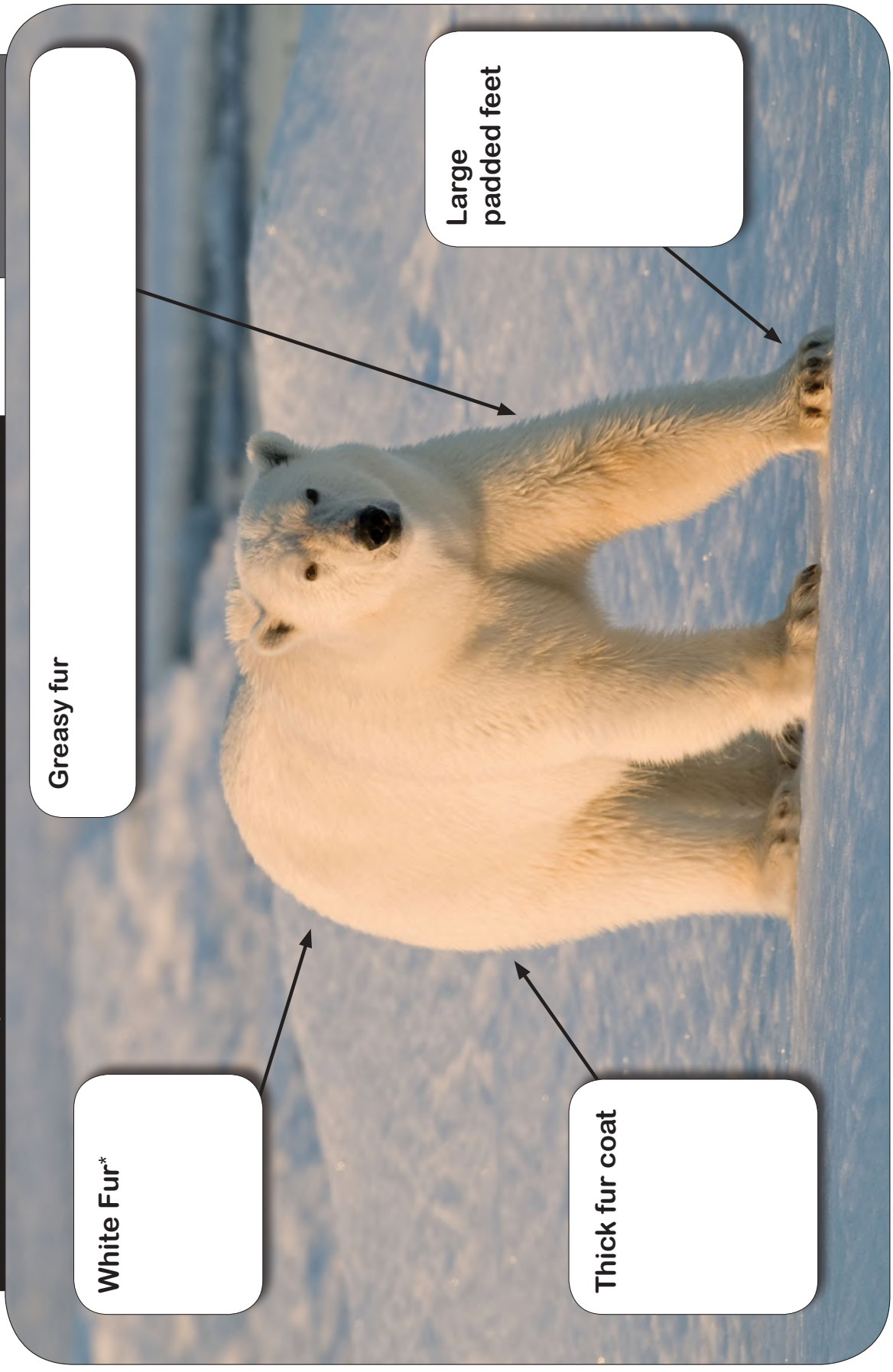


Polar bear adaptations worksheet

Worksheet

Worksheet

Polar bear adaptations for the Arctic environment



Greasy fur

Large padded feet

White Fur*

Thick fur coat

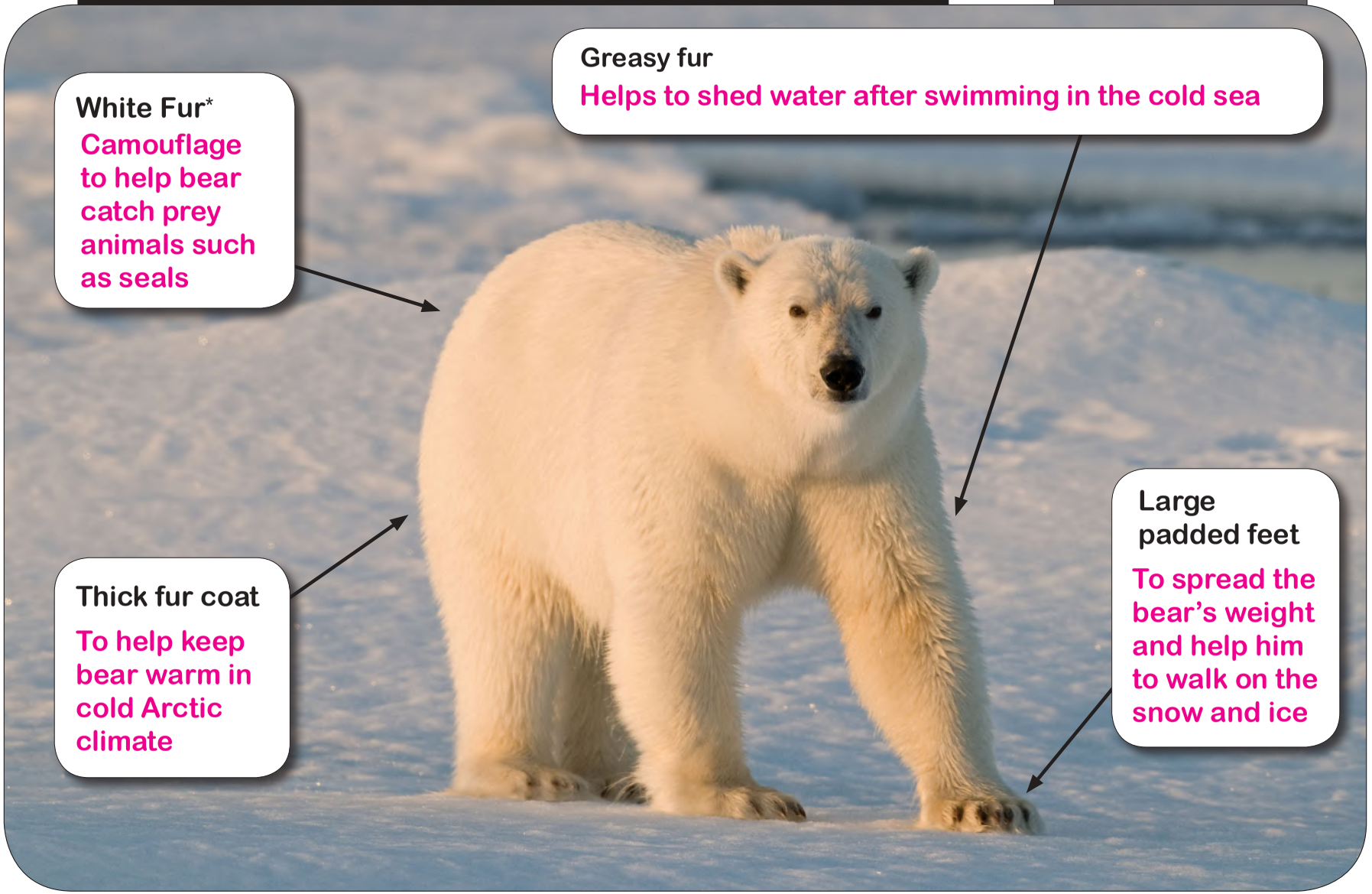
* Actually the fur is transparent (see-through). It has a hollow core that scatters light in a similar way to ice and snow.

