



# Onslow Infant School

Science Knowledge Progression

Reception—Year 2



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## Year: Reception

Lesson Number	Question	Pupils will learn	Retrieval (Last lesson, unit, year)
1 Autumn	What changes happen in Autumn?	<ul style="list-style-type: none"><li>• Different features of Autumn.</li><li>• Changes that happen to the weather and nature in Autumn and why.</li><li>• What is a season.</li><li>• What animals hibernate.</li></ul>	
2 Autumn	What changes happen in Winter?	<ul style="list-style-type: none"><li>• Different features of Winter.</li><li>• Changes that happen to the weather and nature in Winter and why.</li><li>• What they need to wear when it is cold.</li><li>• What happens to water when it freezes.</li></ul>	What is a season. Different features of Autumn.
3 Spring	What changes happen in Spring?	<ul style="list-style-type: none"><li>• Different features of Spring.</li><li>• Changes that happen to the weather and nature in Spring and why.</li><li>• Baby animals are born.</li></ul>	Winter & Autumn
4 Summer	What is a farm?	<ul style="list-style-type: none"><li>• The names of farm animals and their offspring.</li><li>• What do farm animals need to grow and stay healthy.</li><li>• What produce we can get from a farm e.g. meat, milk, wool.</li><li>• What a farmer does.</li><li>• Facts about farm animals.</li></ul>	What animals do you know?
5 Summer	What animals can you find in a zoo?	<ul style="list-style-type: none"><li>• What is the purpose of a zoo.</li><li>• Animals you may find in the zoo (wild animals).</li><li>• Facts about zoo animals.</li><li>• What does a zookeeper do.</li><li>• Similarities and differences between wild animals and farm animals.</li></ul>	Farm animals
6 Summer	What is a minibeast?	<ul style="list-style-type: none"><li>• Insects have 3 parts of their body and 6 legs.</li><li>• Spiders are not insects as they have 8 legs.</li><li>• Minibeast means any small creepy crawly.</li><li>• Minibeasts can be found on land, underground, in the air and in water.</li><li>• Facts about minibeasts.</li></ul>	Farm and zoo animals
7 Summer	What creatures live in the sea?	<ul style="list-style-type: none"><li>• Identify different sea creatures.</li><li>• Facts about sea creatures.</li></ul>	Farm, zoo and minibeasts.
8 Summer	What changes happen in Summer?	<ul style="list-style-type: none"><li>• Different features of Summer.</li><li>• Changes that happen to the weather and nature in Summer and why.</li><li>• Sun safety.</li></ul>	Autumn, Winter and Spring



## Year 1

### Unit Title: Humans – Body Parts & Senses

Lesson Number	Question/Title	Pupils will learn	Retrieval (Last lesson, unit, year)
1	What are the basic parts of a human body?	<ul style="list-style-type: none"><li>• The main body parts and how they are used.</li><li>• How to draw and label a diagram of a body</li><li>• <i>Identifying and classifying</i></li></ul>	How many body parts can you name?  What animals can you find in the zoo?
2	What is taste and what part of the body do I use to taste?	<ul style="list-style-type: none"><li>• How we taste by using the tongue</li><li>• Tasting different flavours and identifying them.</li><li>• Describing the flavours</li><li>• <i>Gathering and recording data to help in answering questions; performing simple tests</i></li></ul>	Draw and label 5 body parts on mini whiteboard.  How have you changed since being a baby?
3	What is smell and what part of the body do I use to smell?	<ul style="list-style-type: none"><li>• How we smell by using the nose</li><li>• Smelling different smells and identifying them.</li><li>• Describing the smells.</li><li>• <i>Gathering and recording data to help in answering questions; performing simple tests</i></li></ul>	Can you name parts of the flower? No image. Added afterwards.  What would you smell on a farm?
4	What is touch and what body part do I use to touch?	<ul style="list-style-type: none"><li>• Feeling different materials and identifying them.</li><li>• Describing properties and characteristics of properties.</li><li>• <i>Gathering and recording data to help in answering questions; performing simple tests</i></li></ul>	What is the difference between an evergreen and a deciduous tree?  How many legs does an insect have?
5	What is hearing and what body part do I use to hear?	<ul style="list-style-type: none"><li>• How we hear by using ears.</li><li>• Listening to different sounds and identifying them.</li><li>• Describing the sounds.</li><li>• <i>Gathering and recording data to help in answering questions; performing simple tests</i></li></ul>	How do you know it is Autumn? Weather, trees and flowers, days getting shorter  Is a spider an insect?
6	What is sight and what body part do I use to see?	<ul style="list-style-type: none"><li>• How we see by using eyes</li><li>• Unit assessment</li></ul>	Can you name three flowers and three plants?  Name five senses and their associated body part?



