**Unit planning guidance**

**Unit context**

Unit 4: Life cycles is the fourth science unit in Year 5 Science Mastery. The unit falls into the biology sequence of learning, and is the first of such since Year 4. Pupils’ knowledge of biology—humans, plants, and animals—has been built upon each year since Reception.

In this unit, pupils will revisit two kingdoms of organisms: plants and animals. They will describe the differences in the life cycles of a range of vertebrates and invertebrates. They will also describe the life process of reproduction in some plants and animals. Pupils will explore how different animals produce offspring, and how and why gestation periods differ between animals. Pupils will then discover that plants reproduce both sexually and asexually. They will learn about the process of pollination and the role it plays in the life cycle of a flowering plant. As in other science units, pupils are introduced to a significant individual. In this unit, they learn about David Attenborough.

**Links to previous and future learning**

The knowledge from previous and future units which closely link with this current unit are shown below. For more information about how this unit fits into the wider sequence of learning, please see the Science progression document.

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| **Year 4**  | **Year 6**  |
| **Unit 3: Living things and environment*** Animals and plants are known as organisms.
* All organisms display the seven characteristics of life.
* A habitat is the natural home of a plant or an animal.
* Several microhabitats can be found within a single habitat.
* All organisms are suited to live in their natural habitat.
* Vertebrates are animals with a backbone.
* Mammals are a type of vertebrate.
* Reptiles are a type of vertebrate.
* Fish are a type of vertebrate.
* Birds are a type of vertebrate.
* Amphibians are a type of vertebrate
* Animals without a backbone are called invertebrates.
* Insects are a type of invertebrate.
* Annelids are a type of invertebrate.
* Arachnids are a type of invertebrate.
* Molluscs are a type of invertebrate.
* Animals have characteristics which make them the same, similar, or different.
* A species is a group of animals with similar characteristics.
* Different species can belong to the same class of animal.
* We can use characteristics to help us to identify and classify animals.
 | **Unit 2: Classification*** Organism is the scientific word for a living thing.
* Organisms can be arranged into three groups—plants, animals, and microorganisms.
* Organisms can be arranged into smaller groups that share the same physical characteristics
* Arranging organisms into groups based on physical characteristics is called classification.
* Groups of organisms that can reproduce to create offspring are the same species.
* Classification allows scientists to name, study, and discuss organisms more scientifically.
* A vertebrate is an animal with a backbone.
* Vertebrates can be arranged into five groups based on their physical characteristics: mammals, fish, birds, reptiles, and amphibians.
* An invertebrate is an animal without a backbone.
* Some of the main groups of invertebrates are arthropods, molluscs, and annelids.
* Plants can be classified into different groups according to their physical characteristics.
* Two main groups of plants are flowering and non-flowering plants.
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| **Unit overview** |
|   | **Key knowledge**  | **Key vocabulary**  |
| **Lesson 1:** ***What is a life cycle?***   | * A life cycle is a sequence of stages in the life of a living thing.
* A life cycle includes birth, growing older and bigger, reproduction, and death.
* Reproduction is when a living thing produces offspring. Reproduction can be sexual or asexual.
* Life cycles keep repeating to produce new living things of the same species (kind or type).
 | * asexual reproduction
* embryo
* **life cycle**
* mammal
* offspring
* sexual reproduction
* species
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| **Lesson 2:** ***How are the life cycles of birds and amphibians different from mammals?*** | * Bird eggs are fertilised inside the body, like mammal eggs.
* Bird embryos develop inside eggs which hatch.
* Amphibians live in water or damp places—they take in oxygen through their skin.
* Amphibian eggs are fertilised outside the female’s body.
* Frogs lay frogspawn, which is fertilised to create tadpoles.
 | * amphibian
* embryo
* **fertilisation**
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| **Lesson 3:** ***What are the main stages in the life cycle of insects?*** | * Insects are invertebrates (they do not have a backbone).
* Butterflies and dragonflies are insects.
* Most insects change dramatically during their life cycle—they go through different stages, changing their shape from egg, larva, pupa to their adult form**.**
* Metamorphosis is a process which changes an animal’s appearance and what it can do.
 | * larva
* **metamorphosis**
* pupa
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| **Lesson 4:** ***What is pollination in the life cycle of a flowering plant?*** | * Plants can either reproduce sexually or asexually.
* There are two types of plant: flowering and non-flowering.
* Flowering plants use their brightly coloured petals to attract insects and animals to help in their reproduction process.
* Pollination happens when pollen from the male part of the flower is transferred to the female part.
* Fertilisation happens when the pollen reaches the pistil (female part) of the plant.