Polar bear adaptations answer sheet

Info sheet

Polar bear adaptations for the Arctic environment

Answer sheet



White Fur*
Camouflage to help bear catch prey animals such as seals

Greasy fur
Helps to shed water after swimming in the cold sea

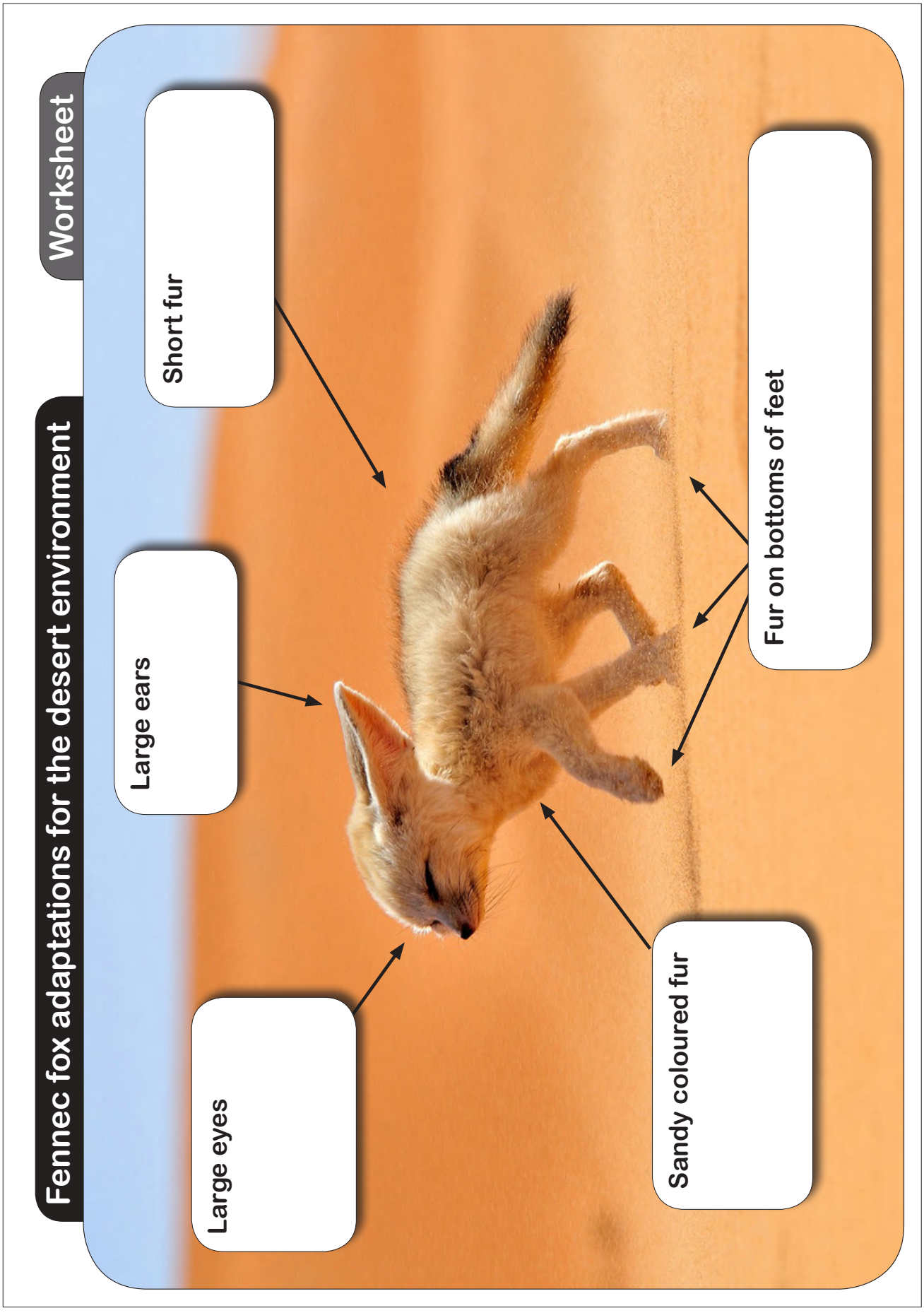
Thick fur coat
To help keep bear warm in cold Arctic climate

Large padded feet
To spread the bear's weight and help him to walk on the snow and ice

* Actually the fur is transparent (see-through). It has a hollow core that scatters light in a similar way to ice and snow.

