

Lesson 3: Animal camouflage

Children will learn to: recognize the role of camouflage in animal adaptation and survival; identify different types of animal camouflage; observe and describe how animals are camouflaged

Main outcome: Children make and complete an origami book of animal camouflage

Cognitive skills: predicting, matching, comparing, reasoning, deciding, justifying

Main language: *What's the name of ...? It's called ... How does it work? / How are ... camouflaged? The ... is camouflaged by ... What animals use ...? It's / They're ... / It's / They've got ... / ... looks like ... / the same as ... / It uses ...*

Main vocabulary: *camouflage, environment, colour, pattern, shape, design, mimicry, pattern, texture, stripe, spot, patch, light, shadow, attack, hunt, hide, protect, imitate, predator, prey, harmless, dangerous, poisonous, shape, names of animals, names of habitats, colours, parts of the body*

Materials: Worksheet 1: Types of animal camouflage (copy for each child); Worksheet 2: Origami book of animal camouflage (copy for each child); photos or computer images of camouflaged animals (optional); example of origami book made from Worksheet 2; scissors.

Revision activity

- Ask *What is an animal's habitat? (the place or environment where it lives) / Name four different habitats (rainforest, desert, grasslands, the Arctic) and listen to the children's response.*
- Divide the class into two teams. Say riddle sentences to each team in turn, e.g. *It's got large paws to walk on the snow (polar bear) / It's got big ears to keep cool (elephant).* Children name the animals and score points for their team. The team with most points at the end wins.

Introduction and setting objectives

- Elicit or remind the children that all the features mentioned in the riddle sentences are adaptations which help animals to survive in their habitat. Say, for example, *There's one adaptation common to many animals which we haven't talked about yet. Can you guess what it is?* Listen to the children's response and give them a clue if necessary by saying, for example, *Polar bears are white and snow is white.* Use this to introduce the idea of camouflage. Elicit or explain that *camouflage* is the word we use to describe the ability some animals have to use disguise in order to hide from their predators and/or prey. Establish that camouflage helps animals find food and avoid attack and is crucial for survival in many different habitats.
- Say *In this lesson we're going to learn to identify and describe four different types of animal camouflage. Say We're also going to make an origami book about animal camouflage and prepare pages or extracts of our books for our class (or group) e-zine (or magazine).*

Suggested lesson procedure

Activity 1

- Ask children to predict types of animal camouflage and listen to their ideas. *Either* use photos or show computer images of camouflaged animals to prompt their ideas, if you have these available, *or* ask children to think about how animals they know use camouflage. Use this as an opportunity to introduce or review vocabulary in the reading texts, e.g. *stripe, spot, patch, pattern, shape*, and show what you mean by drawing on the board where appropriate.
- Give a copy of Worksheet 1 to each child.
- Divide the class into groups of four. Within each group give each child a number 1-4.
- Explain that you want the children to work individually and read and find out about one type of camouflage only, depending on the number they have been assigned.
- Ask children to use the information in the text to complete the corresponding part of the table. Hold up the worksheet and point to the numbers by the texts and the examples in the table to show what you mean.
- Children work individually and read the text they have been assigned and complete the corresponding part of the table.
- When they are ready, ask children to work with their group and take turns to ask and tell each other about all the types of camouflage and complete the rest of the table. Demonstrate this with one group and type of camouflage, e.g. *What's the name of type 1/the first type of camouflage? It's (called) 'blending'. How does it*

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work? The colour of animals matches the colour of their environment. What animals use this type of camouflage? Polar bears, meerkats, etc.

- Children exchange information about the different types of camouflage and complete the table in their groups.
- Check the answers by asking different groups to report back about each type of camouflage in turn.

Type of camouflage	How it works	Examples of animals
1. Blending	The animal is the same colour as its environment so it's difficult to notice.	polar bear, snowy owl, Arctic hare, camel, meerkat, Arctic fox
2. Pattern	It's difficult to see where the animal's body begins and ends.	zebra, lion, tiger
3. Design	The animal has a design or shape that makes it look like something else so it's difficult to notice.	stick insect, hawk moth
4. Mimicry	The animal imitates another animal to confuse its predators and prey.	king snake, angler fish

Activity 2

- Explain that some animals use more than one type of camouflage. Elicit or give one or two examples, e.g. *Giraffes are a similar colour to grasslands in the dry season (blending) but they also have patches (pattern) that make it difficult to see where their body starts and ends in the sunlight. / Stick insects are the same colour (blending) and shape (design) as a twig.*
- Play a game with the whole class. Explain that you are going to say the names of animals in turn and children should identify the type(s) of camouflage they use, e.g. *Lion! Blending! / Zebra! Pattern! / Tiger! Blending and Pattern!, etc.*
- At the end of the game, explain that not all animals use camouflage. Some animals, such as parrots and ladybirds, have bright colours either to attract attention or as a warning. For example, parrots have bright colours to attract a mate, and ladybirds have bright colours to warn predators that they taste bad.

