

PROGRESSION OVERVIEW - SCIENCE

Wildlife Connections to the Science Programme of Study for Year 1

Some of the following suggested activities have been further developed and made into a detailed lesson plan with supporting resources. .
The detailed plans can be found in the **lesson plan** section of the Conservation Teacher Toolkit.



Year 1 - Science National Curriculum Objective Links	Year 1 - Wildlife Connections Ideas Overview
Children to identify what they already know about wildlife. 	Y1 - Children to complete an "KS1 Impact of Learning" for previous knowledge - Wildlife - Autumn Term <i>Lesson plan and resources created (File name: 1. Y1 Lesson plan - KWL lesson on wildlife)</i> Introduction - What do children know about wildlife? (Introduction to wildlife in Year 1, see detailed lesson for more details). Teacher to ask: • Does anyone know what wildlife is? • Can you name any wildlife plants and animals? • What would you like to learn about wildlife? Ideally, this session should take place in small groups and may even be TA led, or alternatively a TA may support independent work from the rest of the class whilst the teacher spends time assessing a group of children at a time. <i>N.B. Following completion of the assessment, the class teacher is to stress the importance of looking after wild plants and animals so that they can survive and keep their life cycles alive, preventing them from becoming extinct (i.e. when there are no more individuals known to be alive anywhere in the world).</i> Class teacher/TA to complete an 'KS1 Impact of Learning' sheet for children's previous knowledge. (To represent either individuals/groups/the class). Resources: • Y1 KWL lesson on wildlife. • KS1 Impact of Learning worksheet (for one class or group). • Class teacher to refer to Y1 Conservation Knowledge Organiser - Plants. • Class teacher to refer to Y1 Conservation Knowledge Organiser - Animals • Paper for each child to draw mind maps/worksheet with prompt questions (see 'Activities').

Plants

- Identify and name a variety of common plants.

Working Scientifically

- Asking simple questions and recognising that they can be answered in different ways.
- Observing closely, using simple equipment.
- Using their observations and ideas to suggest answers to questions.

Y1 - Wildlife - Identify common wild plants - Autumn Term

Lesson plan and resources created (File name: 2. Y1 Lesson plan - Identify common wild plants 1)



Introduction – Can children identify and name a common wild plant? (See detailed lesson for more details)

Children to look at Chester Zoo's Year One Conservation Knowledge Organiser. They will be shown the common wild flowers and grasses that they will be planting in the school grounds.

Alternatively, the children will be introduced to the wildflowers and grasses, prior to a visit to Chester Zoo's Nature Reserve. (See lesson 2 for follow up lesson). *N.B. It may be appropriate to contact the zoo to find out the species of flowers and grasses the zoo has in its designated areas, prior to the visit.*

Activities:

The children will be shown how to plant their own common wildflowers along with grasses in special designated areas of the school grounds, decided and agreed by the school. The children will need to be given equipment such as trowels and forks, watering cans and wildflower seeds. It may be necessary for the children to be given bags of soil also.

N.B. The children are to be encouraged to ask their own questions about the conservation of these common wild plants. Children to consider questions such as:

- *What do you think might affect the survival of the plants? (By nature and by man).*

Resources:

- Y1 Lesson plan - Identify common wild plants 1.
- Y1 Conservation Knowledge Organiser - Plants.
- School grounds/local area/Chester Zoo Nature Reserve.
- Range of common plants growing in situ.
- Magnifying glasses, equipment for measuring plants using standard units of measure, charts upon which to record notes and measurements, camera/s, range of non-fiction information texts on common wild and garden plants, including deciduous and evergreen trees..
- IMAGE of example notes and drawings of observations (pre-prepared by class teacher).

Plants

- Identify and name a variety of common wild plants.
- To closely observe a wild plant.

Working Scientifically

- Asking simple questions and recognising that they can be answered in different ways.
- Observing closely, using simple equipment.
- Using their observations and ideas to suggest answers to questions.



Y1 - Wildlife - Identify common wild plants follow-up lesson 2

Lesson plan and resources created (File name: 3. Y1 Lesson plan - Identify common wild plants 2)

Introduction – Can the children recall and identify any grasses or wild plants? (From lesson 1 on common wild plants. See detailed lesson for more details)

Activities:

The children are to make notes/records, drawings or photographs (that include the use of magnifying glasses). Encourage them to compare and contrast between plants of the same species, to feedback.

