Explorify resources: Life cycles of plants and animals – age 7-11

Objective	Activity	Suggested use
Y3 explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal. Y 5 Describe the life process of reproduction in some plants and animals. (England) Non Statutory: Pupils should find out about different types of reproduction, including sexual and asexual reproduction in plants, and sexual reproduction in animals. By investigating the lifecycles of plants and animals, I can recognise the different stages of their development. SCN 2-14a I can explore the relationship between living things, their habitats and their life cycles. (Wales) I can explain the role of different organs and systems	**Plant lifecycles with sexual reproduction** WGO Growing seed Red and bumpy ZIZO	Start a discussion about life cycles on flowering plants by watching Growing Seed. You can use this to establish what children remember/understand about what a seed is and lead into your plats work on germination (what plants need to grow). Look at the seeds on a strawberry fruit with the ZIZO; this is good revision in Year 5. Why are the seeds on the fruit? What is the connection between fruit and seed?
	Sexual reproduction in plants	
	Useful linked video on plant life cycles: https://www.bbc.co.uk/bitesize/topics/zgssgk7/articles/zyv3jty	
	Looking closely at flowers Curious Crown ZIZO Do you like butter? ZIZO NEW activity What's inside flowers? OOO	Explore the flower's role in sexual reproduction. The ZIZO's show the female and male parts clearly. The OOO compares a lily, bluebell and climbing rose. This is an excellent opportunity for children to apply their knowledge in different flowers and appreciate that the stamen and stigma can look very different. Children enjoy dissecting flowers and looking closely at shapes, colours and numbers of each flower part. Science and Plants for Schools has a step by step guide (starts on page 5) as does CLEAPSS (most schools are members of CLEAPSS but you will need to ask for the school username and password). These videos are useful: How plants produce seeds - KS2 Science - BBC Bitesize

that enable plants and animals to live and grow The main stages of the life cycle in some living things (Northern Ireland) Obvious changes that occur in the lifecycles Plants and plant growth		Why are bees attracted to flowers? - BBC Bitesize
	Pollination Friends of flowers OOO Feathery friend ZIZO	These show images of insects pollinating flowers. Children can act out pollination. Make simple flowers out of paper cones with coloured petals attached to them, then put a sticky lolly in the middle to represent the stigma. Fill the cones with cheesy Wotsits for the pollen. Cut out some large bee images with holes for "finger" legs. The children who are the bees visit the flowers, pick up some pollen on their legs (fingers) as they take the Wotsits and end up also rubbing the pollen off onto another flower's stigma. There is a photo illustrating this in the teacher support of What's inside flowers. https://www.bbc.co.uk/bitesize/topics/zgssgk7/articles/zqbcxfr https://www.bbc.co.uk/teach/class-clips-video/science-ks1-ks2-ivys-plant-workshop-what-is-pollination-and-how-does-it-work/zv4df4j
	Listen What Can You Hear? Sharing is caring This could be a nice stimulus to listen to and ask what are bees busy doing? Follow up with this video explaining the importance of bees: https://www.bbc.co.uk/teach/would-we-starve-without-bees/zkf292p	
	What if... What if there were no insects?	Good discussion activity to reflect on the importance of insects. Can the children explain their role in pollination correctly?
	Busy Bee Which pollinators visit our school grounds?	Watch Busy Bee and then brainstorm questions about bees and flowers. Children could visit a park or wild flower area on a sunny day and watch

	Big Question	the pollinators at work and carry out their own investigations. For example, which colour flowers do bees visit the most? Do flowers in the shade or sun get more visits? Are particular shaped flowers more popular? How many different types of bees can they spot? https://hwb.gov.wales/api/storage/2cd9fa3c-943a-4384-b895-b54d64123299?preview=true https://www.plantlife.org.uk/download_file/force/3128/3096 https://www.plantlife.org.uk/download_file/force/3126/3096 FoE-UK-Bee-Identification-Guide.pdf (seenature.org.uk)
	Seed dispersal Winter seeds OOO wind and animal dispersal Sightseeing seeds OOO - two wind and one water dispersal Super seeds WGO	Use Seed dispersal - KS2 Science - BBC Bitesize to introduce dispersal by wind, animals (eating and sticking) water and explosion then use these OOOs to explore the children's understanding. Can they explain how the seeds would be dispersed? This video dramatically shows how explosion along a line of weakness can disperse seeds. Either collect a range of seeds for the children to classify by the type of dispersal, or take the children out looking for seeds. The best time to do this is towards the end of the summer term, or early in the Autumn term. The RHS resource below is a nice way to continue the lesson and gives the children an opportunity to make and improve a 'seed spinner' https://schoolgardening.rhs.org.uk/Resources/Lesson-Plan/Seed-dispersal
	Brown and sticky ZIZO Wet and shiny ZIZO Red and bumpy ZIZO	These ZIZOs would be good short activities where children can identify the type of seed dispersal.
	What if plants could move from one place to another? WI	This interesting discussion prompt allows children to think about WHY seeds need to be dispersed. Demonstrate with a simple model what would happen if the seeds from a plant stayed in the space around the parent plant? Ask the children to act as seeds around you and notice how the competition for space, light, and water would increase.