**Working scientifically*** Make careful observations.
* Record findings using simple scientific language, drawings, and labelled diagrams.
 | * fertilisation
* pistil
* **pollination**
* spores
* stamen
 |
| **Lesson 5:** ***What happens to seeds in the life cycle of flowering plants?*** | * Seed dispersal means that seeds are taken away from the parent plant and land in a new place.
* Seeds can be dispersed by the wind, on water, in bird and animal poo, and on animals’ fur.
* Seeds need oxygen, warmth, and water in order to germinate.
* Seedlings need nutrients from the soil to grow.
 | * **dispersal**
* germination
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| **Lesson 6:** ***Who has contributed to our understanding of life cycles?*** | * Sir David Attenborough is a naturalist—he studies living species, their life cycles, environment, and their effect on each other.
* He has been involved in education all his life, teaching people about the natural world, plants, and animals.
* He has written books and researched and presented TV programmes and wildlife films.
* Sir David is known for his campaign work, explaining how the natural world is under threat from human activity.
 | * environmentalist
* **naturalist**
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Further to the standard lesson resources, additional resources are provided.

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| **Lesson question** | **Key knowledge** | **Learning resources** | **Key vocabulary** |
| **Lesson 1:*****What is a life cycle?*** | * A life cycle is a sequence of stages in the life of a living thing.
* A life cycle includes birth, growing older and bigger, reproduction, and death.
* Reproduction is when a living thing produces offspring. Reproduction can be sexual or asexual.
* Life cycles keep repeating to produce new living things of the same species (kind or type).
 | Pupil workbookTeaching slides | * asexual reproduction
* embryo
* **life cycle**
* mammal
* offspring
* sexual reproduction
* species
 |
| **Outcomes/Assessment** | **Disciplinary and substantive concept/s** | **Key term** | **Key takeaway** |
| Pupil workbook Learning review and exit questions | **SC:** There are differences in the life cycles of mammals, amphibians, insects, and birds.**SC:** Plants and animals produce offspring by the life process of reproduction. | life cycle | A **life cycle** is a sequence of stages in the life of a living organism. |
| **Common misconceptions**The following points are common misconceptions to be aware of when teaching this lesson.* Pupils may not understand that (the majority of) living things need two biological parents—one male and one female.
* Pupils may need a careful and sensitive explanation around the difference between a biological parent and a parent who raises and looks after a child.
* Pupils may believe that every living thing needs a male parent and a female parent to exist.

**Teaching notes*** **Existing knowledge:** Begin the lesson by showing pupils the picture of the life cycle of a butterfly on the teaching slide. Ask: ‘What do you know about the life cycles of animals and plants?’. Through discussion, build up a shared understanding of what pupils know about life cycles, living things, and classes. They should draw on previous knowledge from Year 4 Unit 3.
* **Introduction:** Share the Learning journey through the unit, and the Key knowledge and vocabulary (see the teaching slides and pupil workbook). Discuss the meaning of any words that pupils do not know.
* **Read:** Read the information about what a life cycle is and reproduction. Explain the key steps of fertilisation (to form an embryo) 🡪 birth 🡪 growth 🡪 reproduction 🡪 fertilisation. This lesson includes a lot of new vocabulary. Pupils should be given the time to practise and understand this. You may prefer to break it up by reading a section, discussing the topic, and then asking pupils to answer the relevant question in their pupil workbooks, before moving on to the next reading section.
* **Retrieval:** Pupils use the information to answer the questions in their pupil workbooks. The answers are included in the teaching slides.
* **Talk task:** Ask: ‘Why do living things reproduce?’, ‘What would happen if they didn’t?’. Explain that most organisms reproduce sexually. In most cases, two biological parents are needed. Ensure that this explanation is handled sensitively as pupils may only have one parent in their lives or be a family with same sex parents. Emphasis should be on the difference between a parent that is biological and necessary to create life, and a parent who may not be biological but has raised/loved/looked after a child. Material produced by each biological parent combines during fertilisation to produce an embryo, which develops into a new organism. In mammals, for example, sperm from the male and an egg from the female combine to form an embryo.
* **Write:** Pupils use information from the discussion to complete a gap-fill exercise about reproduction in their pupil workbooks.
* **Talk task:** Ask: ‘What do you know about the life cycles of these animals?’. Explain that the lengths of life cycles can range dramatically in different organisms. For example, a few hours—mayfly, days—butterflies, a few years—mouse, hundreds of years—giant redwood tree. They may also have a different number of stages. Use videos to support pupils’ understanding of each life cycle.
* **Write:** Pupils draw the life cycle of a mammal of their choice. For example, a cat/dog/sheep. Support students with this task by providing access to the internet or textbooks.
* **Read**: Pupils read about the life cycle of a kangaroo, and how it is different to other mammals.
* **Retrieval:** Pupils use the information to answer the questions in their pupil workbooks.