N.B. The children are to be encouraged to ask their own questions about the conservation of these common wild plants. They are to consider questions such as:

- *What has influenced the survival of their plants? (By nature and by man).*

**Resources:**

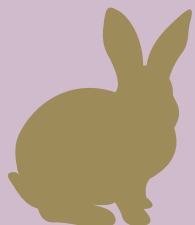
- Y1 Lesson plan - Identify common wild plants 2.
- Y1 Conservation Knowledge Organiser - Plants.
- Y1 Wildflower and Grasses Activity Cards - picture and name cards for 'Plenary' and 'Snap'/'Pairs' activity. (See: 'Y1 lesson plan: Common wild plants lesson 1').
- School grounds/local area/Chester Zoo Nature Reserve.
- Range of common plants growing in situ, magnifying glasses, equipment for measuring plants using standard units of measure, charts upon which to record notes and measurements, camera/s.
- Range of non-fiction information texts on common wild plants.
- IMAGE of example notes and drawings of observations (pre-prepared by class teacher).
- (Paper, pencils and paints for possible art work).
- STEM Learning: Seasons spotter sheets: <https://www.stem.org.uk/resources/elibrary/resource/417969/seasons-spotter-sheets>.

Plants

- Identify and name a variety of common garden plants.
- To observe and name fruit and vegetables.

Working Scientifically

- Asking simple questions and recognising that they can be answered in different ways.
- Observing closely, using simple equipment.
- Using their observations and ideas to suggest answers to questions.



Y1 - Garden plants - Vegetables and fruit - Autumn/Spring/Summer Term

Lesson plan and resources created (File name: 4. Y1 Lesson plan - Garden plants - Vegetables and fruit)

Introduction - Where do fruits and vegetables come from? (See detailed lesson for more details).

Introduce an example of a fruit and a vegetable.

N.B. Some fruits are often classed as vegetables e.g. tomatoes, cucumbers because of how they are used as food, but scientifically are fruits.

Activities:

The children could visit Chester Zoo's Enrichment Garden and identify the plants they have grown. In this garden, the children will see the following growing: herbs, flowers, leaves and fruit. (See 'Additional Notes') and/or the children could visit their own fruit and vegetable beds that they (or other children) may have grown in the school grounds.

The children could take photographs or draw the fruit and the vegetable plants that they have grown/Chester Zoo has grown. They should try to recognise if the plant is growing fruit or vegetables. They could label each plant with its name and could colour code it according to whether it is a fruit or vegetable.

If possible, the children should dig up some of the vegetables and/or pick some of the fruit to observe more closely or should take careful photographs.

If the children do not have access to growing plants, the teacher should try to bring in a range of fruits and vegetables for the children to take photographs and observe closely. The children should label these and colour code them according to whether they are fruits or vegetables (as above).

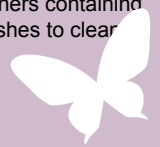
N.B. The children should be encouraged to ask their own questions about the conservation of these plants. They should consider questions such as:

- *What affects how the plants survive? (By nature and by man).*
- *Which animals need these plants to keep them alive and healthy?*

Resources:

- Y1 Lesson plan - Garden plants - Vegetables and fruit.
- Y1 Conservation Knowledge Organiser - Plants.

- Y1 Fruit and Vegetable Cards.
- 'Y1 Where do fruits and vegetables grow?' Worksheet
- Good resources for growing own plants and vegetables: RHS School Gardening: Useful equipment for school gardening: <https://schoolgardening.rhs.org.uk/resources/Info-Sheet/Useful-equipment-for-school-gardening>.
- Essential equipment: Gardening gloves for adults and children (various sizes); plant beds/plant containers containing fruit and vegetables; hand trowels and forks; spades and forks; dust pan brushes or dish washing brushes to clear tools.
- Common garden plant identification charts.
- Range of fruit and vegetables to observe/photograph/draw and label.
- Paper and pencils.