	Seeds - Explorify MS	Children design and make a seed for a particular type of dispersal.
	A sudden downpour - Explorify WGO desert plant germinating	Discuss how the life cycles of some plants need to be very quick. The desert plants have adapted to their habitat where there is less rain by having a rapid lifecycle.
	Asexual reproduction in plants	
	New Beginnings- spider plant ZIZO Mystery eyes- potato ZIZO (coming soon)	It is important that children experience growing plants without seeds. They could go on to do one or more of: • Take- cuttings of mint, • Use Terrific Scientific Grow or NFU's Stemterprise Year 5 (lesson 2) to propagate spring onions, • Grow your own potatoes • https://uk.bulbs4kids.com
Y5 describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird (England) Non statutory: They should find out about the work of naturalists and animal behaviourists, for example,David Attenborough and Jane Goodall. By investigating the lifecycles of plants and animals, I can recognise the different stages of their development.SCN 2-14a I can explore the relationship between living things, their habitats and their life cycles. (Wales)	**Animals**	
	Revising animal classification	
	Terrific tree dwellers - Explorify OOO – frog, sloth and sun bird Others if needed for extra practice: Hot-steppers - Explorify OOO – lizard, duck and lion. Baby animals - Explorify - duck, lamb and elephant. Spot the difference - Explorify OOO – Moth, Peacock and caterpillar	Good activity to get children discussing the differences between amphibians, mammals and birds. Revisit previous learning about the key features of vertebrate groups by playing games e.g. Who am I? with stickers on their backs. Differences between reptiles, mammals and birds. Differences between mammals and birds. Revision of invertebrates and vertebrates

<table>
<tr><td rowspan="4">I can recognise patterns from my observations and investigations and can communicate my findings

I can explain the role of different organs and systems that enable plants and animals to live and grow

The main stages of the life cycle in some living things (Northern Ireland)
Obvious changes that occur in the lifecycles
Plants and plant growth</td><td colspan="2">Lifecycles

These are particularly useful to help children who find recording challenging (especially if you prepare written explanations which they can match to the pictures)

WWT lifecycle visuals https://learningzone.wwt.org.uk/wp-content/uploads/2021/02/WWT_Life_cycle_visuals.pdf

When comparing lifecycles of different types of animals, the TAPS focused assessment plan for Year 5, called lifecycles, gives guidance for assessing the children's working scientifically skills in reviewing and reporting their findings.

https://www.bbc.co.uk/teach/class-clips-video/science-ks2--ks3-the-life-cycles-of-different-organisms/zvh8qp3</td></tr>
<tr><td colspan="2">Mammal</td></tr>
<tr><td>When we were young - Explorify WCYH – human baby, lamb and puppy</td><td>Start a discussion about life cycle of mammals

Could use to research average gestation periods of mammals.

https://www.animalsatozforkids.com/

https://www.activewild.com/a-to-z-animals/

https://kids.nationalgeographic.com/animals

NFU's Live Lambing lesson https://encounteredu.com/live-lessons/nfu-science-farm-live-2021

You could also sign up for https://leaf.eco/farmertime/home This involves a fortnightly video call between a farmer and your school. A great way to learn about the life cycle of animals and plants.</td></tr>
<tr><td>The average lifespan of a human was 200? - Explorify WI</td><td>Could use to research average life span of mammals. How does it compare to size?</td></tr>
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	Amphibian	
	Tiny teeth - Explorify ZIZO tadpoles Golden Jewel - Explorify ZIZO toad	This is a good way to spark a discussion about the features of amphibian: smooth wet skin and their life cycles.
	Wildlife in the pond OOO	As an introduction to pond dipping or setting up an observation of frog spawn in the classroom.
	Insect	
	Coming out to play - Explorify WGO butterfly emerging from a chrysalis	Clearly shows metamorphosis happening. https://www.bbc.co.uk/bitesize/clips/zt96sg8 This video from BBC is great for showing the changes during metamorphosis of a tadpole to become a frog: **https://www.bbc.co.uk/programmes/p015xmbq**
	Very hungry caterpillars - Explorify WGO – eggs hatching	In this WGO, you can see the eggs of a butterfly and compare it with children's knowledge of a bird's egg. How are they the same? How are they different?
	Spectacular scales - Explorify ZIZO butterfly Hairy coil - Explorify ZIZO butterfly Feathery friend? - Explorify ZIZO bee Friends of flowers - Explorify OOO butterfly, ladybird and spider	All launchpads for discussions about their life cycles.
	Massive migration - Explorify - ZIZO Butterflies	The accompanying text explains how butterflies cannot survive northern hemisphere winters.

	Bird	
	A home for baby birds - Explorify OOO – three baby birds in a nest	All focus on early life cycle of birds. Useful sites for children's research: https://www.birdspot.co.uk/identifying-birds/the-life-cycle-of-a-bird https://www.rspb.org.uk/birds-and-wildlife/wildlife-guides/bird-a-z/magpie/life-cycle/
	Special delivery - Explorify WGO - baby birds being fed	
	Barnacle dive - Explorify WGO barnacle gosling trying to fly	
	The sound of silence - Explorify - an owl hunting	Launchpad for investigating the life cycle of an owl
	Looking after baby - Explorify OOO Clown fish, penguin and water bug with off spring.	
	Animals did not have young? - Explorify WI	A good one to discuss the purpose of reproduction.

Useful other resources to support planning can be found at: PLAN primary science assessment resources (planassessment.com) and Assessment (TAPS) - Curriculum Materials | Primary Science Teaching Trust (pstt.org.uk) The Great Science Share 2022 has some good videos on Scientific Enquiry under the tab "Great Science Skills".