

Life processes



Engage!

+ Discover a new animal!

Imagine that you work at your city zoo. You are going to present a new **species** of animal that is at the zoo. You have to prepare a report about this species. It can be real or you can imagine a new species.

- 1 Where does it live?
- 2 What does it look like?
- 3 What does it eat?
- 4 What are its **predators**?
- 5 What special **adaptation** does it have so it can **survive**?
- 6 What other animals are similar?

Explore!

+ How similar are living things?

Objective: Describe the common features of some living things.



Method

- 1 Find eight pictures of living things. Glue each one to a craft stick.
- 2 Write the name of the living thing on each stick.
- 3 Group the living things that have common features. Give each group a number.
- 4 Think about what they look like, where they live and how and what they eat.

You will need

- ☐ craft sticks
- ☐ a marker
- ☐ glue or tape
- ☐ pictures of living things



Observations

- 1 Copy and complete the table with your observations.

Group number	Names of the living things	Common features

Conclusions

- 1 What common features do the living things in your groups have?

- 2 What differences do the living things in your groups have?

- 3 From your observations, are living things more similar to each other or more different from each other?



+ What are the common features of living things?

There are many kinds of living things. Some are tall, like enormous pine trees. Others are very small, like ants. Pine trees and ants look different, but they have features that are the same because they both are living things.

Living things are alive. They are born, they grow, they move, they **reproduce** and they die.

All living things grow. They can develop and reproduce to make new living things of the same species. All living things are made of **cells**.

Living things have basic needs to live. For example, they need food to give them **nutrients**. They need water, air and sunlight, too. Living things also respond to a **stimulus**. For example, when you touch a woodlouse, it rolls into a ball. This is because it thinks it is in danger, so it curls up to defend itself.

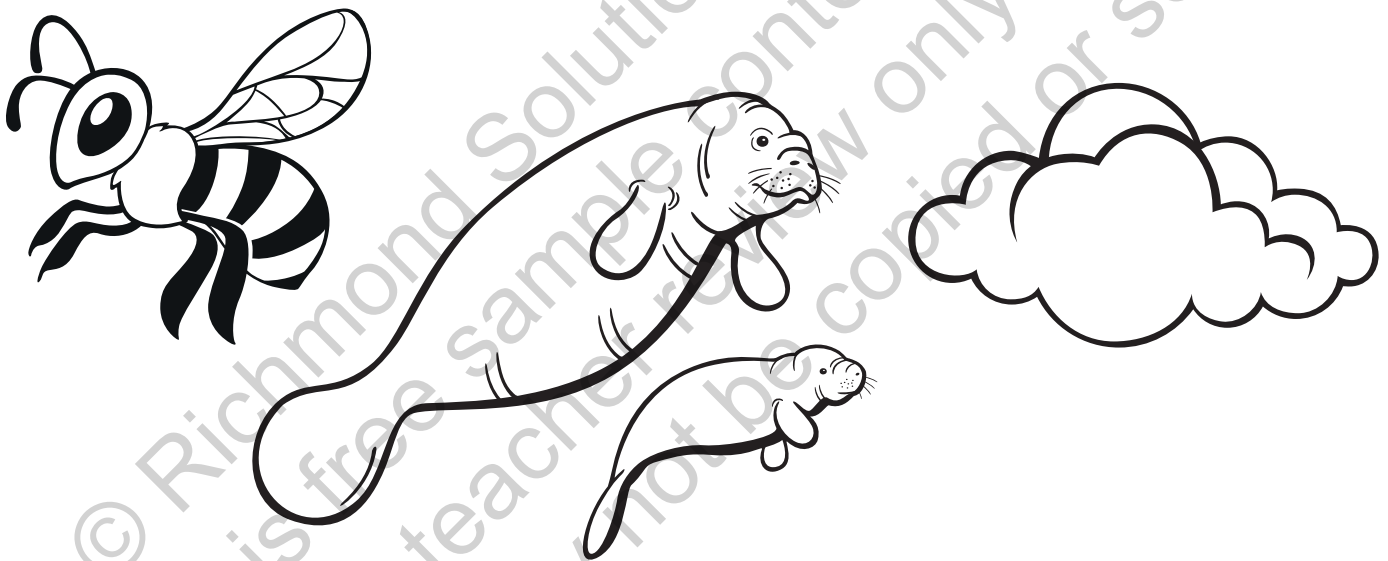


A woodlouse

Practice

1 What are the common features of living things?

2 Color the living things.



3 Complete the sentences.

grows is born dies food makes

- a. A child _____ about seven centimeters in one year.
- b. A plant _____ without water.
- c. A plant _____ its own food.
- d. A bird _____ from an egg.
- e. An animal gets nutrients from _____.