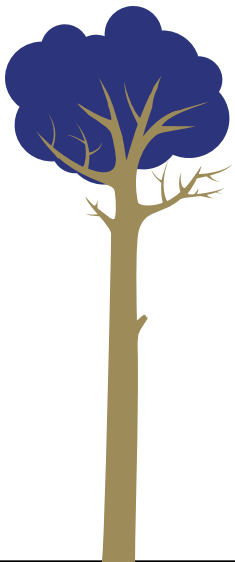


Plants

- Identify and describe the basic structure of a variety of common flowering plants.
- To learn the parts of a flowering plant, including the root.

Working Scientifically

- Asking simple questions and recognising that they can be answered in different ways.
- Observing closely, using simple equipment.



Y1 - Common flowering plant structure - Spring Term

Lesson plan and resources created (File name: 6. Y1 Lesson plan - Common flowering plant structure)

Introduction - Review what the children have learned so far. (See detailed lesson for more details)

What are the parts of the plant that you have learned? Why have we not dug up the plants growing in their natural environment before, when observing them closely?

N.B. The children can be told that they can dig up a flowering plant that has been grown from a bulb, specifically for the purpose of observation and learning. It has not been removed from its natural habitat. N.B. The teacher will need to have planted the flowering plant specifically for this purpose in pots or special beds.

Activities:

The class teacher could take a flowering plant which has grown from a bulb (such as a daffodil) and should remove the soil from around it to reveal its roots and bulb, so that the children can observe and draw all these main parts. They can be shown detail e.g. root hairs (tap and lateral roots).

For each close observation of these growing plants, the children could use magnifying glasses to help them see smaller plant details.

- What is the same about each of the plants?
- What is different about each of the plants?

The children are to record their observations through notes/drawings/photographs of these plants. They could refer to Chester Zoo's Conservation Knowledge Organiser for Year 1 for a visual learning aid to support their learning:

- *Basic plant structures (leaves, petal, flower, bulb, stem/trunk, roots, branches, fruit).*

N.B. Children to be encouraged to ask their own questions about the conservation of these plants. Children to consider questions such as:

- *What influences the growth/survival of the plants?*
- *What has a positive effect? What has a negative effect? (By nature and by man).*

Resources:

- Y1 Lesson plan - Common flowering plant structure.
- Y1 Conservation Knowledge Organiser - Plants.
- Y1 Plant structure activity.
- Magnifying glasses.
- Range of common flowering plants (daffodil, tulip and dianthus).

- Range of non-fiction information texts on common wild and garden plants, including deciduous and evergreen trees.
- Paper to record observations.
- Camera/iPads.
- Cards for games i.e. snap or pairs.



Plants

- Observe deciduous and evergreen trees.

Working Scientifically

- Observing closely, using simple equipment.
- Identifying and classifying.

Y1 - Identify deciduous and evergreen trees - Spring/Summer Term

Lesson plan created (File name: Y1 Lesson plan - Identify deciduous and evergreen trees)

Introduction - Review - what the children have previously learned. (See detailed lesson for more details).

Discuss what the children know about trees.

- What types of trees are there?
- Do you know the two main groups of trees?
- Can you name any trees that keep their leaves/ drop their leaves in the Autumn?

Introduce images of evergreen and deciduous trees and discuss how to identify the trees i.e. from the leaves or needles, from the overall shape, from twigs, leaf buds, bark etc.

Ask the children:

- Do you know what are the different parts of the tree and what they are used for?

In pairs, the children should discuss this question and feedback. Review answers in conjunction with the following:

- Roots – anchor/support the tree so it will not blow over and for taking up water from the soil.
- Trunk (similar to the stem) - transports water from the roots to different parts of the tree.
- Bark (similar to skin) - covers the outside of the tree.
- Branches – buds/flowers, fruit and leaves grow from them.
- Leaves – makes food for the tree and water evaporates from them, keeping the tree cool. *(N.B. Respiration also occurs here).*

Activities:

The children shall go around the school grounds and/or Chester Zoo's Nature Reserve and identify, using an identification chart and the Chester Zoo's Conservation Knowledge Organiser Year 1. Common plants and trees can be found in the grounds at Chester Zoo.

