

Science Curriculum

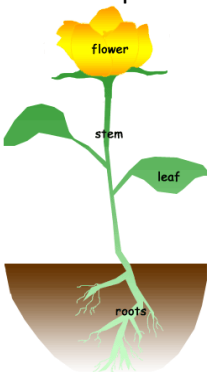
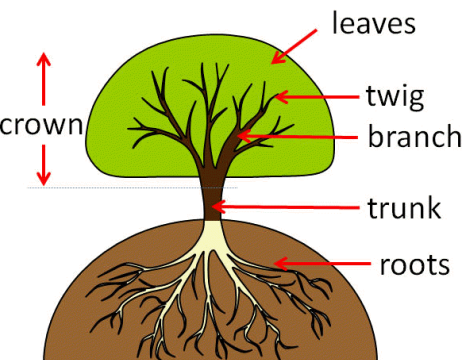

KS1 Knowledge Organisers

Knowledge Organiser

Science Strand: Plants Year: A Term: Autumn

Learning Objectives – Knowledge			
C1 - Year R/1	Key Driver	C2 - Year 1/2	Key Driver
To know and taste a range of fruit and vegetables that could be grown in a garden	N/H	To know how to identify a variety of common flowers and trees based on their properties.	N
To know and name a variety of common wild and garden plants	N	To know what a plant looks like and to identify their features and their purpose e.g. where are the roots and what is their job.	N
To know the names of a variety of trees and discuss their similarities and differences	N	To know what a tree looks like and to identify their features and their purpose e.g. where is the trunk and what is its job.	N
To know that plants have roots, stem, leaves and flowers	N	To know what plants need to grow (water, light, temperature).	N
To know that most plants grow from seeds	N	To know about the life cycle of a flowering plant (germination, growth, flowering, seed production).	N
To know what plants need to grow	N	To know how to make observations of a plant growing and identify changes.	N
To know how to observe the changes in a growing plant	N	To know the effect lack of water, light etc can have on the growth of a seed.	N
To know how to use simple equipment to make observations	N	To know how to record our findings using diagrams and scientific language.	N

Key Vocabulary	
Word	Meaning
plant	a living organism of the kind exemplified by trees, shrubs, herbs, grasses, ferns, and mosses
tree	a woody perennial plant, typically having a single stem or trunk growing to a considerable height and bearing lateral branches at some distance from the ground
evergreen tree	an evergreen plant or tree, including most conifers and many broad-leaved plants, as some rhododendrons, hollies, etc.
deciduous	(of a tree or shrub) shedding its leaves annually
garden	a piece of ground adjoining a house, in which grass, flowers, and shrubs may be grown
stem	the main body or stalk of a plant or shrub, typically rising above ground but occasionally subterranean
roots	the part of a plant which attaches it to the ground or to a support, typically underground, conveying water and nourishment to the rest of the plant via numerous branches and fibres:
flowers	the seed-bearing part of a plant, consisting of reproductive organs (stamens and carpels) that are typically surrounded by a brightly coloured corolla (petals) and a green calyx (sepals).
trunk	the main woody stem of a tree as distinct from its branches and roots
leaf	a flattened structure of a higher plant, typically green and blade-like, that is attached to a stem directly or via a stalk
grow	(of a living thing) undergo natural development by increasing in size and changing physically
bark	the tough protective outer sheath of the trunk, branches, and twigs of a tree or woody shrub
wild flower	a flower of an uncultivated variety or a flower growing freely without human intervention
weed	a wild plant growing where it is not wanted and in competition with cultivated plants
change	make or become different
seed	the unit of reproduction of a flowering plant, capable of developing into another such plant
germination	the process by which an organism grows from a seed or a spore.

Useful Diagrams		
Diagram 1	Diagram 2	Diagram 3
Parts of a plant 	Parts of a tree 	Seed germination 

Useful Websites or Resources

<https://www.bbc.co.uk/bitesize/topics/zpxnyrd>
<https://www.educationquizzes.com/ks1/science/plants-what-makes-them-grow/>
<https://www.youtube.com/watch?v=tkFPyue5X3Q> - Germination

Knowledge Organiser

Science Strand: Living Things & Their Habitats Year: A Term: Spring

Learning Objectives – Knowledge			
C1 - Year R/1		Key Driver	C2 - Year 1/2
To know the difference between things that are dead, alive or never been alive.		N	To know the difference between things that are dead, alive or never been alive.
To know that most living things live in a habitat.		N	To know that most living things live in a habitat and name habitats around the world.
To know and investigate how a habitat supports a plant or animal.		N	To know how different habitats provide the basic needs for animals and plants.
To know and name a variety of different animals.		N	To know a variety of different animals and plants in their habitats including microhabitats.
To know and name a variety of different plants.		N	To know how animals obtain their food (plants and animals).
To know how simple food chains work.		N	To know how to use a simple food chain to describe how animals obtain their food
To know how different habitats provide the basic needs for animals and plants.		N	To know how to sort animals and plants based on simple features