**Learning review and exit questions:** Talk partners tell each other a response to the main lesson question: ‘What is a life cycle?’. Add further review questions if you wish to. Urge pupils to use their key knowledge and vocabulary to answer the question. Pairs can try to improve one another’s understanding (peer assess). Take some examples of answers to discuss as a class. Use this as an assessment opportunity. Should you wish to, you might ask pupils to write a short independent response to the main lesson question. Ask pupils to answer the multiple-choice exit questions by holding up one, two, or three fingers. The exit questions can be found on the final teaching slides for this lesson. |

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| **Lesson question** | **Key knowledge** | **Learning resources** | **Key vocabulary** |
| **Lesson 2:*****How are the life cycles of birds and amphibians different from mammals?*** | * Bird eggs are fertilised inside the body, like mammal eggs.
* Bird embryos develop inside eggs, which hatch.
* Amphibians live in water or damp places—they take in oxygen through their skin.
* Amphibian eggs are fertilised outside the female’s body.
* Frogs lay frogspawn, which is fertilised to create tadpoles.
 | Pupil workbookTeaching slides*Optional:* Blank circlesSplit pins | * amphibian
* embryo
* **fertilisation**
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| **Outcomes/Assessment** | **Disciplinary and substantive concept/s** | **Key term** | **Key takeaway** |
| Pupil workbook Knowledge quiz 4.1Learning review and exit questions | **SC:** There are differences in the life cycles of mammals, amphibians, insects, and birds.**SC:** Plants and animals produce offspring by the life process of reproduction. | fertilisation | Eggs have to be **fertilised**to develop into embryos; this can occur inside or outside of an animal’s body. |
| **Common misconceptions**The following points are common misconceptions to be aware of when teaching this lesson.* Pupils may not know that developing life inside an egg is called an embryo in most animals, mammals, reptiles, and amphibians.
* Pupils may not remember the different classifications of animals.

**Teaching notes*** **Knowledge quiz:** Begin the lesson with the Knowledge quiz. The Knowledge quiz is a low-stakes way of assessing the knowledge retained from the previous lesson. Pupils answer the questions in their pupil workbooks and record their scores on the Knowledge quiz scores page. Answers are included in the teaching slides.
* **Introduction:** Share the Learning journey through the unit, the lesson question, and the Key knowledge and vocabulary (see the teaching slides). Practise the vocabulary from this lesson and Lesson 1 with the pupils—my turn, your turn—to reinforce knowledge.
* **Talk task:** Ask: ‘What do you know about the life cycle of birds and amphibians?’, ‘How are they different from mammals?’.
* **Read:** Pupils read the information about the life cycle of the hummingbird.
* **Retrieval:** Pupils use the information to label the diagram to show the life cycle of the hummingbird. They then write captions to explain each stage. Discuss pupils’ captions as a class.
* **Read:** Pupils read the information about the life cycle of the frog. Alternatively, show a film clip to break up the amount of reading.
* **Retrieval 1:** Pupils make a pinwheel of the main stages of an amphibian life cycle—they choose either a frog, toad, or newt. On a blank circle, they add the names of each stage and an illustration. Use split pins to allow the circles to spin.
* **Retrieval 2:** Pupils use what they know to answer the questions in their pupil workbooks.
* **Write:** Ask pupils to research and draw the life cycle of another bird or amphibian. Pupils may need support with their research.
* **Investigation (extension):** Use this lesson to observe chicks hatching and rearing in the school, or frogspawn.

