

Cantrell Primary School Science Curriculum

Year 1: Working Scientifically

During years 1 and 2, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:

- 1.1 asking simple questions and recognising that they can be answered in different ways
- 1.2 observing closely, using simple equipment
- 1.3 performing simple tests
- 1.4 identifying and classifying
- 1.5 using their observations and ideas to suggest answers to questions
- 1.6 gathering and recording data to help in answering questions.

Cantrell Primary School Science Curriculum

Year 1: What lives on our planet?

NC reference: Animals, including humans

Objectives: Autumn Term

- be able to label parts of a beetle.
- be able to make up different parts of a beetle
- be able to recall and write facts about spiders.
- Be able to recall the different parts of a spider.
- be able to observe worms in their natural habitat.
- be able to recall facts about worms.

- END OF UNIT ASSESSMENT

Summer Term

- be able to identify fish.
 - be able to identify the features of a fish.
 - be able to identify mammals.
 - be able to know some features of mammals.
 - be able to know the common features of mammals.
 - be able to identify reptiles.
 - be able to recognise the features of reptiles.
 - be able to identify amphibians.
 - be able to use and recognise features of an amphibian.
 - be able to identify features of a bird.
 - be able to name a variety of common birds.
 - be able to identify carnivores, herbivores and omnivores.
- END OF UNIT ASSESSMENT

Key Factual Learning:

- ✓ Earthworms live underground in moist soil. Earthworms do not have noses, eyes or ears but do have mouths.
- ✓ Earthworms eat dirt, leaves and dead grass. They also eat plants, fruits and vegetables.
- ✓ They also have tiny hairs on their bodies which help them to feel.
- ✓ Earthworms do not have legs.
- ✓ Earthworms have 5 hearts.
- ✓ A beetle is an insect.
- ✓ A beetle is made up of different body parts –, head, 6 legs,, 2 antennae, body.
- ✓ Spiders have 8 legs and 8 eyes.
- ✓ Spiders have 2 fangs, 2 body parts and they spin webs.
- ✓ There are 5 main groups of animals.
- ✓ Fish are cold blooded, have gills, fins and scales. They live in water, lay eggs and have a skeleton.
- ✓ Snakes, lizards, crocodiles, tortoises are reptiles.
- ✓ Reptiles are cold blooded, lay eggs, have scales, have 4 or 0 legs.
- ✓ Birds have feathers, wings, a beak, legs, lays eggs.
- ✓ A robin, duck, chicken, swam, pigeon are bird names and birds are different to other animals.
- ✓ Birds need food, water and a nest to live in. People feed birds in their garden.
- ✓ Amphibians can live in/near to water.
- ✓ Frogs and toads are amphibians.
- ✓ Mammals are warm blooded, hairy, have lungs to breathe air.
- ✓ Mammals have live babies.
- ✓ Dogs, humans, cats, mice, sheep and cows are mammals.
- ✓ Carnivores eat meat.
- ✓ Herbivores eat plants.
- ✓ Omnivores eat meat and plants.

Practical Tasks (Working Scientifically):

- Explore the outdoor environment where worms live and dig for worms. Collect worms and use magnifying glass to observe and draw what they look like. (Read Super worm in English) **1.2, 1.5**
- Recognise that insects are made up of different body parts by drawing and labelling. Create a beetle (beetle drive game to reinforce this knowledge. (Read Billy's Beetle in English)**1.4**
- Construct facts about spiders. **1.5**
- Make a spider using the correct body parts. Spider activities to reinforce knowledge about spider body parts. **1.5**
- **END OF UNIT – assessed write about worms.**
- Discuss the 5 main groups of animals and some of their features.
- Read "The Shark in the Dark" then sort pictures into a fish and not a fish by observing a real fish (fishmongers). **1.4, 1.5**
- Draw and label a fish. **1.4, 1.6**
- Complete fact sheet about mammals. **1.4, 1.6**
- Identify the mammals on the sheet and colour and label them. **1.4**
- Read "The Selfish Crocodile" then identify the reptiles from photographs and label them. **1.4**
- Identify facts about reptiles by circling whether they are true or false. **1.6**
- Sort photographs of animals into amphibians and not amphibians. Cut and stick the amphibians into the pond. **1.4**
- Read and find frog key words in a word search. **1.6**
- Label features of a bird. **HAPSs 1.4**
- Identify and match the names to some photos of common British birds. **1.4**
- Make bird food to identify what type of food birds eat eg: fat ball, bird feeder. **1.1**
- Sort animals into carnivores, herbivore and omnivores **1.4**

Cantrell Primary School Science Curriculum

- **END OF UNIT – Draw a picture and label an animal from the 5 animal groups. 1.4, 1.5**

Key Vocabulary: Animals, humans, insect, fish, amphibians, reptiles, birds, water, food, seeds, land, water, skin, lungs, legs, carnivore, herbivore, omnivore.