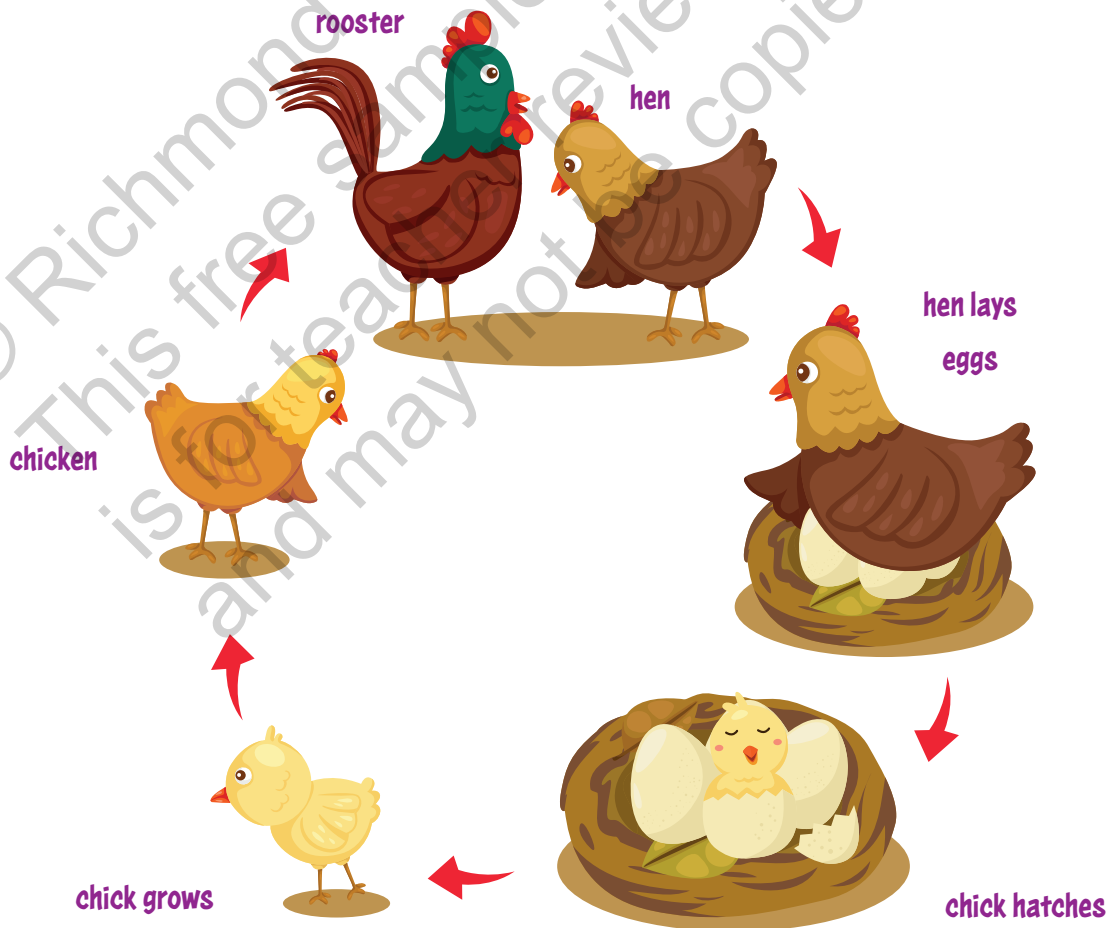


+ What is a life cycle?

Have you ever seen a chick or a butterfly being born, or a young plant breaking through the soil? All living things have a life cycle. They are born, they grow, they reproduce and they die.

The life cycle is similar for all living things, but the stages are different. In plants, the life cycle starts with a **seed**. It **germinates** and a **seedling** starts to grow. This grows into a plant that produces seeds, and then it dies. Animals have a life cycle, too. Let's look at the life cycle of a chicken.

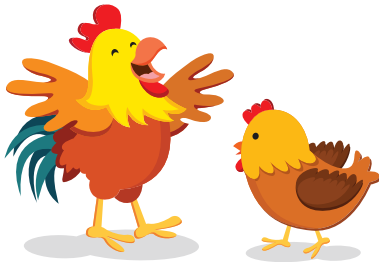
A hen lays an egg. After about 21 days, a chick hatches from the egg. It eats and grows. After about five months, it is ready to reproduce. Its new babies continue the life cycle.