Key Vocabulary	
Word	Meaning
alive	having life; living.
dead	no longer alive.
habitat	the natural environment of an animal or plant.
food source	a source of food
food chain	a series of living beings in which each serves as food for the next
microhabitat	a very small, specific Habitat for animals and plants, for example a pond or a rotting log
living	having life

Useful Diagrams

Diagram 1










Animal type	Characteristics	Examples
 Amphibians	<ul style="list-style-type: none">● Cold-blooded● Live both in water and on land● Have three life stages: eggs, larvae and adult	Frogs, toads, salamanders
 Birds	<ul style="list-style-type: none">● Warm-blooded● Lay eggs● Have feathers, powerful wings and hollow bones● Most birds can fly	Robins, blackbirds, pigeons, owls, swans, ducks, penguins, parrots, flamingos
 Fish	<ul style="list-style-type: none">● Cold-blooded● Live in water● Breathe by filtering the oxygen in water through gills● Have fins and scales	Sharks, skates and rays, salmon, cod, rabbitfish, carp, goldfish
 Mammals	<ul style="list-style-type: none">● Warm-blooded creatures● Produce milk to feed their offspring● Have hair● Give birth to live young	Humans, monkeys, horses, donkeys, dogs, cows, cats, zebras, elephants, tigers, lions, sheep, goats
 Reptiles	<ul style="list-style-type: none">● Cold-blooded● Lay eggs● Covered with scales / horny plates● Breathe through lungs	Geckos, lizards, alligators, snakes, crocodiles, tortoises


Diagram 2



Desert



Domestic



Farm



Forest



Oceans


Savannah


Tropical Rainforest


Wetlands

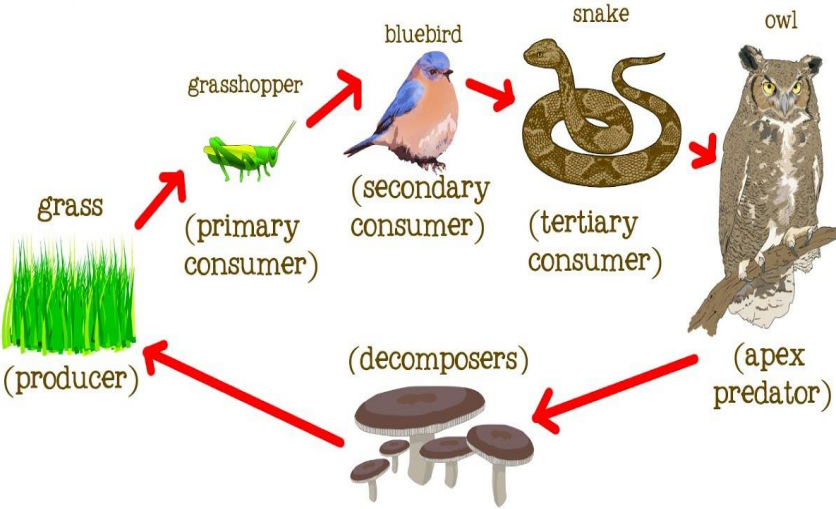

Polar


UK Wild

Habitats

Diagram 3

Food Chains



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graph LR; P["grass (producer)"] --> PC["grasshopper (primary consumer)"]; PC --> SC["bluebird (secondary consumer)"]; SC --> TC["snake (tertiary consumer)"]; TC --> AP["owl (apex predator)"]; AP --> D["(decomposers)"]; D --> P;
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Useful Websites or Resources