## Year 1

### Unit Title: Plants

Lesson Number	Question/Title	Pupils will learn	Retrieval (Last lesson, unit, year)
1	What are the parts of common flowering plants?	<ul style="list-style-type: none"> <li>• The names of national flowers of the UK. Rose, leek, daffodil, clover, thistle</li> <li>• To identify parts of flowers: root, stem, flower, leaves, petal</li> <li>• <i>To observe closely</i></li> <li>• <i>How to draw from observations</i></li> <li>• <i>To add simple labels to drawings</i></li> </ul>	<p>Image of a garden – What grows in a garden? (EYFS)</p> <p>What can you do in the summer that you cannot do in the winter in the UK?</p>
2	What are the parts of a tree?	<ul style="list-style-type: none"> <li>• Names of trees in our school grounds (Woodland School)</li> <li>• To identify parts of a tree: Trunk, branches, leaves, roots, fruit/seeds</li> <li>• <i>Draw a simple tree from observations and label simple drawings.</i></li> <li>•</li> </ul>	<p>Image of a flower. Label parts of a flower</p> <p>Name three sea creatures?</p>
3	What is an evergreen tree?	<ul style="list-style-type: none"> <li>• That one feature of evergreen trees is that they remain green in all seasons.</li> <li>• The names of common evergreen plants: holly, ivy, conifer, pine, fir</li> </ul>	<p>Image of a seed. How do you care for a plant? (EYFS)</p> <p>Name the four national flowers of the countries of the UK?</p>
4	What is a deciduous tree?	<ul style="list-style-type: none"> <li>• That one feature of deciduous trees is that they change in all seasons.</li> <li>• (link to seasonal changes )</li> </ul>	<p>Image of a tree with missing labels. Label parts of a tree</p> <p>What do you wear when it is cold?</p>
5 Spring	How do I plant a seed?	<ul style="list-style-type: none"> <li>• How to plant seeds and care for young plants.</li> <li>• <i>To use simple tools to observe under microscopes.</i></li> <li>• <i>To observe changes over time as the seed germinates and starts to grow.</i></li> </ul>	<p>Image of a potting plant. How do you care for plants? (EYFS)</p> <p>True or false – you only taste with your lips?</p>
6 Spring	What are the names of common wild and garden plants?	<ul style="list-style-type: none"> <li>• Name common flowering plants in the school. Daisy, clover, dandelion Woodland school</li> <li>• Understand the importance of wild flowers.</li> </ul>	<p>What is the difference between an amphibian and a reptile?</p> <p>Explorify – what is it? Human body related</p>