Practice

1 Explain. What is a life cycle?

2 Look at the pictures. Put them in order. Start with the egg.



a.



c.



e.



b.



d.



f.

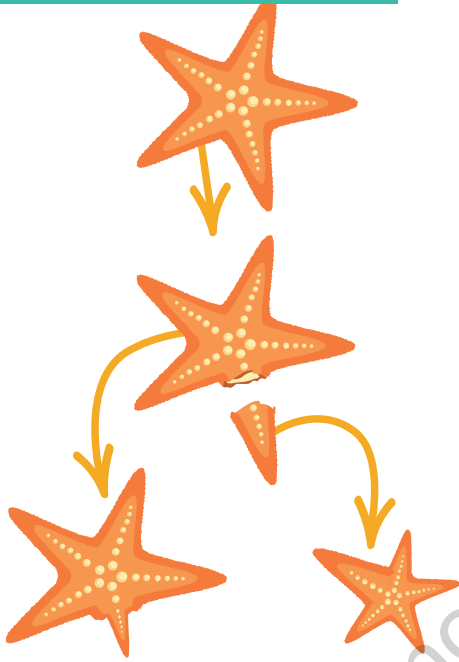
3 Investigate. Use the internet to research the life cycle of a turtle. Describe it.





+ How do living things reproduce?

Starfish reproduction



How do new plants form? Plants reproduce, just like all living things. **Reproduction** is when living things produce new living things, called **offspring**. For plants and animals, there are two main types of reproduction: sexual and asexual.

Asexual reproduction happens when only one living thing produces offspring. Some starfish can reproduce in this way. A starfish separates one of its arms from its body. It grows a new arm and the separated arm grows into an identical starfish. Amazing!

Sexual reproduction is when two living things of the same species produce offspring. Most plants and animals reproduce sexually. In animals, this happens between a female and a male. In plants, both the male and female parts are in each **flower**.



Deer need two parents to reproduce.

Practice

1 Read the sentences. Which one is true?

- a. ☐ Reproduction is the same in all living things.
- b. ☐ In asexual reproduction, two living things produce new offspring.
- c. ☐ In sexual reproduction, one living thing, or one part of it, produces new offspring.
- d. ☐ A starfish can reproduce by asexual reproduction.

2 Look at the photos. What do the offspring of these living things look like?



a. kangaroo



b. duck



c. penguin



d. mushroom



e. lion

3 Investigate. Which living thing above reproduces asexually?



+ How are animals born?



Lions give birth to live offspring.



Penguins lay eggs, and the chicks hatch from the eggs.



The eggs of some sharks grow inside their mother's body.

Living things are born in different ways. Most plants come from a seed. Some animals are born from an egg and some give birth to live offspring. But all animals and plants are born from another living thing.

Animals that give birth to live offspring are called mammals. The baby animals grow inside their mother until they are born. Dogs, lions, rabbits, dolphins and humans are all mammals.

Most other animals are born from eggs. Birds, fish, reptiles and amphibians all lay eggs.

Did you know that some animals carry their eggs? They don't lay them. The eggs grow inside the mother's body. The baby animals leave the eggs and then come out of the mother's body. Some insects, sharks, lizards and snakes do this.