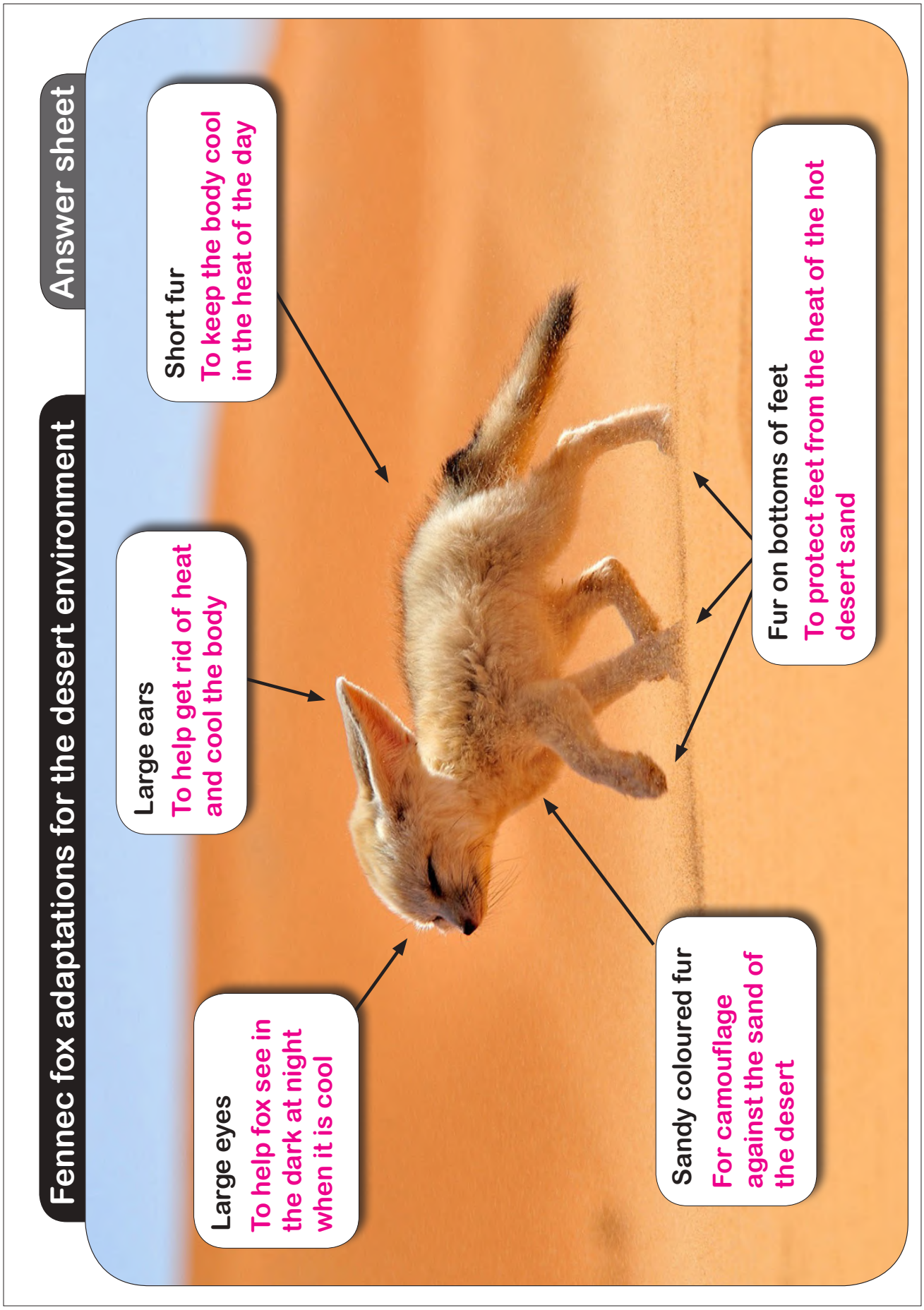
Fennec fox adaptations worksheet

Worksheet



Fennec fox adaptations answer sheet

Info sheet

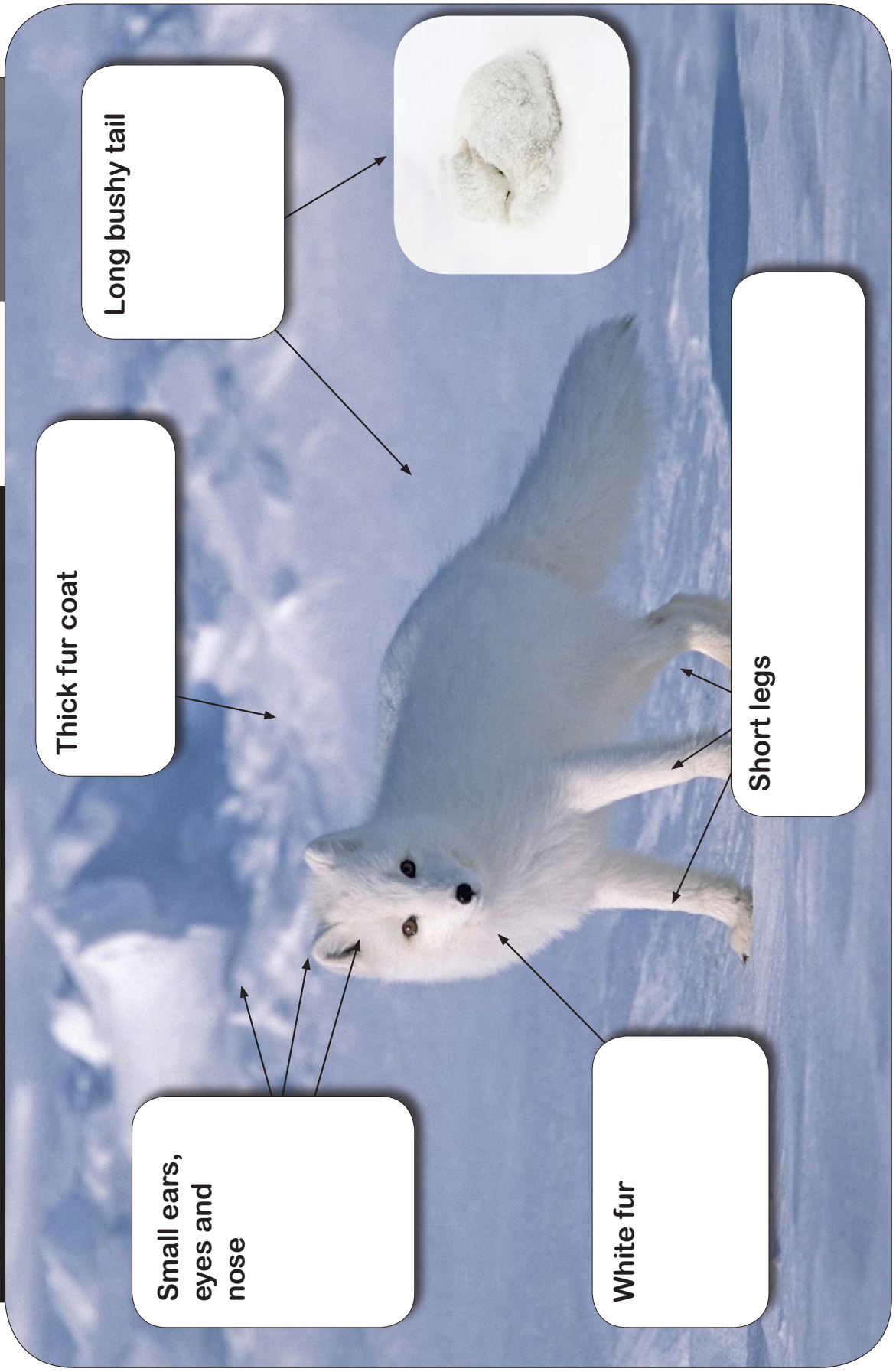


Arctic fox adaptations worksheet

Worksheet

Worksheet

Arctic fox adaptations for the Arctic environment



Arctic fox adaptations answer sheet

Info sheet

Answer sheet

Arctic fox adaptations for the Arctic environment

Long bushy tail
To wrap around the fox's body to help keep warm

Thick fur coat
To stop the loss of body heat and keep warm

Short legs
To keep the body close to the ground and help stop the loss of body heat