## Year 1

### Unit Title: Seasonal Changes

Lesson Number	Question/Title	Pupils will learn	Retrieval (Last lesson, unit, year)
Autumn 1	What do trees look like in late summer?	<ul style="list-style-type: none"> <li>• Which trees in the arboretum are evergreen and which are deciduous by choosing one of each</li> <li>• To name and identify species of trees chosen in the arboretum</li> </ul>	<p>Image of each tree type. What is the difference between a deciduous and an evergreen tree?</p> <p>What's the difference between a wild animal and a farm animal?</p>
Autumn 2	What do trees look like in Autumn?	<ul style="list-style-type: none"> <li>• To observe seasonal changes to identify that the season is autumn and learn the weather associated with the season</li> <li>• To observe and describe what the evergreen tree looks like in autumn by visiting the Arboretum</li> <li>• To observe and describe what the deciduous tree looks like in autumn by visiting the Arboretum</li> </ul>	<p>What does a farmer do at this time of year?</p> <p>What do animals do when they hibernate?</p>
Spring 1	What do trees look like in winter?	<ul style="list-style-type: none"> <li>• To observe seasonal changes to identify that the season is winter and learn the weather associated with the season</li> <li>• That days are shorter and the shortest day is in December</li> <li>• To observe and describe what the evergreen trees look like in winter by visiting the Arboretum</li> <li>• To observe and describe what the deciduous tree looks like in winter by visiting the Arboretum</li> </ul>	<p>Picture of trees in Autumn, Which season was this taken? What type of tree is this?</p> <p>What is a baby sheep, cow and horse called?</p>
Spring 2	What do trees look like in late Spring?	<ul style="list-style-type: none"> <li>• To observe seasonal changes to identify that the season is spring and learn the weather associated with the season</li> <li>• To observe and describe what the evergreen tree looks like in spring by visiting the Arboretum</li> <li>• To observe and describe what the deciduous tree looks like in spring by visiting the Arboretum</li> <li>• To draw the deciduous tree and write an observation of changes since winter</li> </ul>	<p>Draw a human body and label each sense.</p> <p>Picture of an amphibian. What other animal groups are there?</p>
Summer 2	What do trees look like in Summer?	<ul style="list-style-type: none"> <li>• To observe seasonal changes to identify that the season is summer and learn the weather associated with the season</li> <li>• That days are longer and the longest day is in June.</li> <li>• To observe and describe what the evergreen tree looks like in summer by visiting the Arboretum.</li> <li>• To observe and describe what the deciduous tree looks like in summer by visiting the Arboretum.</li> </ul>	<p>Picture of trees in Spring, Which season was this taken? What type of tree is this?</p> <p>Where does milk come from?</p>



## Year 1

### Unit Title: Seasonal Changes Continued...

Lesson Number	Question/Title	Pupils will learn	Retrieval (Last lesson, unit, year)
Sum 2	How do trees change across the seasons?	<ul style="list-style-type: none"><li>To order photographs of the Arboretum trees in a season wheel and label each season.</li><li>That deciduous trees change throughout the year and it is a life cycle.</li></ul>	<p>Pictures of wild flowers, name each flower (Daisy, dandelion, clover, ivy)</p> <p>What are the properties of a cotton t-shirt?</p>
Sum 2	How does the weather change across the seasons?	<ul style="list-style-type: none"><li>That weather changes throughout the day and can be different in the north and south.</li><li>To describe different types of weather.</li><li>To recognise symbols for each weather system.</li></ul>	<p>What does absorbent mean?</p> <p>What is science?</p>
All year	What is the weather like today?	<ul style="list-style-type: none"><li>To name different types of weather</li><li>To maintain a weather log</li><li><i>To record simple measurements</i></li></ul>	



## Year 1

### Unit Title: Animals

Lesson Number	Question/Title	Pupils will learn	Retrieval (Last lesson, unit, year)
1 Spring 1	How can we sort animals into groups?	<ul style="list-style-type: none"><li>To begin to describe and compare the structure of a variety of common animals.</li></ul>	Do you have a pet? How do you care for it? Where do these animals live (pictures of different animals)?
2 Spring 1	Can you find out about one group of animals?	<ul style="list-style-type: none"><li>To identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals.</li><li>To find out about one of these groups of animals and share their learning with the class.</li></ul>	Identify and group animal based on where they live (farm animals, jungle animals, pets, fish, etc.). Name a plant and tree?
3 Spring 1	How can we sort animals into groups?	<ul style="list-style-type: none"><li>To identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals.</li></ul>	Can you name all of the 5 senses? If you wanted to stop your neighbour looking into your garden, what sort of tree would you grow?
4 Spring 1	What types of food do living things eat?	<ul style="list-style-type: none"><li>To identify and name a variety of animals that are carnivores, herbivores and omnivores.</li></ul>	Can you remember the 5 groups of animals we named? Odd one out – nose, eye, arm, mouth, beak
5 Spring 1	Do you have a pet? What is it like? What does it eat?	<ul style="list-style-type: none"><li>To describe and compare the structure of a variety of common animals</li><li>To identify and name a variety of animals that are carnivores, herbivores and omnivores.</li><li></li></ul>	What are the characteristics of a mammal? Odd one out – meat, milk, cake, cereal
6 Spring 2	Can you sort rainforest/desert animals into groups?	<ul style="list-style-type: none"><li>To identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals.</li></ul>	Can you draw and label the parts of a plant? Odd one out – pictures of three insects and a spider (fly, ant, bee)
7 Summer 2	Can you sort rock pool creatures.	<ul style="list-style-type: none"><li>To identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals.</li></ul>	What does herbivore, carnivore and omnivore mean? Explorify – scientific enquiry