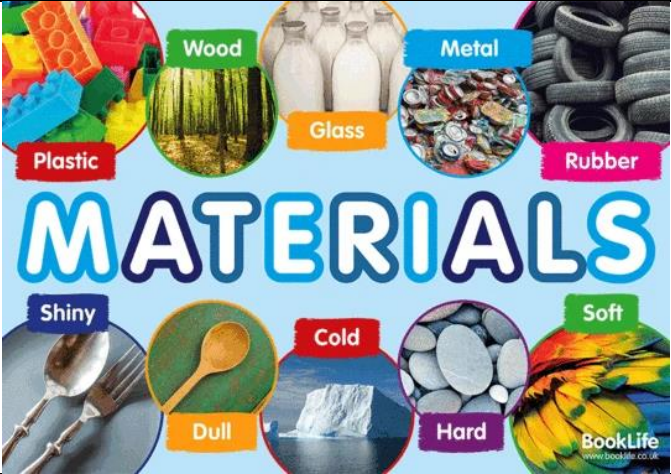
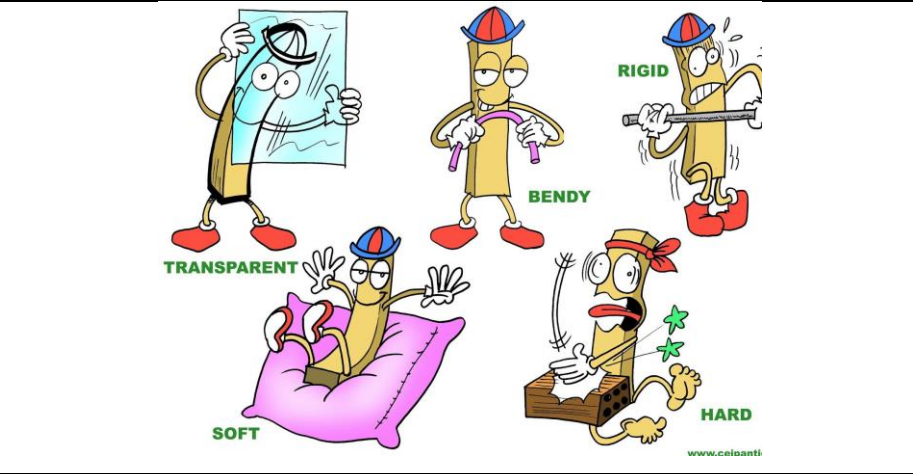
- <https://www.youtube.com/watch?v=OLBSOKqVNcU>
- <https://www.youtube.com/watch?v=ZrSWYE37MJs>
- <https://www.bbc.co.uk/bitesize/topics/zx882hv>
- <https://www.youtube.com/watch?v=ZrSWYE37MJs>

Knowledge Organiser

Science Strand: Everyday Materials Year: A Term: Summer

Learning Objectives – Knowledge			
C1 - Year R/1	Key Driver	C2 - Year 1/2	Key Driver
To know and name a variety of everyday materials, including wood, plastic, glass, metal, water and rock.	N	To know how to identify the material an item is made from and discuss why it is the most suitable.	N
To know about and distinguish between an object and the material from which it is made.	N	To know how to describe the physical properties of everyday materials and group them together based on their properties.	N
To know and describe the simple physical properties of a variety of everyday materials.	N	To know how to compare the suitability of materials based on their properties.	N
To know how to compare and group together a variety of everyday materials on the basis of their simple physical properties.	N	To know how to ask simple questions and perform simple tests with everyday materials.	N
To know how to ask simple questions about the materials around them	N	To know how to record simple data in tables and charts.	N
To know how to plan a simple investigation to test the suitability of a material for a purpose	N	To know how to make predictions by using our knowledge of properties of materials.	N
To know how to use our senses and simple equipment to make observations	N	To know to test the suitability of a material for a purpose (e.g. waterproof)	N
To know how to gather and record data to answer simple questions	N	To know how to use scientific vocabulary to describe what has been found out through simple investigations.	N

Key Vocabulary	
object	a thing that can be used, seen and touched
material	materials are the matter that objects are made from
hard	not easily broken or bent
soft	easy to mold, cut, compress or fold: not hard or firm to touch
stretchy	able to stretch or be stretched easily
shiny	reflecting light, typically because very clean or polished
dull	lacking brightness, vividness or sheen
rough	having an uneven or irregular surface; not smooth or level
smooth	having an even and regular surface; free from perceptible projections, lumps or indentations
bendy	capable of bending; soft and flexible
waterproof	it keeps water out. It keeps things dry.
absorbent	able to soak up liquid easily
transparent	a material or article allowing light to pass through so that objects behind can be distinctly seen
opaque	not able to be seen through, not transparent
wood	the hard material that forms the main substance of the trunk or branches of a tree

Useful Diagrams		
Diagram 1	Diagram 2	Diagram 3
		

Useful Websites or Resources
BBC bitesize https://www.bbc.co.uk/bitesize/topics/zrsgk7/articles/z9pgcdm https://www.bbc.co.uk/bitesize/topics/zrsgk7/articles/z9w26sg www.educationquizzes.com/ks1/science/