

## Lesson 4: Food and food chains

**Children will learn to:** recognize the difference between carnivores, omnivores and herbivores; understand the concept of a food chain; identify and sequence animals and plants in food chains

**Main outcome:** Children create a food chain

**Cognitive skills:** predicting, comparing, classifying, sequencing, reasoning, deciding

**Main language:** ... *is/are eaten by ... (or ... eats ...)* / *Which animal ...? What's a ...? It's a ...*

**Main vocabulary:** *carnivore, omnivore, herbivore, plant, seed, berry, fruit, leaves, vegetables, meat, fish, primary, secondary, tertiary, consumer, producer, predator, food chain, water, sunlight, energy, names of animals, names of habitats*

**Materials:** Worksheet 1: Animal food Venn diagram (copy for each child); Activity sheet 2: Food chains (copy for each child); sheets of paper for children to create their own food chains (one for each child)

### Revision activity

- Ask *What is camouflage? (the way animals use disguise to hide from predators and prey)* / *Name four types of camouflage (blending, pattern, design, mimicry)* and listen to the children's response.
- Read one or two of the descriptions of different types of camouflage on Lesson 3, Worksheet 1. As you read say 'beep!' from time to time and children predict and supply the missing words, e.g. for type 1, blending: *The colour of animals matches the colour of the beep! (environment – or place, or habitat) in which they live, etc.*

### Introduction and setting objectives

- Elicit or remind the children that all animals live in habitats which provide them with space, shelter, water and food. Ask, for example, *What do lions eat? (meat) What do cows eat? (grass) What do bears eat? (plants, fruit, berries, leaves, meat and fish)*. Use the children's answers to establish that some animals are herbivores (they only eat plants), some animals are carnivores (they only eat meat and/or fish) and other animals are omnivores (they eat plants and meat or fish).
- Say *In this lesson we're going to identify and classify animals according to whether they are herbivores, omnivores or carnivores. We're also going to learn about food chains and create a food chain for our e-zines (or magazines)*. Explain the meaning of *chain* and establish that food chains show how animals in a habitat depend on plants and/or on each other for their food.

### Suggested lesson procedure

#### Activity 1

- Divide the class into three groups: herbivores, omnivores and carnivores. Explain that you are going

to name different animals in turn. If children think the animal belongs to their group, they should wave their arms in the air and say, for example, *It's a herbivore!* If they don't think the animal belongs to their group, they should fold their arms, shake their heads and stay silent.

- Play the game by naming different animals in turn, e.g. *Lion! It's a carnivore! / Rabbit! It's a herbivore!* After a few turns, ask individual children to name animals instead of you and children respond in the same way.
- If children aren't sure about whether an animal is a herbivore, omnivore or carnivore, write the name of the animal on the board for them to research and find out about later.

#### Activity 2

- Give a copy of Worksheet 1 to each child.
- Explain that we call a diagram with overlapping circles a Venn diagram. Read the three headings. Explain that children should write the names of the animals that only eat plants in the part of the circle labelled 'herbivores', and the names of the animals that only eat meat or fish in the part of the circle labelled 'carnivores'. Explain that where the circles overlap, labelled 'omnivores', children should write the names of the animals which eat both plants and meat or fish.
- Children work individually and classify the animals.
- Children compare and check their answers in pairs, and then with the whole class, e.g. *What's a tiger? It's a carnivore.*

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### Key:

*Herbivores: parrot, hamster, camel, giraffe, rabbit, cow, zebra, mouse;*

*Omnivores: monkey, fish, frog;*

*Carnivores: tiger, snake, polar bear, owl, fox, lion, seal, crocodile.*

- Ask the children to work with their partner and add the names of two more animals to each part of the diagram. If children have access to computers, ask them to find out or check information about the animals online. Ask them to also find out and check information about the animals listed on the board in the previous activity.
- Ask a few in pairs to report back about the animals they have added to each part of the Venn diagram. Alternatively, ask children to take turns to name animals they have added, e.g. Horse!, and other children identify where they go in the Venn diagram, e.g. *It's a herbivore!*