## Year 1

### Unit Title: Materials

Lesson Number	Question/Title	Pupils will learn	Retrieval (Last lesson, unit, year)
1	What is a material and how can you categorise them into groups?	<ul style="list-style-type: none"><li>To identify different materials: wood, cotton, plastic, glass, metal and paper and categorise them by their physical properties</li><li><i>To identify and classify</i></li></ul>	How do you know it is spring?  What type of deciduous tree do we visit in the Arboretum?
2	How are materials different from each other how do I test whether materials are absorbent or waterproof?	<ul style="list-style-type: none"><li>About the features of different properties – cork, cloth, paper, plastic, metal</li><li>To work out which material works best for different purposes</li><li><i>How to perform simple tests; identifying and classifying; using observations and ideas to suggest answers to questions</i></li></ul>	name the five animal groups?  Odd one out – snake, human, whale, mouse
3	What are the properties of materials?	<ul style="list-style-type: none"><li>How to predict and experiment with which materials would be best suited to stop an egg from breaking if dropped from a height.</li><li>Why certain materials are better suited than others.</li></ul>	True or false? A herbivore only eats meat  Odd one out – towel, tissue paper, glass, sponge
4 Autumn 1	What is the most suitable material to make the Giant's Causeway?	<ul style="list-style-type: none"><li>How to predict and experiment with which materials would be best suited to make a Giant's Causeway and why.</li></ul>	How do you stay safe in the sun?  Odd one out – three plants and one tree Clover dandelion daisy holly



## Year 2

### Unit Title: Animals, including Humans

Lesson Number	Question/Title	Pupils will learn	Retrieval (Last lesson, unit, year)
1 Autumn	Why is it important to be hygienic?	<ul style="list-style-type: none"><li>• How to define germs and hygiene</li><li>• How germs to spread (links to FN)</li></ul>	Can you name the parts of the human body?
2 Autumn	What do animals and humans need to survive?	<ul style="list-style-type: none"><li>• All animals, require shelter, food, water and oxygen</li></ul>	Which season is it now? How do we know? Show 2 trees (one evergreen, one deciduous), what is the difference?
3 Spring	What is healthy eating?	<ul style="list-style-type: none"><li>• The 5 main food groups (Eatwell plate)</li><li>• Scientific names for each food group</li></ul>	What are the 5 senses? Which body parts do we use for each sense?
4 Spring	What is healthy eating?	<ul style="list-style-type: none"><li>• What makes a balanced meal</li><li>• Why it is important for the body and mind to have a balanced diet</li></ul>	Can you give me an example of each food group?
5 Spring	Why is exercise important?	<ul style="list-style-type: none"><li>• The impact of exercise on the human body</li></ul>	Which season are we in now? How do you know? Can you name some changes that come in Spring?
6 Spring	Why is it important to look after your teeth?	<ul style="list-style-type: none"><li>• How to care for our teeth</li></ul>	How do we stop germs from spreading? Why is healthy eating important?
7 Summer	How do humans grow?	<ul style="list-style-type: none"><li>• How the human body grows and changes as it ages</li></ul>	Which season are we in now? How do you know? Can you name some changes that come in Summer?