Cross-Curricular Links: D&T – design and make own bird feeder. Art and Design – observational drawings of worms. (not part of DT or Art and design unit) English – work around Super worm and Billy's Beetle.

Year 1: What are objects made out of and why do we use them?

Cantrell Primary School Science Curriculum

NC reference: Everyday materials

Objectives: Autumn Term

Spring Term

- be able to identify materials and sort into different groups.
- be able to recognise materials and describe their properties.
- be able to investigate different properties of a material (bendy/stretchy).
- be able to identify whether materials are opaque or transparent.
- be able to recognise whether materials are absorbent or non-absorbent.
- be able to recognise a significant inventor and describe their invention.
- be able to investigate materials and identify suitable properties.
- END OF UNIT ASSESSMENT

Key Factual Learning:

- ✓ A material is what an object is made of.
- ✓ Objects can be made out of different materials. Objects (eg a chair) are different to the materials they are made from (eg plastic and metal).
- ✓ Ole Kirk Kristiansen invented Lego which is made of plastic.
- ✓ Materials have different properties.
- ✓ Different materials can be tested to see if they are bendy, stretchy.
- ✓ Opaque means not seeing through it.
- ✓ Transparent means you can see through it (eg: a window).
- ✓ Absorbent means it soaks up water.
- ✓ Water proof means that the water runs off it and it does not go through/into the material.

Practical Tasks (Working Scientifically):

- Listen to "Learn about materials with the Three Little Pigs" on YouTube.
- Identify different materials around the classroom (glass, wood, plastic, fabric and metal) sorted them into a table. **1.4, 1.6**
- Investigate materials and describe their properties. **1.4, 1.6**
- Explore different materials and identify whether they were bendy and stretchy. **1.4, 1.6**
- Investigate materials by holding them up to the light and sort into opaque and transparent. **1.3, 1.5, 1.6**
- Investigate whether different materials are absorbent or non-absorbent. **1.2, 1.3, 1.5**
- Complete comprehension about Ole Kirk Kristiansen and Lego then explore his invention (Lego). **1.6**
- Investigate whether materials are waterproof or not. **1.2**
- Identify the waterproof materials and decide which one is most suitable to use to make a cape for a Super Bear. **1.1, 1.4**
- **END OF UNIT ASSESSMENT: sorting materials activity.**

Key Vocabulary:

stretchy, bendy, absorbent, materials, properties, wood, metal, material, glass, plastic, fabric, wool, object, opaque, transparent, light, see-through, waterproof, investigate, investigation, absorb, absorbent, cape, test, grid, table, experiment

Cross-Curricular Links:

D&T – Superhero cape – textiles unit.

Year 1: What happens in each season? (Autumn)

NC reference: Seasonal changes

Cantrell Primary School Science Curriculum

Objectives: Autumn Term

- be able to recognise and identify the differences between the leaves on the trees throughout the four seasons of the year.
- be able to compare, identify and discuss how many hours of daylight there are in each season.
- be able to identify the signs of Autumns.
- be able to recognise the clothing worn in Autumn.
- END OF UNIT ASSESSMENT

Key Factual Learning:

- ✓ There are 4 different seasons of the year (Autumn, Winter, Spring, Summer).
- ✓ In Autumn and Winter the hours of day light are less and it gets darker earlier.
- ✓ In Spring and Summer the hours of day light are more and it is gets darker later.
 - ✓ Leaves change from green to red/orange/brown in Autumn and fall off the trees and identify the animals/objects (acorns/pinecones.) that are seen in Autumn (Autumn walk).
 - ✓ In Autumn, the weather is often cold, windy and rainy.
 - ✓ In Autumn we wear warmer clothes that are often waterproof.

Practical Tasks (Working Scientifically):

- Read "Autumn is Here"
- Draw trees with the correct leaves on for each season of the year. **1.5, 1.6**
- Complete a chart which shows how many hours of day light each season has and identify which has the most/least daylight hours. **1.6**
- Collect different coloured leaves to make comparisons (in English). **1.1, 1.2, 1.4**
- Complete a treasure hunt of Autumn objects by going on an Autumn walk. **1.2**
- Compare changes in clothing by labelling Autumn clothing. **1.4, 1.5**
- Write facts about Autumn. (In English) **1.5**
- **END OF UNIT: create a collage to represent Autumn.**

We read a range of Autumn themed books throughout the topic (fiction and non-fiction).