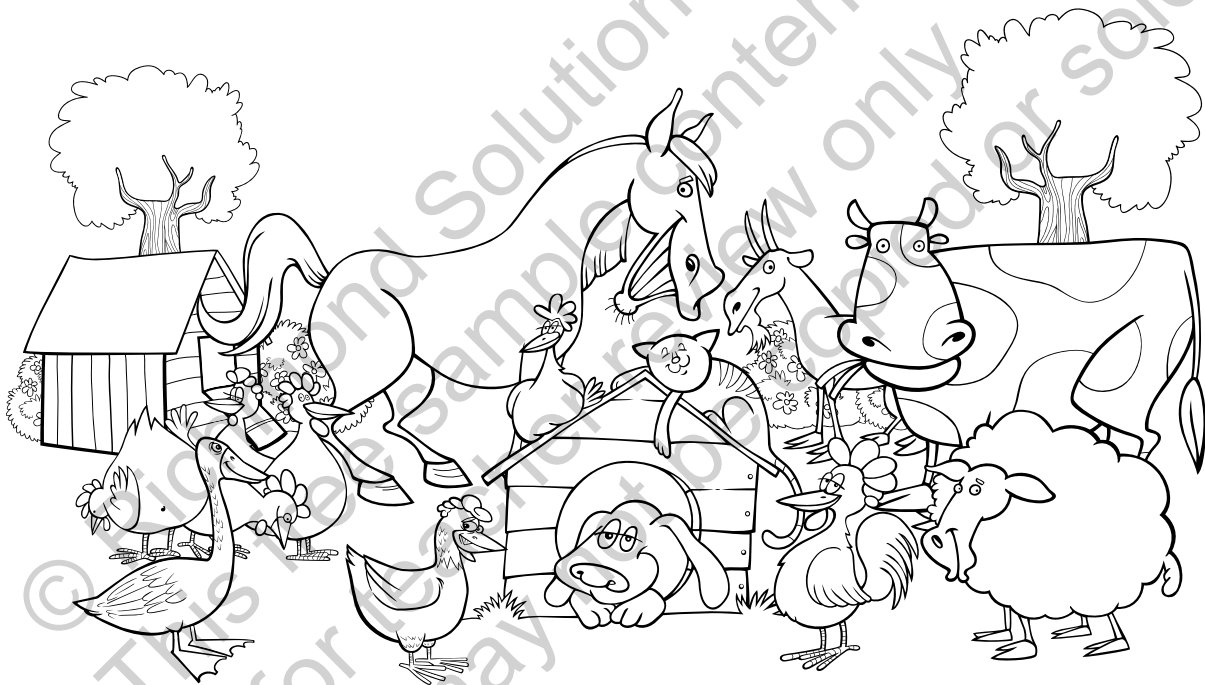
Practice

1 Choose the true sentences.

- a. ☐ The offspring of mammals grow inside the mother.
- b. ☐ Humans are mammals.
- c. ☐ A chick grows inside its mother.
- d. ☐ Birds are mammals.



2 Color the animals that lay eggs in blue and the mammals in green.



3 Work with a partner. Write the names of the animals from activity 2.

Mammals

Animals that lay eggs



+ What are the basic needs of living things?

Imagine there is a seed in the ground. What does it need to survive? Living things have basic needs. One of the most important things for life is water. Living things use water for all the processes and functions they need to survive.



All living things need water to survive.

Food is also necessary for life. Food gives living things nutrients and **energy**. In plants, **leaves** make food by using **carbon dioxide** from the air, sunlight, and water and **minerals** from the ground. This process for making food is called **photosynthesis**. Other living things, like animals, eat plants or other animals to survive.



Many living things also need **oxygen** from the air to survive. All living things need a place to live, too. The place where they live is called their **habitat** and can provide living things with shelter as well as their other basic needs.

A crab's habitat provides for its needs and gives it protection from predators.

Practice

1 Choose the best ways to complete the sentences.

a. Water is one of the _____ important needs of living things.

☐ most

☐ least

b. Water is used by _____

☐ animals.

☐ plants.

☐ animals and plants.

c. Nutrients come from _____

☐ water.

☐ food.

☐ air.

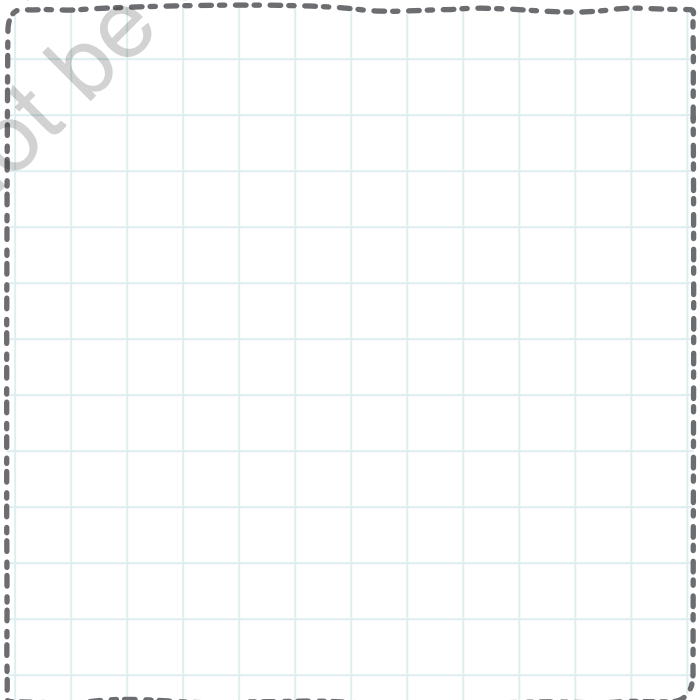
d. Plants use photosynthesis to _____

☐ make food.

☐ breathe air.

☐ move.