Activity 3

- Say, for example, *Let's make a mini origami book about animal camouflage!* and show the children the book you have prepared.
- Give a copy of Worksheet 2 to each child and make sure children have scissors available.
- Ask children to cut round the outline of the book. Demonstrate and give instructions for making the book, e.g. *Fold the paper in half, first one way like this and then the other way like this. Now fold the paper in quarters,*

first one way like this and then the other way like this. Open the paper up, fold it again and cut along the bold line. Push the outer edges together and fold into a book like this.

- When children have made the book, explain that children should complete the picture and sentence on each page and elicit or give an example, e.g. *Page 1: The polar bear is camouflaged by its colour.* Explain that for pages 5 and 6 children should draw and write about animals of their choice.

- Children work individually to complete their books.

Activity 4

- Divide the class into pairs. Ask the children to read and show each other their books in turn.
- Children take turns to read and show their books to their partner.
- At the end, ask different pairs to report back how many animals in their books are the same. Ask a few individual children to show and tell the class about some of the animals they have included.

Activity 5

- Divide the class into their project groups. Explain that you want children to write about animal camouflage for their e-zine (or magazine). This can include writing about each type of animal camouflage based on the completed tables in Activity 1, and choosing and preparing extracts about different animals from their origami books.
- *Either* give out A4 paper for children to write about different types of animal camouflage and the animals they choose from their origami books *or* children work at computers and prepare descriptions to go in their e-zines (or magazines). Children can also illustrate their e-zines (or magazines) with pictures or photos.

Learning review

- Briefly review learning by asking the children *What have we done today? What have you learnt? How did the reading activity help you learn about animal camouflage? What did you enjoy most / find most interesting / difficult?*

Optional extra

Children make animal camouflage posters. Divide the class into groups and give each group a large sheet of card, paints and/or crayons or coloured pens. Assign or ask each group to choose a habitat, e.g. rainforest. Children create a poster to show camouflaged animals in the habitat they choose. At the end, children show each other their posters and take turns to try and spot and name all the animals.

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Work in groups. Read about one type of camouflage. Exchange information and complete the table.

One of the most common types of animal adaptation is camouflage. Camouflage is the ability some animals have to use disguise in order to hide from predators and prey. Camouflage helps animals find food and avoid attack and is crucial for survival in many different habitats. There are four basic types of animal camouflage.

Type 1: Blending: The colour of animals matches the colour of the environment in which they live. For example, in the Arctic, polar bears, snowy owls and Arctic hares are white like the ice and snow, and in the desert, camels and meerkats are light brown like the sand. Some animals, such as the Arctic fox, also change colour to match the seasons and have white fur in winter and brown fur in the spring and summer.

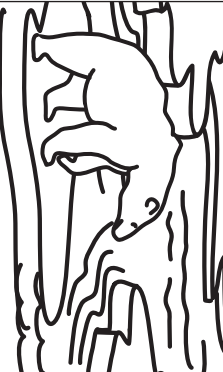



Type 2: Pattern: Some animals have patterns on their bodies such as spots, stripes or patches. These patterns make it difficult to see where the animal's body begins and ends. For example, in grasslands the vertical stripes of zebras are like the patterns of tall grass and in the bright sunlight, this can be confusing to predators, such as lions. In rainforests, the stripes of tigers are similar to the light and shadow of plants and this allows them to get close to their prey before they attack.

Type 3: Design: Some animals have designs or shapes that make them look like other things. This makes them difficult to notice and helps to protect them from their enemies. This kind of camouflage is common in insects. For example, stick insects are the same shape, colour and texture as a twig. The hawk moth has a design like two eyes on its wings. This makes birds think it is a much bigger animal such as a snake.

Type 4: Mimicry: Some animals imitate features of animals that are dangerous or poisonous and this helps to keep away predators. Other animals imitate features of animals that are harmless and this helps them to catch their prey. For example, the king snake is harmless but it looks like the poisonous coral snake and so predators avoid it. The angler fish has an antenna that looks like a little fish. When other little fish come near, it attacks and eats them.

Type of camouflage	How it works	Examples of animals
1. Blending		
2.	<i>It's difficult to see where the animal's body begins and ends.</i>	
3.		<i>stick insect, hawk moth</i>
4.		

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 <p>1</p>	<p>is camouflaged by its</p> <p>_____</p> <p>The</p> <p>_____</p>	<p>My origami book of animal camouflage</p> <p>by</p> <p>_____</p>
 <p>2</p>	<p>is camouflaged by its</p> <p>_____</p> <p>The</p> <p>_____</p>	<p>The End</p>
 <p>3</p>	<p>is camouflaged by</p> <p>imitating a _____</p> <p>The</p> <p>_____</p>	<p>The</p> <p>_____</p> <p>is camouflaged by</p> <p>_____</p> <p>9</p>
 <p>4</p>	<p>is camouflaged by</p> <p>looking like a _____</p> <p>The</p> <p>_____</p>	<p>The</p> <p>_____</p> <p>is camouflaged by</p> <p>_____</p> <p>5</p>