Small ears, eyes and nose
For protection against the cold Arctic wind

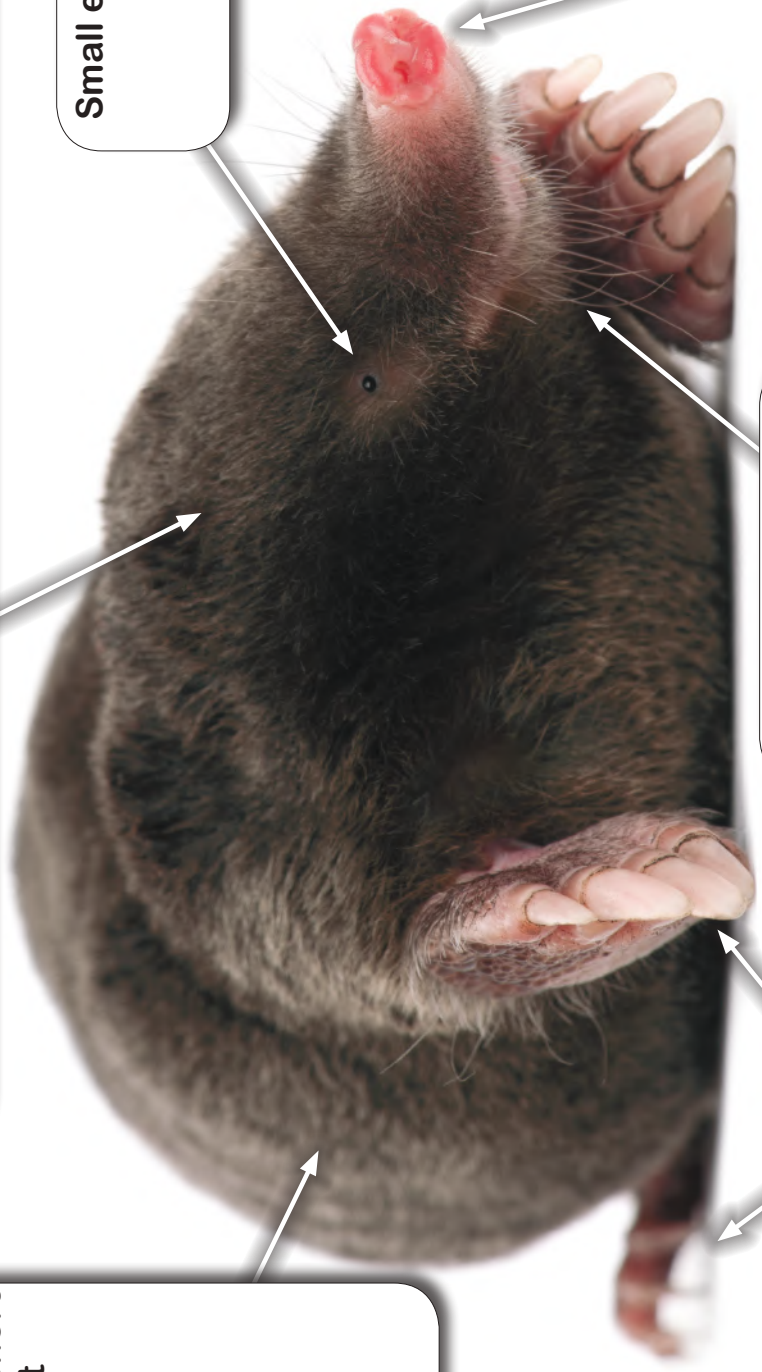
White fur
For camouflage against the snow and ice

Mole adaptations worksheet

Worksheet

Worksheet

Mole adaptations for living underground



Very small ears

Small eyes

Small sensitive nose

Sensitive whiskers

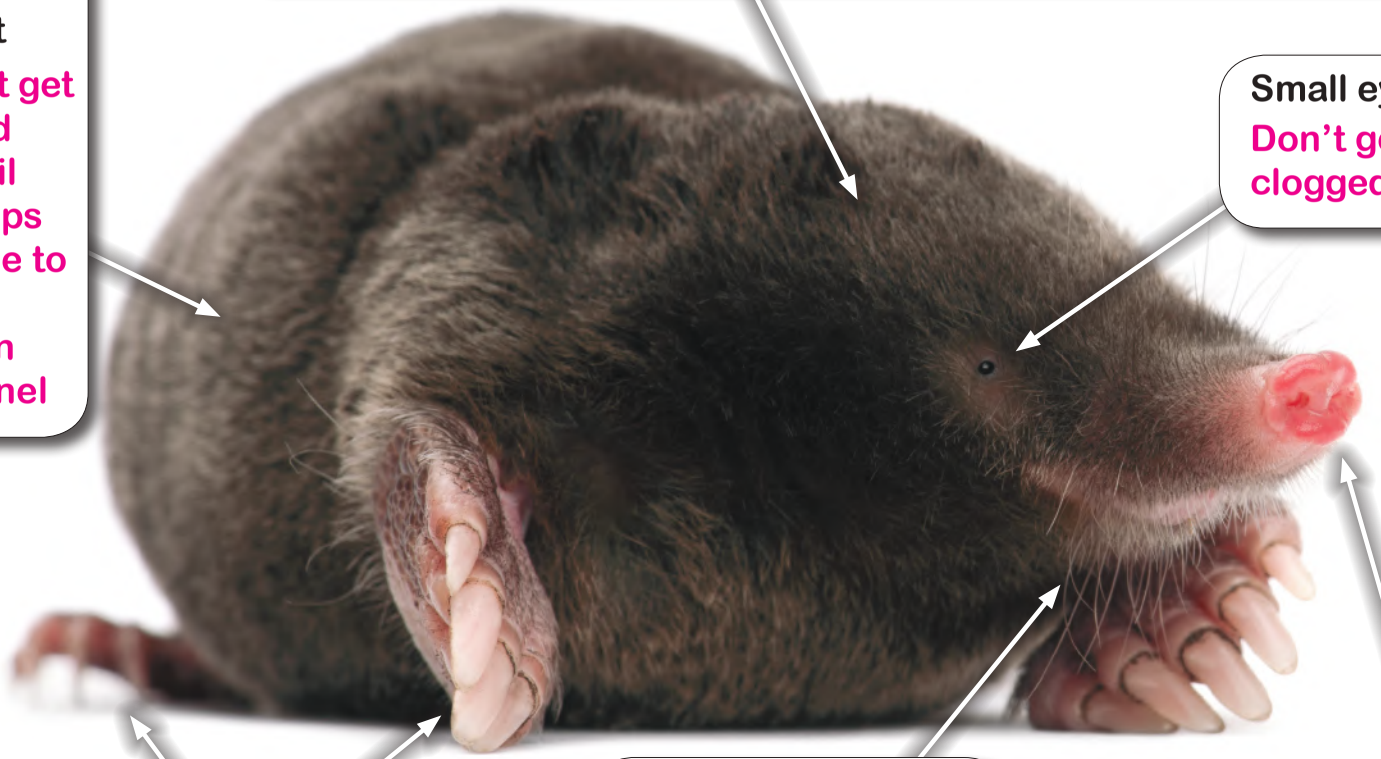
Large spade-like paws

Smooth, dense short fur coat

Mole adaptations answer sheet

Mole adaptations for living underground

Answer sheet



Very small ears
Don't get clogged with soil or get in the way in the narrow tunnel