### Activity 3

- Draw a simple food chain on the board, for example:



plant → grasshopper → mouse → snake

- Use the picture to explain that food chains start with plants. We call the plants *producers* because they make their own energy and food using water and sunlight. The animals in the chain are *consumers* because they eat other things. Say *In this chain, the plant is eaten by the grasshopper, the grasshopper is eaten by the mouse and the mouse is eaten by the snake\**. Explain that grasshoppers are herbivores and the primary (or first) consumers, mice are omnivores and the secondary (or second) consumers, and snakes are carnivores and the tertiary (or third) consumers. If you like, write 1, 2, 3 above the animals in the food chain to show this.

**\*Note:** Although this is the usual way to describe a food chain, if you wish to avoid using the passive, you can say *The grasshopper eats the plant, the mouse eats the grasshopper, etc.* here and throughout the lesson.

- Ask the children if they can think of other examples of food chains and listen to their suggestions.
- Give a copy of Worksheet 2 to each child.
- Ask the children to read and complete the text in part 1.
- Check the answers by asking children to take turns to read the text to the class and supply the missing words.

### Key:

1. energy; 2. producers; 3. consumers; 4. Carnivores; 5. secondary

### Activity 4

- Say *Look and order the food chains in 2* and draw children's attention to the example.
- Children work individually and order the food chains.
- Check the answers by asking different children to tell the class how they have ordered each chain, e.g. *In 1, the leaf is eaten by the caterpillar, the caterpillar is eaten by the bird and the bird is eaten by the fox.*

### Key:

1. leaf, caterpillar, bird, fox; 2. grass, cow, human being; 3. algae, fish, seal, polar bear; 4. grass, zebra, lion

### Activity 5

- Divide the class into their project groups, and within each group into pairs. Explain that you want them to create their own food chains to go in their e-zine (or magazine).
- Give out pieces of paper (one to each child). Children work with their partner and plan their food chain. Monitor and be ready to help them do this as necessary. If you like, they can also research food chains using the internet.
- Once children are ready, they compare and check the food chains they have planned with the other pair in their project group.
- Children create the food chains for their e-zines either by drawing and labelling pictures or using computers. These can be completed either as homework or in a follow-up lesson as necessary.

### Learning review

- Briefly review learning by asking the children *What have we done today? What have you learnt? How did the Venn diagram help you classify animals according to the food they eat? How did the food chains help you understand the way animals depend on each other for food? What did you enjoy most / find most interesting / difficult?*

### Optional extra

Children make simple zig-zag paper strips of the food chain they have created. Prepare strips of A4 paper (cut in half lengthwise) and give one strip to each child. Explain that children should fold the strip in half,