Key Vocabulary:

Weather, Autumn, seasons, changes, length of day, sun, light, dark, leaves, colour, clothes, cold, rain, jumper, scarf, coat, hat, trees, acorns,

Cross-Curricular Links:

Art – create a colourful Autumn scene using collage. Autumn crafts (Not part of Art units).

Computing – use Purple Mash to paint a hedgehog and seasonal trees.

English – Autumn Poetry and Autumn facts

Cantrell Primary School Science Curriculum

Year 1: What is a plant? (Summer)

NC reference: Plants

Objectives: Summer Term

- be able to observe plants and trees.
- be able to recognise plants and trees.
- be able to identify parts of a flower.
- be able to identify parts of a tree.
- be able to understand that trees can be evergreen or deciduous.
- END OF UNIT ASSESSMENT

Key Factual Learning:

- ✓ Some plants grow in the wild and some plants need to be looked after in a garden.
- ✓ Plants have different names and have different characteristics e.g. leaves, colour.
- ✓ Some trees shed their leaves every year in Autumn and grow again in Spring (oak) – they are called deciduous.
- ✓ Some trees are green and have leaves all year round (Fir) – they are called evergreen.
- ✓ Plants have different parts and uses (leaf, flower, petal, root, seed, stem).
- ✓ Trees have different parts and uses (leaves, branch, trunk, fruit and roots).

Practical Tasks (Working Scientifically):

- Read “The Extraordinary Gardener”.
- Explore local wildlife area and identify different trees and other plant names by going on a walk. **1.1, 1.2, 1.5**
- Identify and label plants by matching them to images. **1.4**
- Observe plants in the local environment and draw (observational) their features. **1.2, 1.5**
- Label a plant. **1.4, 1.5**
- Label a tree. **1.4, 1.5**
- Read “The Very Last Leaf” Observe trees in local environment and create an evergreen and deciduous tree using leaves and twigs. **1.4, 1.5**
- **END OF UNIT ASSESSMENT: draw and label a plant and a tree.**

Key Vocabulary:

leaf, flower, blossom, petal, fruit, berry, root, seed, stem, trunk, branch, bud, bark, stalk, Oak, Fir, Daisy, Bluebell, Rose, Daffodil, Pansy, Tulip

Cross-Curricular Links:

Art – Observational drawings (Not part of Art and Design unit)

Cantrell Primary School Science Curriculum

Year 1: What happens in each season? (Spring)

NC reference: Seasonal changes

Objectives: Spring Term

- be able to identify the seasons of the year.
- be able to recognise the signs of spring.
- be able to identify Spring flowers.
- be able to recall spring flowers using observations.
- be able to understand that many animals have their babies in spring.
- be able to recognise that the temperature changes in different seasons.
- END OF UNIT ASSESSMENT

Key Factual Learning:

- ✓ There are 4 different seasons of the year (Autumn, Winter, Spring, Summer).
- ✓ In Spring the hours of day light are slightly longer.
- ✓ Many animals have their young/babies in Spring.
- ✓ Flowers and shoots start to come out of plants in Spring and trees are greener.
 - ✓ Trees start to grow new leaves in Spring.
 - ✓ The temperature begins to get warmer in Spring.
 - ✓ In Spring you still need some warm clothes.

Practical Tasks (Working Scientifically):

- Read "Seren's Seasons" (Twinkl story) and discuss what the seasons are. **1.1**
- Complete a treasure hunt of Spring objects by going on a Spring walk. **1.2**
- Recognise that the temperature gets slightly warmer in Spring by going outside. **1.5**
- Identify some Spring Flowers (tulip, daisy, daffodil, bluebell, snowdrop.) **1.4**
- Match adult and baby animals. **1.5, 1.6**
- Create a Spring collage picture as a whole class outside using natural Spring objects that we find – include a person in Spring clothing. **1.1, 1.5**
- **END OF UNIT ASSESSMENT: sort objects/signs so that the correct ones are matched with Spring.**

Key Vocabulary:

seasons, changes, length of day, sun, light, dark, leaves, clothes, cold, warmer, Spring, rain, flowers, buds, animals, young, adult

Cross-Curricular Links:

Art – Drawing Spring picture and flowers (Not part of Art and Design Unit)

Cantrell Primary School Science Curriculum

Year 1: What are the parts of the human body? (Spring)

NC reference: Animals, including human

Objectives: Spring Term

- be able to observe and compare human body parts
- be able to identify different body parts.
- Be able to identify the five senses.
- Be able to identify which body parts are used for our senses.
- END OF UNIT ASSESSMENT

Key Factual Learning:

- ✓ Humans have key parts in common but this varies from person to person.
- ✓ Humans and animals have different body parts e.g. hands, feet, head etc.
- ✓ Humans and animals find out about the world using their senses.
- ✓ Humans have 5 senses – sight, touch, taste, hearing and smelling.
- ✓ The senses are linked to particular parts of the body.
- ✓ We use our nose to smell.
- ✓ We use our eyes to see.
- ✓ We use our skin/hands for touch.
- ✓ We use our tongue to taste.