Smooth, dense short fur coat
Doesn't get clogged with soil and helps the mole to move easily in the tunnel

Small eyes
Don't get clogged with soil

Large spade-like paws
Helps the mole to dig tunnels through the soil

Sensitive whiskers
To help the mole feel its way through the tunnel in the dark

Small sensitive nose
To smell out worms in the tunnel in the dark

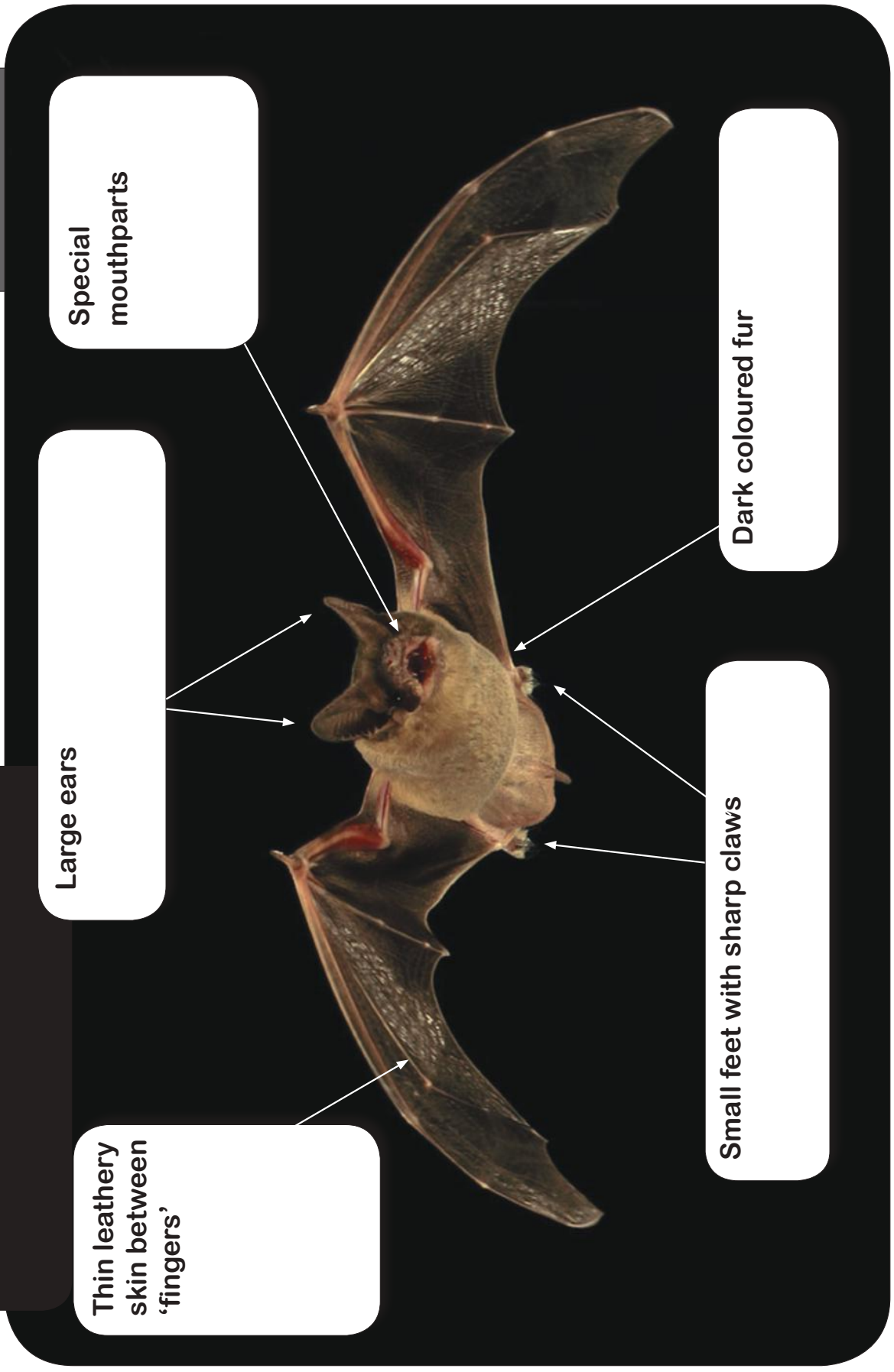
Info sheet

Bat adaptations worksheet

Worksheet

Worksheet

Bat adaptations for night flying

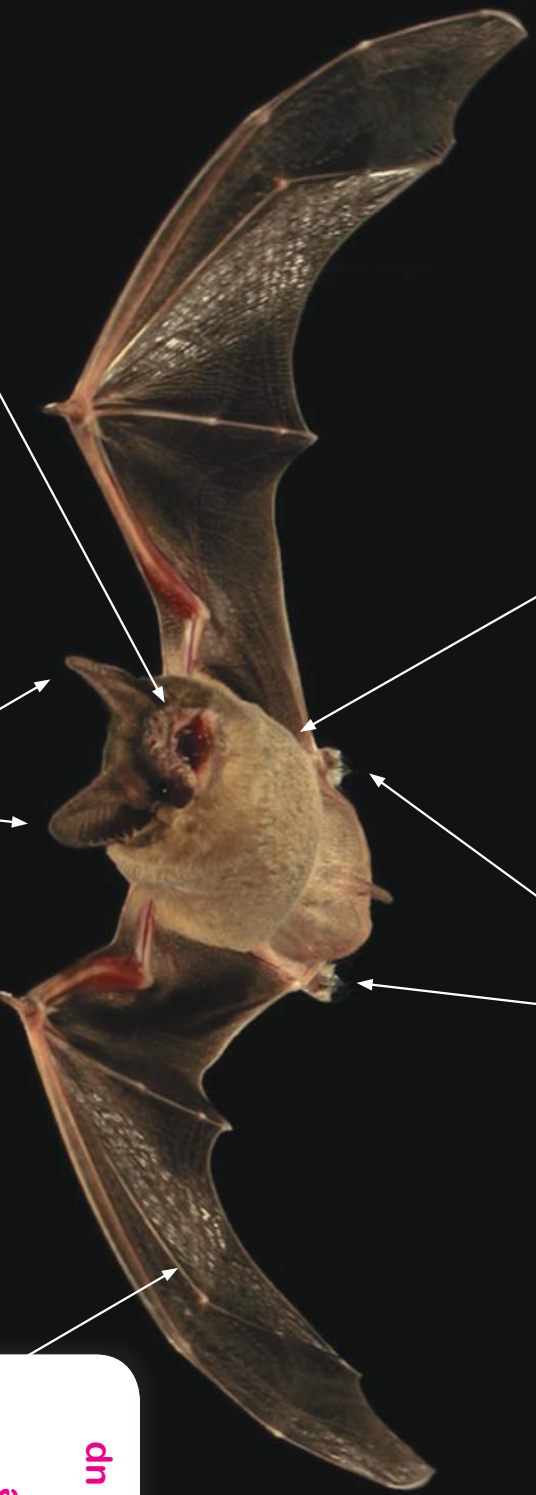


Bat adaptations answer sheet

Info sheet

Answer sheet

Bat adaptations for night flying



Special mouthparts
To make ultrasonic clicks, for echolocation

Large ears
To 'hear' ultrasonic echolocation clicks and 'see' in the dark

Thin leathery skin between 'fingers'
To make wings that can be easily folded up

Dark coloured fur
To keep warm and be camouflaged in the dark at night

Small feet with sharp claws
To help grip onto the roof of caves when hanging upside down