**Learning review and exit questions:** Talk partners tell each other a response to the main lesson question: ‘How are the life cycles of birds and amphibians different from mammals?’. Add further review questions if you wish to. Urge pupils to use their key knowledge and vocabulary to answer the question. Pairs can try to improve one another’s understanding (peer assess). Take some examples of answers to discuss as a class. Use this as an assessment opportunity. Should you wish to, you might ask pupils to write a short independent response to the main lesson question. Ask pupils to answer the multiple-choice exit questions by holding up one, two, or three fingers. The exit questions can be found on the final teaching slides for this lesson. |

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| **Lesson question** | **Key knowledge** | **Learning resources** | **Key vocabulary** |
| **Lesson 3:*****What are the main stages in the life cycle of insects?*** | * Insects are invertebrates (they do not have a backbone).
* Butterflies and dragonflies are insects.
* Most insects change dramatically during their life cycle—they go through different stages, changing their shape from egg, larva, pupa to their adult form**.**
* Metamorphosis is a process which changes an animal’s appearance and what it can do.
 | Pupil workbookTeaching slides*Optional:* Materials for 3D model of a life cycle (for example, paper, board, beads, scissors, glue, popsicle sticks, plasticine)*Optional:* Butterfly growing kit  | * larva
* **metamorphosis**
* pupa
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| **Outcomes/Assessment** | **Disciplinary and substantive concept/s** | **Key term** | **Key takeaway** |
| Pupil workbook Knowledge quiz 4.2Learning review and exit questions  | **SC:** There are differences in the life cycles of mammals, amphibians, insects, and birds.**SC:** Plants and animals produce offspring by the life process of reproduction. | metamorphosis | During their life cycle, insects undergo **metamorphosis** where they dramatically change their appearance and what they can do. |
| **Common misconceptions**The following points are common misconceptions to be aware of when teaching this lesson.* Pupils may think spiders are insects, but they are not. They are arachnids.
* Pupils may think caterpillars and butterflies are different animals.
* Pupils may think metamorphosis is similar to an animal or human growing, rather than a complete change in characteristics.

**Teaching notes*** **Knowledge quiz:** Begin the lesson with the Knowledge quiz. The Knowledge quiz is a low-stakes way of assessing the knowledge retained from the previous lesson. Pupils answer the questions in their pupil workbooks and record their scores on the Knowledge quiz scores page. Answers are included in the teaching slides.
* **Introduction:** Share the Learning journey through the unit, the lesson question, and the Key knowledge and vocabulary (see the teaching slides).
* **Read:** Pupils read the information about metamorphosis in insects. Remind pupils what invertebrates are and that insects are one group of invertebrates. Emphasise their number of legs (six) and the misconception that spiders are insects when they are actually arachnids (they have eight legs). Use video clips in conjunction with the reading.
* **Retrieval:** Pupils complete the table to highlight the similarities and differences between the life cycle of the butterfly and the dragonfly.
* **Write:** Pupils draw a life cycle diagram of a moth. They use the reading text to help them label each stage of the diagram.
* **Investigation 1:** Pupils make a 3D model of a life cycle which they could use to teach a younger child about the stages in the life cycle of their chosen organism. See an example [here](https://www.youtube.com/watch?v=v3t0f3kcCas) for a butterfly. [Oxford University Press is not responsible for content available on third-party websites. The content of these websites may have changed since publication.] Pupils could add more detail based on a specific example—for example, the number of hours each stage lasts.
* **Investigation 2 (extension):** Pupils canobserve the life cycle of the butterfly in the classroom—‘butterfly growing kits’ are readily available.

**Learning review and exit questions:** Talk partners tell each other a response to the main lesson question: ‘What are the main stages in the life cycle of insects?’. Add further review questions if you wish to. Urge pupils to use their key knowledge and vocabulary to answer the question. Pairs can try to improve one another’s understanding (peer assess). Take some examples of answers to discuss as a class. Use this as an assessment opportunity. Should you wish to, you might ask pupils to write a short independent response to the main lesson question. Ask pupils to answer the multiple-choice exit questions by holding up one, two, or three fingers. The exit questions can be found on the final teaching slides for this lesson. |

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| **Lesson question** | **Key knowledge** | **Learning resources** | **Key vocabulary** |
| **Lesson 4:*****What is pollination in the life cycle of a flowering plant?*** | * Plants can either reproduce sexually or asexually.
* There are two types of plant: flowering and non-flowering.
* Flowering plants use their brightly coloured petals to attract insects and animals to help in their reproduction process.
* Pollination happens when pollen from the male part of the flower is transferred to the female part.
* Fertilisation happens when the pollen reaches the pistil (female part) of the plant.

