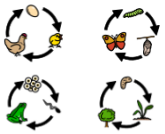
Year 5 Science –Life Cycles + Processes

Vocabulary

Reproduction	The action or process of copying something.	
Fertilisation	The action or process of fertilising an egg (in a plant or animal) involving the fusion of male and female cells to form an offspring.	
Asexual Reproduction	A type of reproduction where the offspring obtain all of their information from just one individual (one parent).	 
Embryo	The fertilized egg develops in the womb into an embryo	
Larva	The active, immature form of an insect.	
Gestation	The process of developing inside the womb between conception (fertilisation) and birth.	
Metamorphosis	The process of transformation from an immature form to an adult form in two or more distinct stages (in insects and amphibians).	
Pollinate	The action of plant reproduction.	
Life cycle	The series of changes in the life of an organism including reproduction	
Dispersed	Distribute over a wide area via wind or animals	

Knowledge

Life cycles are a series of stages of development. All life cycles start with a fertilised egg (animals) or a seed (plants).

Internal fertilisation happens inside the body.

External fertilisation happens outside of the body.

When a mammal's egg is fertilised (internally), it develops in the womb and becomes an **embryo**. The embryo then develops into a **foetus** which is then born as a new born / baby where it is fed on milk before it is weaned onto food.

When a mammal matures this is called **adolescence**, after this, mammals are able to reproduce and the cycle begins again.

When an amphibian's egg is fertilised (externally) the eggs are gathered and guarded from predators. The eggs will then hatch in **larva** called a tadpole. A tadpole will then develop its adult characteristics enabling it to live on land. This process is called **metamorphosis.**

An insect's life cycle starts with a fertilised egg (internally) that forms into a wingless feeding form called a **larva.** Once the larva feeds, this then forms **a pupa (chrysalis)** with a **protective cocoon.** The pupa them develops into an adult. This process is called **metamorphosis.**

A bird's life cycle starts as a fertilised egg (internally) which hatch. Once the egg hatches this is called a **hatchling** which will stay with its parents until it is ready to fly. The hatchling will become a **fledgling** when the bird is able to leave the nest and reproduce.

Plants produce flowers and eggs. Meaning their reproduction is **asexual.** Plants are **pollinated** either through **dispersal** or other insects. The pollen (male) lands on the **stigma** (female) and combine to make an egg.

Because of this we can reproduce flowers/ plants through cuttings.

Quizzing

Ask your partner the questions below. Can they find the correct answer on the right-hand side?

How long does it take for an amphibian's egg to hatch?	Metamorphosis
Which animals' groups reproduce through internal fertilisation?	Frogs
Which of these animals go through metamorphosis in their life cycle?	The transfer of pollen from the anther to the stigma
What do we call the process where a caterpillar changes into a butterfly?	The anther
The life cycle of a frog include four main stages. Name two of them.	7-9 days
Which part of the plant contains pollen?	Ovary
What is pollination?	Mammals, insects and birds
In what part of the flower does fertilisation happen?	Hatching
What is the name of the stage when a baby bird breaks out of its egg?	egg, tadpole, froglet, adult frog

BIG Questions

Why do different animals have such different life cycles, and what advantages might these differences give them in their environments?

How would the world change if one stage of a plant or animal's life cycle suddenly stopped happening (for example, if pollination no longer occurred)?

How might climate change or habitat loss affect the life cycles of different plants and animals around the world?

Beat the adult

Your teacher can give **10 facts** in **1 minute** about this topic.

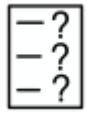
How many can you give to your partner?

Quiz at home

Ask your adult to look at the KO.

Quiz them using the vocabulary and knowledge section or the quiz questions.

- Can they beat your score?
- Can they score more than 5? 10?
- Compete with your adult in the elimination quiz. Take it in turn to ask each other questions. The first person to get a question wrong is out.



Word scramble

Unscramble the key vocabulary from this topic below. You can create your own at the bottom

cdiprtnoueor	
iiotsfetialnr	
omrybe	
gestoatin	
samriospetmho	
enaplilto	
eilf eccly	
dsdpirsee	

Creative Tasks

1. Create a piece of art that depicts the life cycle of your chosen animal / plant
2. Create a revision bookmark that includes summaries of the information on the knowledge organiser.

3. Choose a disruption (e.g., no sunlight, no bees, too much rain) and create a poster showing how it would affect the life cycle of a plant or animal.

Challenge

A scientist notices that a population of frogs in a pond is shrinking. When she investigates, she finds that many of the tadpoles are not surviving long enough to become froglets. She also discovers that the plants around the pond have been removed to make space for a new footpath.

Using your knowledge of life cycles, explain how removing the plants might affect the frogs' life cycle and suggest two ways the habitat could be improved to help the frog population recover.

Enquiry

Equipment / scientific skills I will use

				
Scalpel	Observations	Conclusions	Recording	Diagrams

Sentence Stems

My cutting did / did not reproduce because...
I can tell reproduction happened because I observed...
The new growth shows that...
This happened because the cutting was able to...
The conditions that helped reproduction were...

organise the statements correctly

The sentences A-C, describe three new plants. Put the letter of each sentence in the correct column of the table to show whether that plant was made by sexual or asexual reproduction.

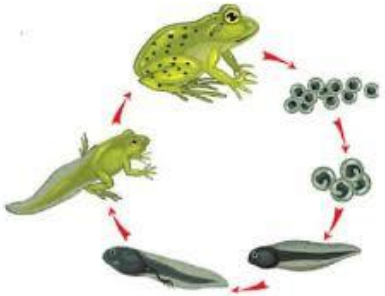
A – This plant was grown using cuttings

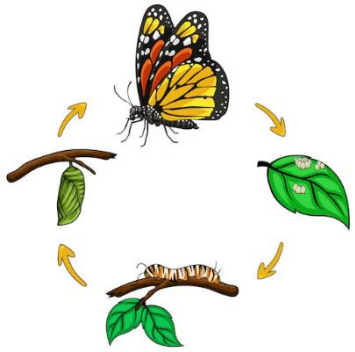
B- This new plant has two parent plants

C – This new plant was made using pollen

Sexual reproduction	Asexual reproduction

Label each stage of the life cycle below





Classifying

The table below contains some unusual animals. Use your knowledge of birds, mammals, amphibians and insects to complete the last column.

Name of animal	Does it lay eggs?	Name of its young	What type of animal is it?
Aha Ha	Yes	Larva	
Kagu	Yes	Chick	
Golden Mantella	Yes	Tadpole	
Fossa	No	Cub	

Crossword

Across

(2)A life stage of an insect sometimes called a grub

(4) This type of reproduction happens when part of a plant grows into a new plant

(6) This happens when pollen lands on the stigma of a plant

Down

(1)This happens when sperm or pollen join with an egg

(2)The name for all the stages that an organism goes through in its life

(3)Organisms can _____ sexually or asexually to produce offspring

(5)This type of reproduction requires an egg to be fertilised