Two foxes image

Info sheet

Habitat backdrops: beach

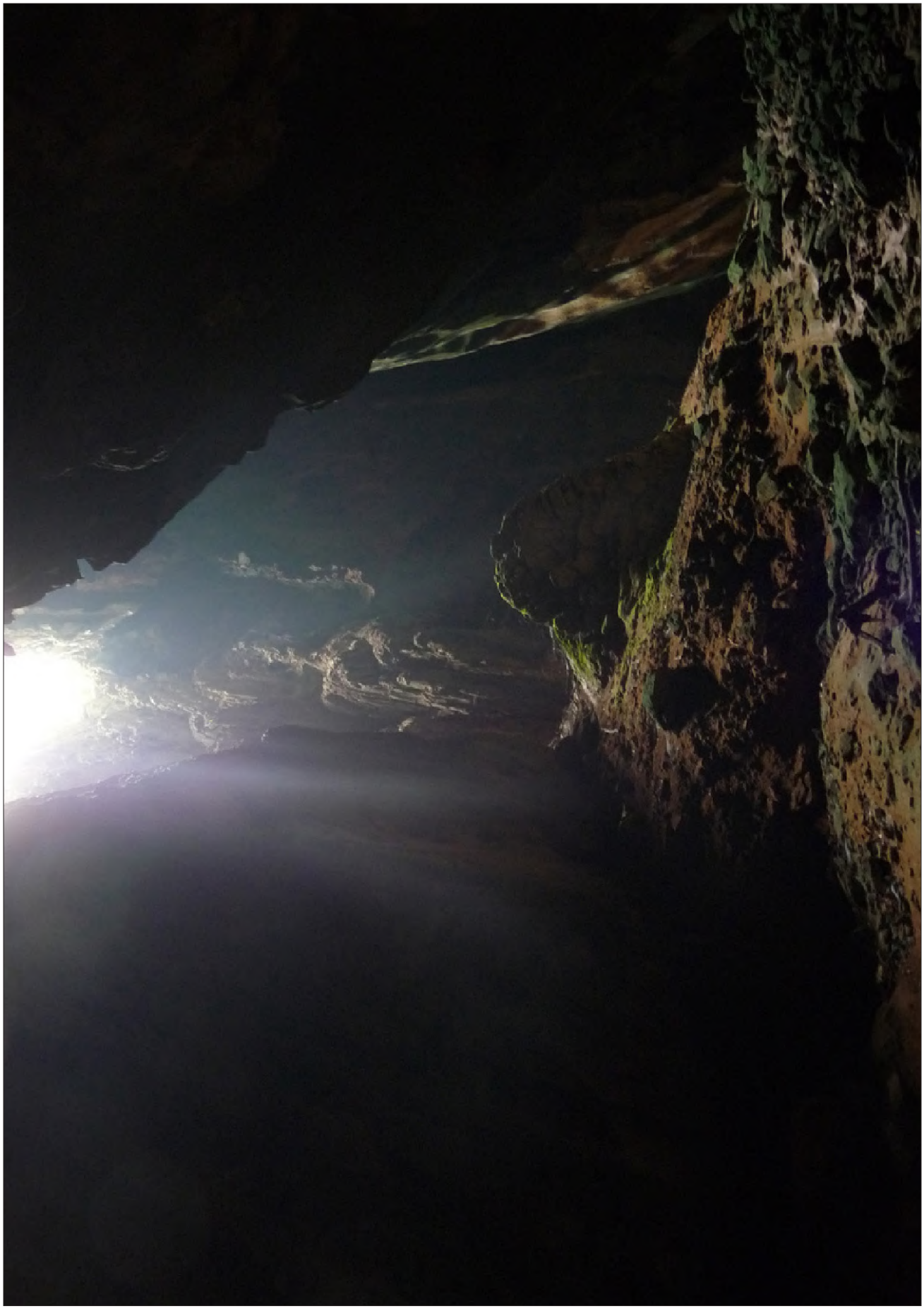
Info sheet

Habitat backdrops: coniferous forest

Info sheet

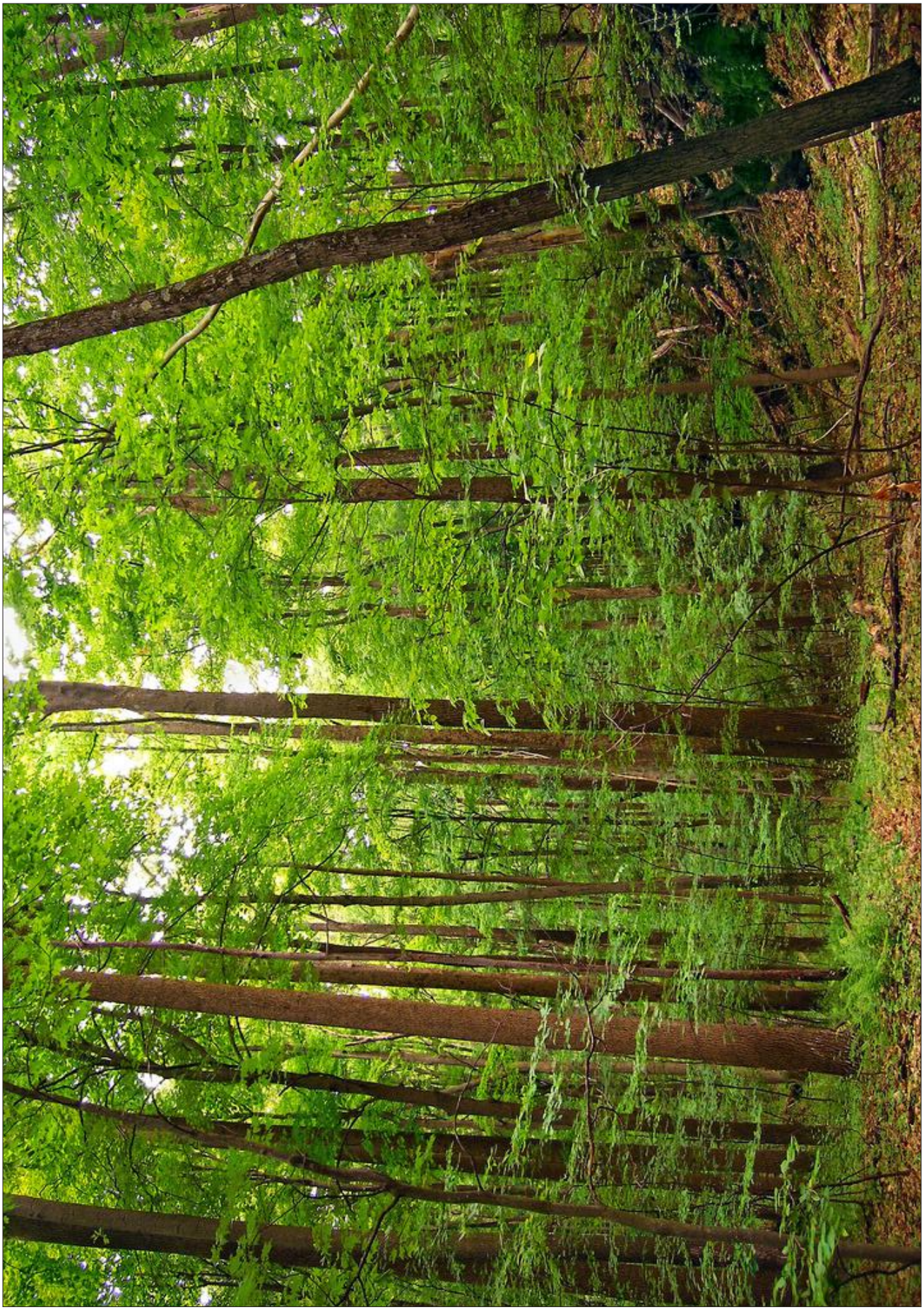
Habitat backdrops: cave

Info sheet



Habitat backdrops: deciduous woodland

Info sheet



Habitat backdrops: leaf litter

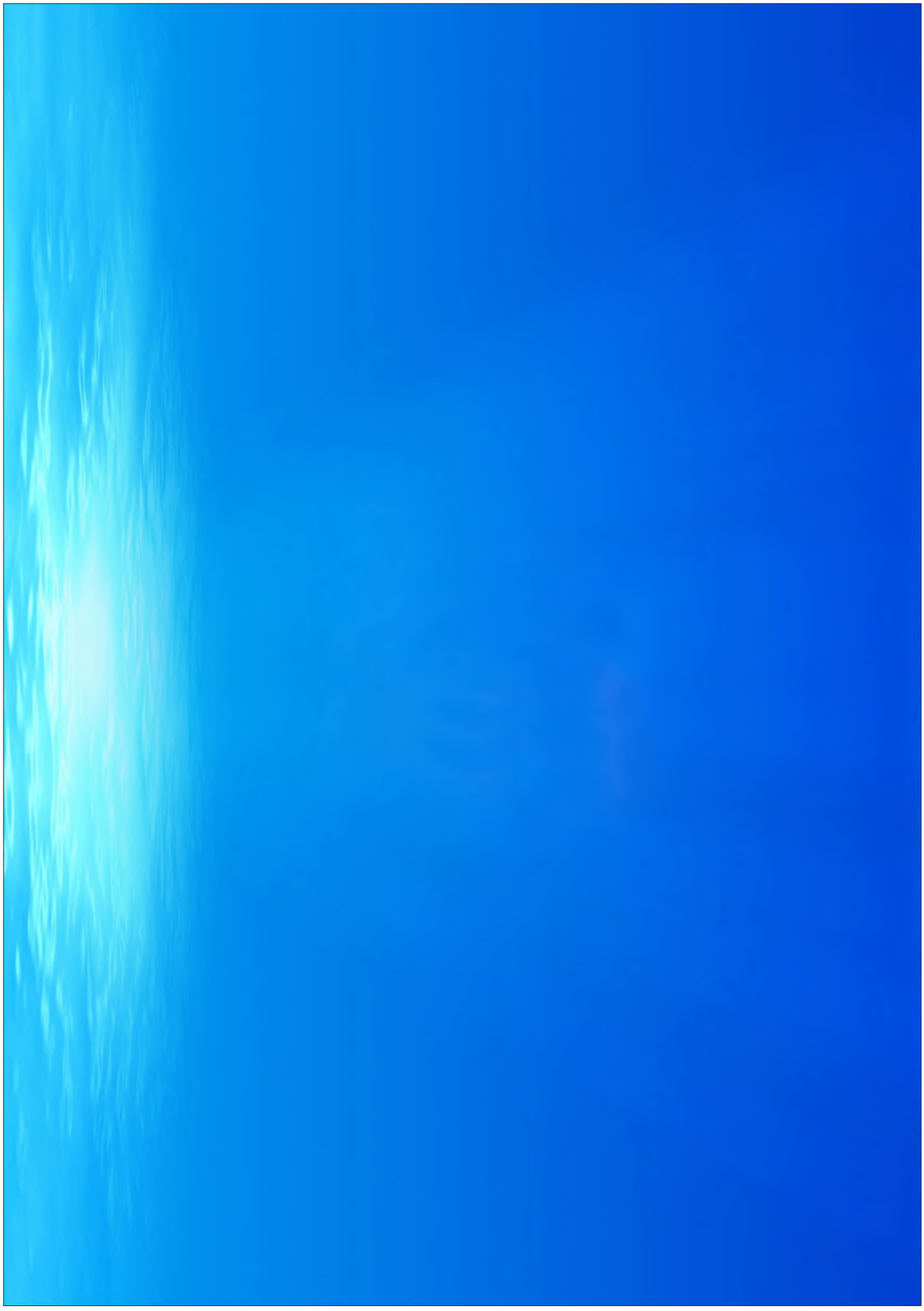