The children could count the number of different deciduous and evergreen trees. Alternatively, they could possibly colour code trees on a pre-prepared map of the school grounds, to show deciduous and evergreen trees. *(N.B. Have a master map with the deciduous and evergreen trees colour coded in advance).*

Resources:

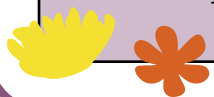
- Y1 Lesson plan - Identify deciduous and evergreen trees.
- Y1 Conservation Knowledge Organiser - Plants.
- Information texts on common deciduous and evergreen trees, as well as deciduous and evergreen trees plant identification charts.
- STEM Learning: Seasons spotter sheets:
<https://www.stem.org.uk/resources/elibrary/resource/417969/seasons-spotter-sheets>
- Pre-prepared map of the school grounds showing trees. Master map should highlight the deciduous and evergreen trees.



	• Pencils and coloured pencils. • Paper and pencils for measurement of the girth/ estimating the height of a tree. • Measuring a tree – see Outdoor & Woodland Learning Scotland: https://www.owlscotland.org/images/uploads/resources/files/measuringtrees1.pdf • Paper (for bark rubbings) and wax crayons. • Variety of art materials for display of a tree. 
Animals including humans • Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. Working Scientifically • Observing closely, using simple equipment. • Identifying and classifying.	Y1 - Wildlife - Identify common fish, amphibians, reptiles, birds and mammals - Autumn/Spring Term Children are to identify and name a variety of common animals. • Children could look at definitions of the different groups of animals: fish, amphibians, reptiles, birds and mammals • Children are to sort images of these animals in to the correct different groups based on their features. • Can children find out any facts on these animals and their conservation from the Chester Zoo fact files or from a visit from a Chester Zoo educator? <i>N.B. Children to be encouraged to ask their own questions about these animals they would like answering. Focussing on the conservation of them. Children to consider questions such as:</i> • <i>What do they need to live and survive? (habitat and food).</i> • <i>What are the dangers or threat to their natural habitat by man or by nature?</i> Resources: • Y1 Conservation Knowledge Organiser - Animals. • Information texts on common animals including fish, amphibians, reptiles, birds and mammals, as well as common animals including fish, amphibians, reptiles, birds and mammals identification charts. • Magnifying glasses. • Cameras.
Animals including humans • Identify and name a variety of common animals that are carnivores, herbivores and omnivores. Working Scientifically • Asking simple questions and recognising that they can be answered in different ways. • Identifying and classifying. • Using their observations and ideas to suggest answers to questions. 	Y1 - Wildlife - Common carnivores, herbivores and omnivores - Autumn/Spring/Summer Term Children are to identify and name a variety of common animals that are carnivores, herbivores and omnivores. • Children could look at definitions of the different variety of animals – - carnivores, herbivores and omnivores • Children are to sort images of these animals in to the 3 groups based on what they eat. Children could do this with: - any prior knowledge they may have. - the support and guidance of their the class teacher. - the use of reference materials or online materials from Chester Zoo (such as Y1 Conservation Knowledge Organiser - Animals, as a visual learning aid). • Can children find out any facts on these animals and their conservation from the Chester Zoo fact files or from a visit from a Chester Zoo educator? <i>N.B. Children to be encouraged to ask questions about these animals they would like answering, focussing on the conservation of them. Children to consider questions such as:</i>



	• <i>What do they need to live and survive?</i> • <i>What are the dangers or threats to their natural habitat by man or by nature?</i> Resources: • <i>Y1 Conservation Knowledge Organiser - Animals.</i> • Information texts on common animals including carnivores, herbivores and omnivores, as well as identification charts • Magnifying glasses. • Cameras.
Animals including humans • Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. • Identify and name a variety of common animals that are carnivores, herbivores and omnivores. Working Scientifically • Asking simple questions and recognising that they can be answered in different ways. • Identifying and classifying. • Using their observations and ideas to suggest answers to questions.	Y1 - Wildlife - Exploring for common animals - Spring/Summer Term Children could explore their school grounds or local area to see what sorts of common animals they can find and identify. • Children could refer to Chester Zoo's Conservation Knowledge Organiser for Year 1 for a visual learning aid to support the identification of: - common names of animals including fish, amphibians, reptiles, birds and mammals. - common animals that are carnivores, herbivores and omnivores. - some of the names of animals found at Chester Zoo (not so common). <i>N.B. Children to be encouraged to ask their own questions about the conservation of these animals. Children to consider questions such as:</i> • <i>What can they do to encourage more animals? (Such as providing the right kind of habitats to attract these animals or to help their survival and growth).</i> Resources: • <i>Y1 Conservation Knowledge Organiser - Animals.</i> • Information texts on common animals including fish, amphibians, reptiles, birds and mammals, as well as identification charts. • Magnifying glasses. • Cameras.
Animals including humans • Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. • Identify and name a variety of common animals that are carnivores, herbivores and omnivores. Working Scientifically • Asking simple questions and recognising that they can be answered in different ways. • Identifying and classifying. • Using their observations and ideas to suggest answers to questions. 	Y1 - Wildlife - Common animals survey - Autumn/Spring/Summer Term Children could explore and identify the common animals they may find in their local environment, including those kept as pets by other pupils in school. • Children could survey their classmates' pets and those of other pupils in their school and analyse the findings of these. They could ask their own questions such as: - Which is the most common pet? - Least common pet? - Most difficult to look after? (They need a special habitat and food to help them breed and survive). • Children could refer to <i>Y1 Conservation Knowledge Organiser - Animals</i> for a visual learning aid to support the identification of:

	• common names of animals including fish, amphibians, reptiles, birds and mammals. • common animals that are carnivores, herbivores and omnivores. <i>N.B. Children to be encouraged to ask their own questions from what they notice about these animals, as well as questions on the conservation of these animals. Children to consider questions such as:</i> • What do we need to give these pets to help their survival and growth? Resources: • Y1 Conservation Knowledge Organiser - Animals. • Information texts on common animals and pets including fish, amphibians, reptiles, birds and mammals, as well as identification charts. • Magnifying glasses. • Cameras. • Pet survey example. 
Animals including humans • Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals • Identify and name a variety of common animals that are carnivores, herbivores and omnivores Working Scientifically • Asking simple questions and recognising that they can be answered in different ways. • Identifying and classifying • Using their observations and ideas to suggest answers to questions.	Y1 - Wildlife - Common animals and endangered animals - On line resources/Trip to Chester Zoo - Autumn/Spring/Summer Term Children should explore and identify the common and endangered animals. • Children are to focus on the animals which are bred by conservationists at Chester Zoo from photographs, information texts and videos, as well as a school visit to Chester Zoo or a visit from a Chester Zoo educator. • Children could refer to Chester Zoo's Conservation Knowledge Organiser for Year 1 for a visual learning aid. • Children could compare these common animals (such as cats) to the endangered ones (tigers) which have been part of a conservation breeding programme within zoos to protect them from extinction. • Children could compare its habitat in the wild to the one created by man at Chester Zoo to help its survival and breeding. • Children could be encouraged to ask their own questions about what they notice about the animals and to explore and find answers, such as about their diet and habitat such as: - What do they eat? - What are their surroundings like? • Children to compare these animals during their visit to Chester Zoo. Resources: • Y1 Conservation Knowledge Organiser - Animals. • Information texts on common and endangered animals.
Animals including humans • Identify and name a variety of common animals including amphibians Working Scientifically • Asking simple questions and recognising that they can be answered in different ways. 	Y1 - Wildlife - Amphibians and Frogspawn study - local area/school grounds - Spring Term Children are to identify and name a variety of common animals including amphibians • Children could explore frogspawn found in their local environment and watch it's growth from spawn through to baby frogs, learning how to take care of them, and the need to return them back to their local environment safely

- Identifying and classifying.
- Using their observations and ideas to suggest answers to questions.



- after their study for conservation purposes.
- Children to observe closely (using equipment such as a magnifying glass), making drawings of the different stages of growth they will see from: egg mass (frogspawn), tadpole, froglet (a tiny frog) and then a young frog.
- Children to compare the different stages of growth.
- Children to group the frog based on its appearance, as well as the food it eats.
- Children to be encouraged to ask scientific questions about what they notice about the frogspawn and its survival. Children to consider questions such as:
 - What would happen if the pond, marshes or wetland it lived in dried out?
 - What do they need to live and survive?
 - What are the dangers or threat to their natural habitat by man or by nature?
 - Does the young frog need its mother to support it?
- Children could look at the different habitats of the frogs at Chester Zoo.
 - What conditions do their habitats need to be like so frogs can survive?
- Children to compare the common UK frog to the endangered frogs bred by Chester Zoo during a school visit.

Resources:

- *Y1 Conservation Knowledge Organiser - Animals.*
- Information texts on common animals including frogs and frogspawn.
- Magnifying glass.
- Simple stages in growth identification charts.