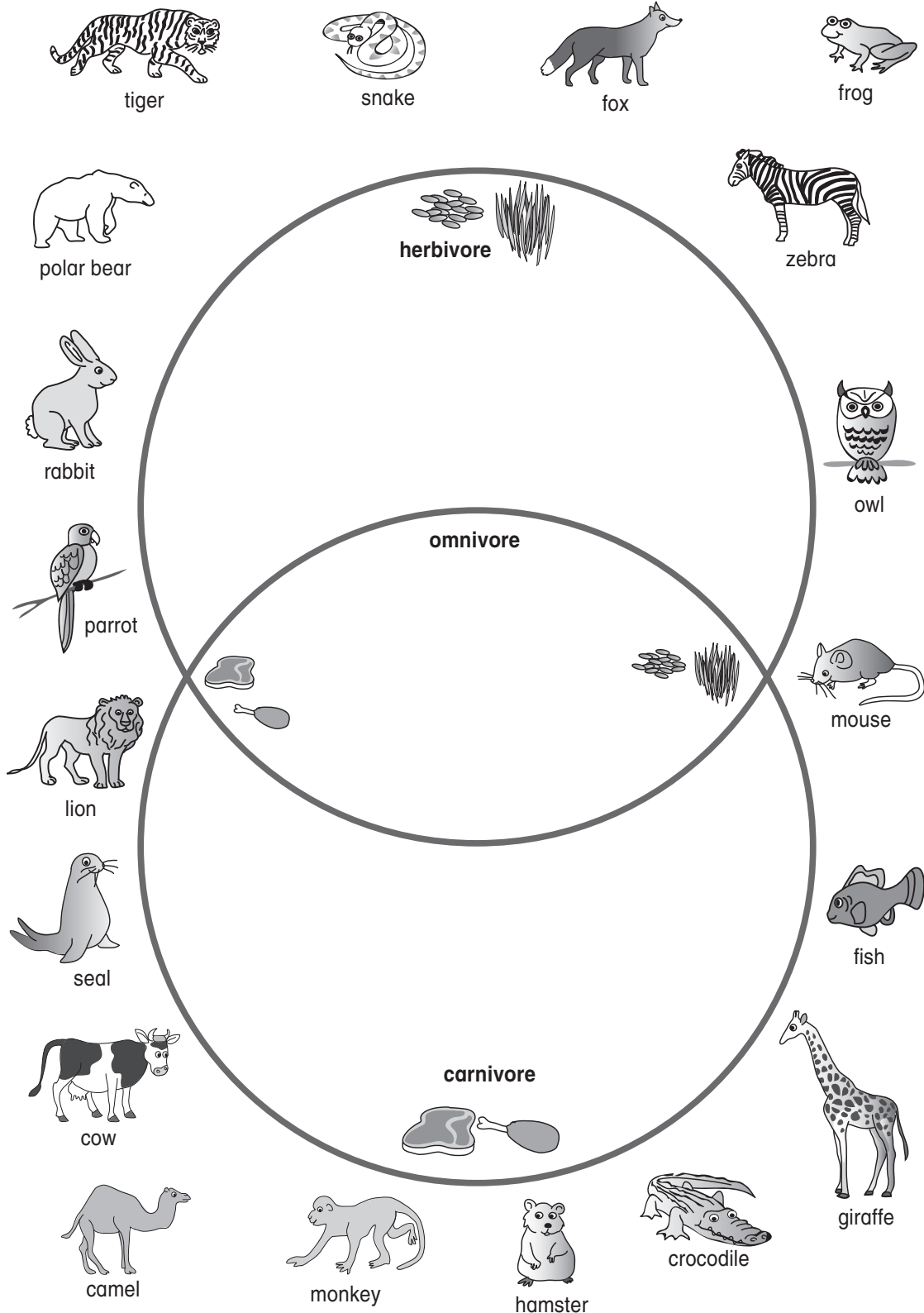
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and then in quarters the other way, so that it opens in a zig-zag fashion.

Explain that children should draw one item in the food chain on each piece of the strip, starting at the bottom, and then add arrows to show which animal eats what in the chain. When they are ready, children take turns to show and tell each other about the food chains they have created. If you like, children can add sentences to their food chains, e.g. *The carrot is eaten by the rabbit.* and the food chain strips can also be displayed.

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1. Classify the animals according to the food they eat.



2. Add the names of two more animals to each part of the diagram.

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**1. Read and complete.**

consumers    ~~energy~~    Carnivores    producers    secondary

Food chains show how living things get food and (1) energy.  
 Food chains start with plants. These are called (2) \_\_\_\_\_.  
 because they make their own food and energy using water and  
 sunlight. The animals in food chains are called (3) \_\_\_\_\_.  
 Herbivores, such as rabbits or cows are primary consumers.  
 (4) \_\_\_\_\_, such as lions or crocodiles, are secondary or  
 tertiary consumers. Omnivores, such as bears or human beings, are  
 primary, (5) \_\_\_\_\_ or tertiary consumers.


**2. Order the food chains.**

1      **bird**                      **fox**                      ~~leaf~~                      **caterpillar**




→  →  →

2      **human being**                      **grass**                      **cow**




→  →

3      **seal**                      **fish**                      **polar bear**                      **algae**



→  →  →

4      **zebra**                      **grass**                      **lion**



→  →

**3. Create your own food chain.**