**Working scientifically*** Make careful observations.
* Record findings using simple scientific language, drawings, and labelled diagrams.
 | Pupil workbookTeaching slides*Optional:* Flowers for dissection (for example, tulips), tweezers, scalpels, hand lenses, white tiles | * fertilisation
* pistil
* **pollination**
* spores
* stamen
 |
| **Outcomes/Assessment** | **Disciplinary and substantive concept/s** | **Key term** | **Key takeaway** |
| Pupil workbookKnowledge quiz 4.3 Learning review and exit questions  | **DC4:** Make careful observations.**DC5:** Record findings using simple scientific language, drawings, and labelled diagrams.**SC:** Plants and animals produce offspring by the life process of reproduction. | pollination | **Pollination** occurs when pollen from the male part of the flower is transferred to the female part. |
| **Common misconceptions**The following points are common misconceptions to be aware of when teaching this lesson.* Pupils may not be aware that flowers reproduce.
* Pupils may think that bees drink a flower’s nectar and not simultaneously pollinate it.
* Pupils may not be aware there are male and female parts of flowers.
* Pupils may not know that the male and female parts of a flower can be found on the same plant.

**Teaching notes*** **Knowledge quiz:** Begin the lesson with the Knowledge quiz. The Knowledge quiz is a low-stakes way of assessing the knowledge retained from the previous lesson. Pupils answer the questions in their pupil workbooks and record their scores on the Knowledge quiz scores page. Answers are included in the teaching slides.
* **Introduction:** Share the Learning journey through the unit, the lesson question, and the Key knowledge and vocabulary (see the teaching slides). Discuss the meaning of any words that pupils do not know.
* **Talk task:** Pupils look at the pictures of flowering and non-flowering plants. Ask: ‘How do plants reproduce?’.
* **Read:** Pupils then read about how plants reproduce. Ensure that pupils understand the steps in pollination and fertilisation. **Step one:** Insect visits a flower and gets pollen from the stamen (male part) stuck to its body. **Step two:** Insect flies to another flower. The pollen on its body rubs off onto the pistil (female part) of this flower. The flower is now pollinated. **Step three:** Fertilisation—the pollen travels down the pistil towards the ovary, where it fertilises an egg. This becomes a seed. This is an example of sexual reproduction. Explain the steps of asexual reproduction in plants. Use videos of time-lapsed ferns or pollinators to build on and develop pupils’ learning.
* **Retrieval:** Pupils explain how a flowering plant is pollinated. Encourage pupils to draw on the diagram to show the process as well as writing an explanation.
* **Write:** Pupils label the diagram to show the life cycle of a flowering plant.
* **Investigation:** In pairs, pupilsdissect their own flower and label the parts of the plant. When working with knives, you should instruct your pupils in their safe use. If your pupils are not as confident, then dissect the flower in front of them, and then allow them to label the parts as a group.

**Learning review and exit questions:** Talk partners tell each other a response to the main lesson question: ‘What is pollination in the life cycle of a flowering plant?’. Add further review questions if you wish to. Urge pupils to use their key knowledge and vocabulary to answer the question. Pairs can try to improve one another’s understanding (peer assess). Take some examples of answers to discuss as a class. Use this as an assessment opportunity. Should you wish to, you might ask pupils to write a short independent response to the main lesson question. Ask pupils to answer the multiple-choice exit questions by holding up one, two, or three fingers. The exit questions can be found on the final teaching slides for this lesson. |

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| **Lesson question** | **Key knowledge** | **Learning resources** | **Key vocabulary** |
| **Lesson 5:** ***What happens to seeds in the life cycle of flowering plants?*** | * Seed dispersal means that seeds are taken away from the parent plant and land in a new place.
* Seeds can be dispersed by the wind, on water, in bird and animal poo, and on animals’ fur.
* Seeds need oxygen, warmth, and water in order to germinate.
* Seedlings need nutrients from the soil to grow.
 | Pupil workbookTeaching slides | * **dispersal**
* germination
 |
| **Outcomes/Assessment** | **Disciplinary and substantive concept/s** | **Key term** | **Key takeaway** |
| Pupil workbookKnowledge quiz 4.4 Learning review and exit questions  |  | dispersal | Seeds are **dispersed** away from the parent plant to an area where they have space to grow. |
| **Common misconceptions**The following points are common misconceptions to be aware of when teaching this lesson.* Pupils may not realise that seeds are a result of plants reproducing.
* Pupils may not know that some seeds are shaped to assist in their own dispersal.
* Pupils may not know that coconuts are a type of seed (as well as classifying as a fruit and a nut).