Info sheet

Habitat backdrops: coral reef

Info sheet

Habitat backdrops: open ocean

Info sheet



Habitat backdrops: tidal rock pool

Info sheet

Habitat backdrops: arctic

Info sheet

Habitat backdrops: arctic sea

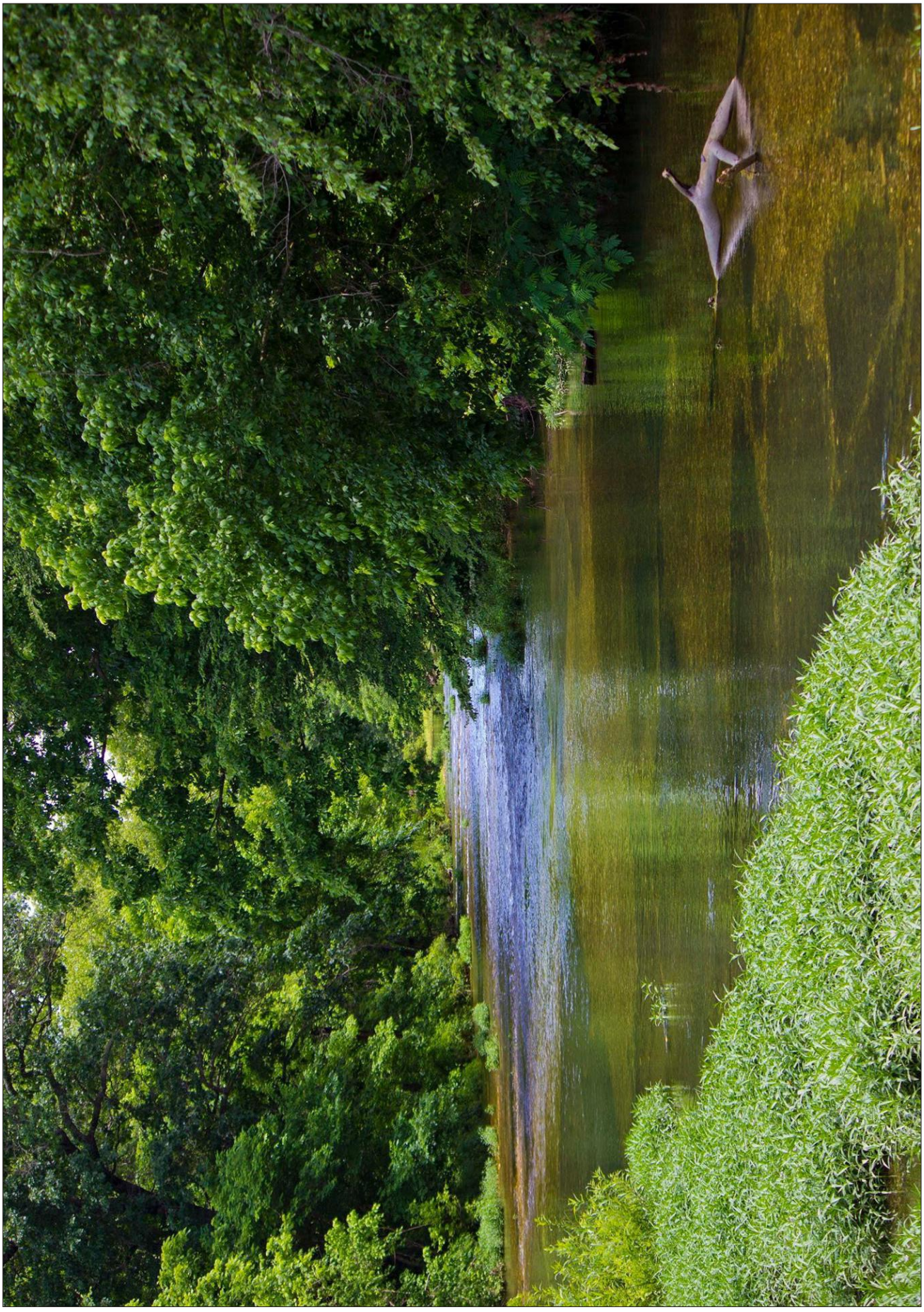
Info sheet

Habitat backdrops: lake

Info sheet

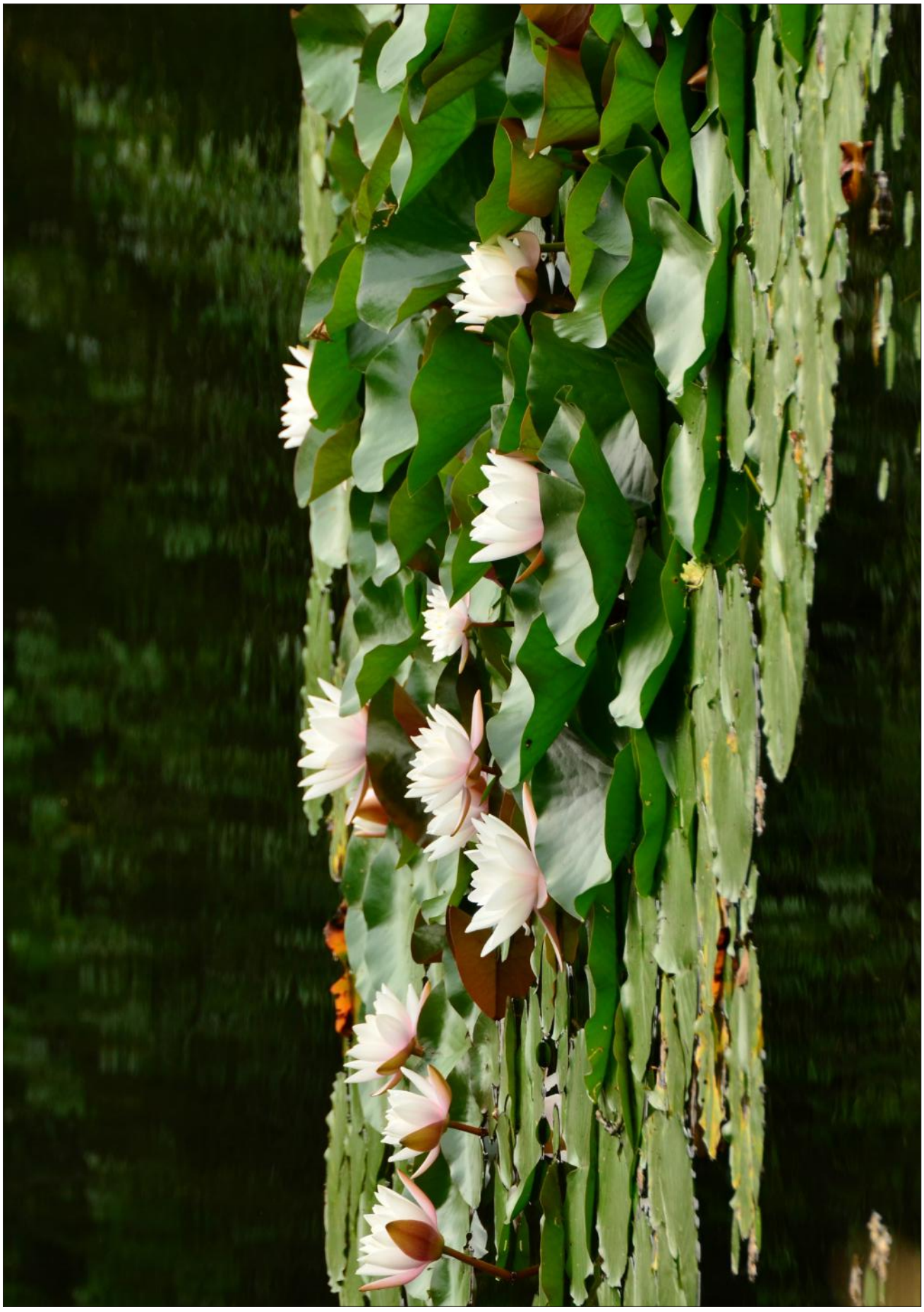
Habitat backdrops: river

Info sheet



Habitat backdrops: pond

Info sheet



Habitat backdrops: soil

Info sheet

Habitat backdrops: rotten tree stump

Info sheet

Habitat backdrops: African savanna

Info sheet

Habitat backdrops: sky

Info sheet

Habitat backdrops: tropical rainforest

Info sheet

Habitat backdrops: hot desert

Info sheet