## Year 2

### Unit Title: Living Things and their Habitats

Lesson Number	Question/Title	Pupils will learn	Retrieval (Last lesson, unit, year)
1 Spring 2	What is the difference between things that are alive, dead or never been alive?	<ul style="list-style-type: none"><li>All living things need to respire, reproduce, food, water and to get rid of waste products</li><li>How to explore and compare the differences</li></ul>	What do animals need to survive?
2 Summer 1	What makes a habitat suitable for an animal?	<ul style="list-style-type: none"><li>That habitats need to provide food, water, shelter, a safe place to reproduce for the animals that live there</li></ul>	Can you name the different animal groups?
3 Summer 1	What is a micro-habitat?	<ul style="list-style-type: none"><li>What a micro-habitat is and how the conditions vary from the larger habitat</li></ul>	What does a habitat need to include?  Show image of unhealthy plant – what could be wrong with it?
4 Summer 1	What is a micro-habitat?	<ul style="list-style-type: none"><li>Animals that might live in a habitat within our local area</li></ul>	Can you describe what a micro-habitat is?
5 Summer 2	What is a life cycle?	<ul style="list-style-type: none"><li>The life cycle of a butterfly</li></ul>	Can you name the 5 main food groups? (Eatwell plate and no words)
6 Summer	What is a food chain?	<ul style="list-style-type: none"><li>How all parts of a food chain depend on each other</li><li>What happens when the chain is broken</li></ul>	Can you name a variety of animals that are carnivores, herbivores and omnivores?



## Year 2

### Unit Title: Plants

Lesson Number	Question/Title	Pupils will learn	Retrieval (Last lesson, unit, year)
1 Autumn 2	What is a bulb?	<ul style="list-style-type: none"><li>• How to make careful observations</li><li>• Not all plants grow from seeds</li><li>• How to label and name parts of a bulb</li></ul>	Image of a flower. Label parts of a flower  Image of a seed. How do you care for a plant? (EYFS)
2 Spring 2	What is inside a seed?	<ul style="list-style-type: none"><li>• That a seed has everything it needs to grow initially</li><li>• How to label and name parts of a seed</li></ul>	Image of a tree with missing labels. Label parts of a tree
3 Spring 2	What does a plant need to be healthy?	<ul style="list-style-type: none"><li>• That a plant needs water, sunlight and the correct temperature in order to be healthy</li></ul>	What are the names of common wild and garden plants? (use pictures to prompt)



## Year 2

### Unit Title: Plants

Lesson Number	Question/Title	Pupils will learn	Retrieval (Last lesson, unit, year)
1 Autumn 1	Which materials are absorbent?	<ul style="list-style-type: none"><li>• How to test if a material is absorbent</li><li>• What makes a material absorbent</li></ul>	Which materials can you see in this room?
2 Autumn 2	What properties do materials have?	<ul style="list-style-type: none"><li>• Vocabulary to describe properties and materials</li></ul>	Why is good hygiene important?  Would you use a brick or a sponge to soak up a spillage? Why?
3 Autumn 2	Which material is most suited for a given purpose?	<ul style="list-style-type: none"><li>• Different properties of specific materials</li><li>• Why different materials are chosen for different purposes</li></ul>	Can you match the material to its property?
4 Autumn 2	Which materials are the stretchiest?	<ul style="list-style-type: none"><li>• How to test if a material is stretchy</li><li>• Which material is stretchiest</li></ul>	Guess my material (based on its properties)
5 Spring	How can the shape of some solid objects be changed?	<ul style="list-style-type: none"><li>• How we can use squashing, bending, twisting and stretching to alter a material's shape (temporarily or permanently)</li></ul>	Name 5 things to put in a lunch-box for a balanced diet
6 Spring	Why is tarmac suitable for use on roads?	<ul style="list-style-type: none"><li>• About the inventor John McAdam</li><li>• About which properties make tarmac suitable for use on roads</li></ul>	Label parts of a bulb