**Teaching notes*** **Knowledge quiz:** Begin the lesson with the Knowledge quiz. The Knowledge quiz is a low-stakes way of assessing the knowledge retained from the previous lesson. Pupils answer the questions in their pupil workbooks and record their scores on the Knowledge quiz scores page. Answers are included in the teaching slides.
* **Introduction:** Share the Learning journey through the unit, the lesson question, and the Key knowledge and vocabulary (see the teaching slides). Discuss the meaning of any words that pupils do not know.
* **Talk task:** Pupils look at the picture of dandelions. Ask: ‘What is seed dispersal?’, ‘How might this plant reproduce?’. Briefly revisit sexual reproduction in plants.
* **Read:** Pupils read about seed dispersal.
* **Retrieval:** Pupils draw and label four ways that seeds can be dispersed.
* **Read:** Pupils read about seed germination.
* **Retrieval:** Pupils use their knowledge to answer the questions about seed dispersal and germination in the life cycle of a flowering plant.

**Learning review and exit questions:** Talk partners tell each other a response to the main lesson question: ‘What happens to seeds in the life cycle of flowering plants?’. Add further review questions if you wish to. Urge pupils to use their key knowledge and vocabulary to answer the question. Pairs can try to improve one another’s understanding (peer assess). Take some examples of answers to discuss as a class. Use this as an assessment opportunity. Should you wish to, you might ask pupils to write a short independent response to the main lesson question. Ask pupils to answer the multiple-choice exit questions by holding up one, two, or three fingers. The exit questions can be found on the final teaching slides for this lesson. |

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| **Lesson question** | **Key knowledge** | **Learning resources** | **Key vocabulary** |
| **Lesson 6:*****Who has contributed to our understanding of life cycles?*** | * Sir David Attenborough is a naturalist—he studies living species, their life cycles, environment, and their effect on each other.
* He has been involved in education all his life, teaching people about the natural world, plants, and animals.
* He has written books and researched and presented TV programmes and wildlife films.
* Sir David is known for his campaign work, explaining how the natural world is under threat from human activity.
 | Pupil workbookTeaching slides | * environmentalist
* **naturalist**
 |
| **Outcomes/Assessment** | **Disciplinary and substantive concept/s** | **Key term** | **Key takeaway** |
| Pupil workbook Knowledge quiz 4.5Learning review Knowledge quiz 4.6 |  | naturalist | **Naturalists** are scientists who study plants and animals in their natural habitat***.*** |
| **Common misconceptions**The following points are common misconceptions to be aware of when teaching this lesson.* Pupils may not understand that although David Attenborough is a significant person, there are many other naturalists that do important work.

**Teaching notes*** **Knowledge quiz:** Begin the lesson with the Knowledge quiz. The Knowledge quiz is a low-stakes way of assessing the knowledge retained from the previous lesson. Pupils answer the questions in their pupil workbooks and record their scores on the Knowledge quiz scores page. Answers are included in the teaching slides.
* **Introduction:** Share the Learning journey through the unit, the lesson question, and the Key knowledge and vocabulary (see the teaching slides). Discuss the meaning of any words that pupils do not know.
* **Talk task:** Pupils look at the picture. Ask: ‘What do you know about this significant individual?’.
* **Read:** Pupils read about Sir David Attenborough.
* **Investigation:** Pupils choose a naturalist to research. For example, they could research Jane Goodall or choose someone from this list of [naturalists](https://www.greenhearted.org/great-naturalists.html) or a list you put together. [Oxford University Press is not responsible for content available on third-party websites. The content of these websites may have changed since publication.] (Ensure that a range of naturalist are researched.) Pupils research their chosen naturalist and their contribution to our understanding of living organisms. Ensure that pupils are following online safety guidelines if they are working online. Pupils present their findings to the class. This could be in the form of a written biography, speech, or creative piece, like a collage. As a class, discuss each naturalist.

**Learning review:** Talk partners tell each other a response to the main lesson question: ‘Who has contributed to our understanding of life cycles?’. Add further review questions if you wish to. Urge pupils to use their key knowledge and vocabulary to answer the question. Pairs can try to improve one another’s understanding (peer assess). Take some examples of answers to discuss as a class. Use this as an assessment opportunity. Should you wish to, you might ask pupils to write a short independent response to the main lesson question. Ask pupils to complete Knowledge quiz 4.6 in their pupil workbooks and record their scores on the Knowledge quiz scores page. Answers are included in the teaching slides.  |