2  Choose an animal or a plant. Draw a picture of it. Where does it live?
How does it get water and food? Investigate and write about it.



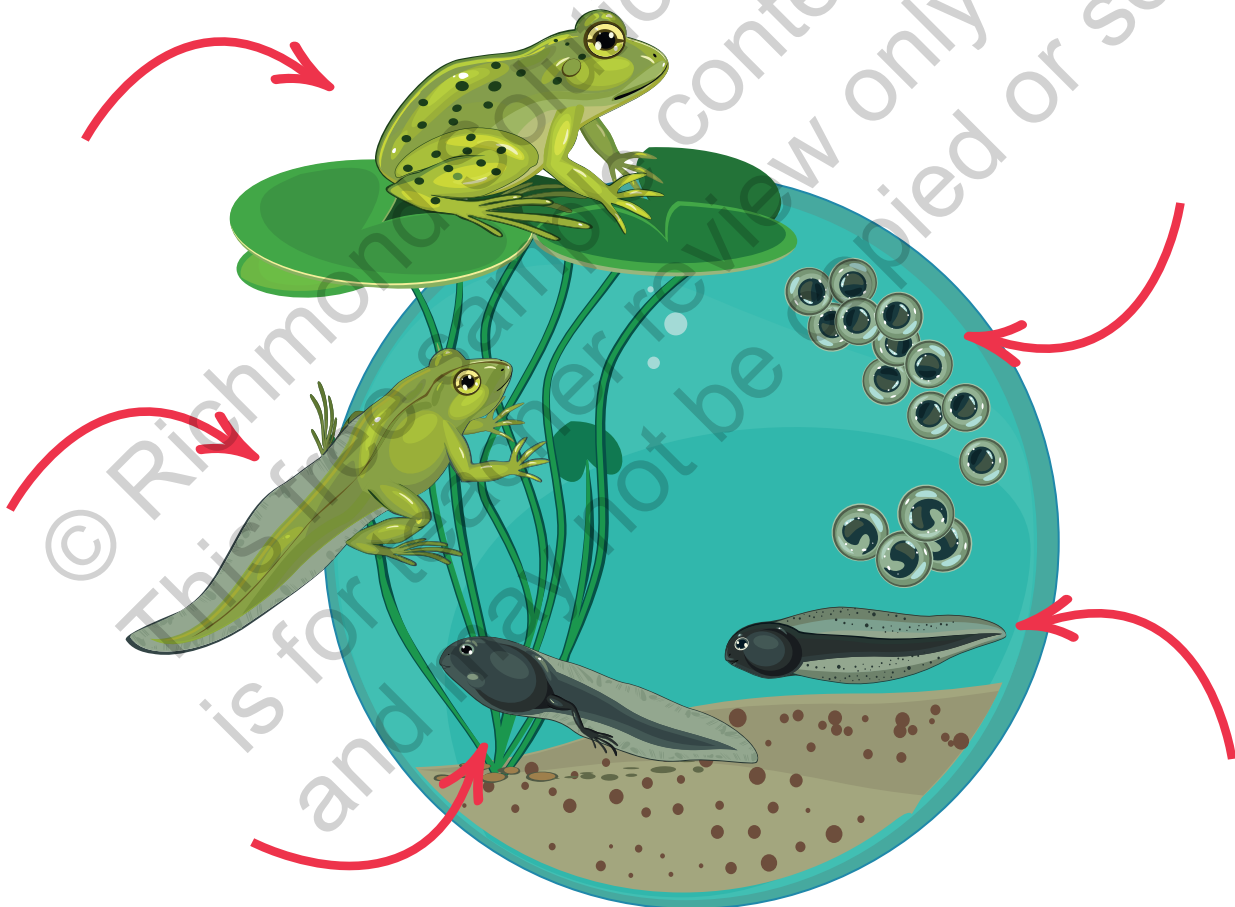
Check my progress ✓

1 Color the living things in red.

- a. fire
- b. a horse
- c. the ground

- d. a frog
- e. an apple tree
- f. the wind

2  Investigate. Use the internet to research the life cycle of a frog. Then label the stages.



3  What does a woodlouse do when you touch it? Why?

4 Choose the true sentences.

- a. ☐ All living things come from another living thing.
- b. ☐ Living things grow.
- c. ☐ Not all living things need food.
- d. ☐ Not many living things need water.

5 Complete the table with features of each type of reproduction.

Sexual reproduction	Asexual reproduction

6 Write examples of each type of animal.

Mammals: _____

Animals that lay eggs: _____