Practical Tasks (Working Scientifically):

- Sing “Heads, shoulders, knees and toes.”
- Make observations about parts of their bodies by comparing with their peers and make drawings (outside) **1.1, 1.2, 1.5**
- Investigate parts of their body using non- standard measures e.g. cubes, duplo **1.6**
- Play “Simon Says” e.g. “Simon says touch your head.”
- Label the parts of the human body and the body of a dog (next to him as his pet) and verbally make comparisons. **1.4, 1.5**
- Investigate objects using different senses and identify which part of their body they are using (nose, tongue, skin/hands, eyes, ears.) **1.3, 1.4**
- Match body parts to senses. **1.4**
- **END OF UNIT ASSESSMENT: present knowledge/facts about human body and senses to a partner, then the class.**

Key Vocabulary:

Senses, parts of the body, head, mouth, nose, ears, eyes, neck, shoulder, arm, body, legs, feet, toes, fingers, touch, see, hear, smell, taste, skin, tongue, human, dog, paw, tail.

Cross-Curricular Links:

Maths – Measuring using non-standard units
Art – Keith Haring - Drawing people unit.

Cantrell Primary School Science Curriculum

Year 1: What happens in each season? (Summer)

NC reference: Seasonal changes

Objectives: **Summer Term**

- be able to identify the signs of summer.
- be able to identify appropriate seasonal clothing.
- be able to recognise the different seasons of the year.
- be able to recognise that the temperature changes in different seasons.
- **END OF UNIT ASSESSMENT**

Key Factual Learning:

- ✓ There are 4 different seasons of the year (Autumn, Winter, Spring, Summer).
- ✓ In Summer the hours of day light are longer because the sun is out.
- ✓ Flowers and trees are blossoming in Summer.
 - ✓ The temperature gets warmer in Summer.
 - ✓ In Summer you need fewer clothes.

Practical Tasks (Working Scientifically):

- Read "A Day at the Beach".
- Recognise the signs of Summer (flowers blossoming etc.) on the Summer walk. **1.1, 1.5**
- Draw signs of each season in the correct section on a seasonal wheel. **1.4**
- Identify the correct Summer clothes and label. **1.4**
- Discuss what the weather is like in Summer and make a sun safety poster. **1.5, 1.6**
- **END OF UNIT ASSESSMENT: use oil pastels to create a Winter and Summer comparison poster/picture.**

Key Vocabulary:

seasons, changes, length of day, sun, light, dark, leaves, colour, clothes, warm, tables, Summer, rain, flowers, buds, animals

Cross-Curricular Links:

Art – observational drawing

Year 1: What happens in each season? (Winter)

NC reference: Seasonal changes

Objectives: Spring Term

- be able to identify the signs of winter.
- be able to identify appropriate seasonal clothing.
- be able to recognise that the temperature changes in different seasons.
- END OF UNIT ASSESSMENT

Key Factual Learning:

- ✓ There are 4 different seasons of the year (Autumn, Winter, Spring, Summer).
- ✓ In Winter, it is cold and sometimes icy or snowy and in Summer it is warmer.
 - ✓ There are no leaves on the trees in Winter.
 - ✓ In Winter, we wear warm clothing.
 - ✓ The sun shines less and it gets dark earlier.

Practical Tasks (Working Scientifically):

- Discuss the seasons of the year. **1.1**
- Identify Winter objects/signs and put onto Winter scene. **1.4**
- Compare changes in clothing by drawing Winter clothes on a person. **1.4, 1.5**
- Complete a fact file about the changes in weather and temperature, changes in trees and daylight hours. **1.2**
- Read "Winnie in Winter" and draw and label a snowman. **1.4**
- Identify signs of Winter by going on Winter walk and using photographs. **1.1, 1.2, 1.5**
- **END OF UNIT: create Winter drawing showing facts known about Winter.**

Key Vocabulary:

Weather, seasons, changes, length of day, sun, light, dark, leaves, clothes, cold, jumper, scarf, coat, hat, trees, Winter, snow, ice

Cross-Curricular Links:

Art – draw winter scene (Not part of Art and Design unit.)