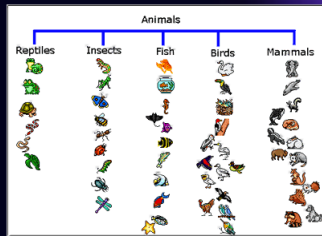




# Science



## **St. Bede's Catholic Infant School**

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### **Subject Intent for Science 2020-2021**

Subject Leader: Miss Scragg

The curriculum statement gives an overview of the overall aims for the curriculum, the essential principles that determine the framework and the broad content. These are implemented through subject schemes of work, which are obviously far more detailed. At the heart of the subject scheme of work is the National Curriculum Programme of Study, which is the statutory entitlement for all pupils in local authority-maintained schools. Our aim in teaching science is to give every child the opportunity to access the National Curriculum and enable them to develop their understanding, knowledge and skills to support the children to become competent scientists.

### **Purpose of study**

A high-quality science education provides the foundations for understanding the world through the specific disciplines of biology, chemistry and physics. Science has changed our lives and is vital to the world's future prosperity, and all pupils should be taught essential aspects of the knowledge, methods, processes and uses of science. Through building up a body of key foundational knowledge and concepts, pupils should be encouraged to recognise the power of rational explanation and develop a sense of excitement and curiosity about natural phenomena. They should be encouraged to understand how science can be used to explain what is occurring, predict how things will behave, and analyse causes.

### **Aims**

The national curriculum for science aims to ensure that all pupils:

- develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics
- develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them
- are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future.

### **Subject implementation**

#### **Time allocation:**

Science is allocated 12% of curriculum time over Key Stage 1. This may be through discrete subject teaching or through topic work. The teaching takes place throughout the year and may incorporate special science days or activities e.g. during Science Week.

### **Teaching and Learning**

Science programmes of study describe a sequence of knowledge (propositional-content and procedural-skills), and concepts which are taught in school through topics across KS1 as detailed below. Knowledge, concepts and vocabulary are revisited.

During years 1 and 2, pupils will be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content. This is known as Working Scientifically.

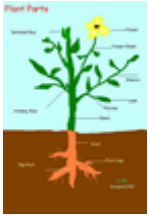

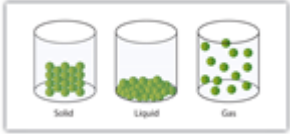
- asking simple questions and recognising that they can be answered in different ways
- observing closely, using simple equipment
- performing simple tests
- identifying and classifying
- using their observations and ideas to suggest answers to questions
- gathering and recording data to help in answering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

Pupils will also apply their mathematical knowledge to their understanding of science, including collecting, presenting and analysing data. The social and economic implications of science are important but, generally, they are taught most appropriately within the wider school curriculum: teachers will wish to use different contexts to maximise their pupils' engagement with and motivation to study science.




<p>Year 1 Science AUTUMN TERM Everyday Materials</p>	<ul style="list-style-type: none"> <li>• Distinguish between an object and the material from which it is made</li> <li>• Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water and rock</li> <li>• Describe the simple physical properties of a variety of everyday materials</li> <li>• Compare and group together a variety of everyday materials on the basis of their simple physical properties</li> </ul>
<p>YEAR 1 Science SPRING TERM Animals including Humans</p>	<ul style="list-style-type: none"> <li>• identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals</li> <li>• Identify and name a variety of animals that are carnivores, herbivores and omnivores</li> <li>• Notice that animals, including humans, have offspring which grow into adults</li> <li>• Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets)</li> <li>• Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense</li> <li>• Find out about and describe the basic needs of animals, including humans, for survival (water, food and air)</li> <li>• Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene</li> </ul>
<p>YEAR 1 Science SUMMER TERM Seasonal Changes</p>	<ul style="list-style-type: none"> <li>• Observe changes across the four seasons</li> <li>• Observe and describe weather associated with the seasons and how day length varies</li> </ul>

<p>YEAR 2 Science AUTUMN TERM Uses of Everyday Materials including Changing Materials</p>	<ul style="list-style-type: none"> <li>• Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses</li> <li>• Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching</li> <li>• Changing materials – reversible changes e.g. chocolate, ice</li> </ul>
<p>YEAR 2 Science SPRING TERM Plants</p>	<ul style="list-style-type: none"> <li>• Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees</li> <li>• Identify and describe the basic structure of a variety of common flowering plants, including trees</li> <li>• Observe and describe how seeds and bulbs grow into mature plants</li> </ul> <p>Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy</p>
<p>YEAR 2 Science SUMMER TERM Living Things and Their Habitats</p>	<ul style="list-style-type: none"> <li>• Explore and compare the differences between things that are living, dead, and things that have never been alive</li> <li>• Identify that most living things live in habitats to which they are suited and describe how different habitats provide the basic needs of different kinds of animals and plants, and how they depend on each other</li> <li>• Identify and name a variety of plants and animals in their habitats, including micro-habitats</li> <li>• Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food</li> </ul>

Vocabulary List—This list is not exhaustive. To read, understand and begin to spell-

<p>Plants</p> 	<p>Living things and their habitats</p> 	<p>Changing materials</p> 
<p>Names of locally found—wild plants, garden plants, flowering plants                      Locally found trees - evergreen/deciduous                      Leaf/leaves                      Flower/blossom                      Petal                      Fruit/berry                      Root                      Bulb                      Seed                      Trunk                      Branch                      Stem                      Bark                      Vegetable                      Stalk                      Damp/wet/dry                      Names of flowers / vegetables grown                      Water/light/air                      Dark/light                      Hot/warm/cool/cold                      Comparatives e.g. hotter</p>	<p>Living/Dead                      Never been alive                      Move                      Grow                      Feed                      Have offspring/babies/young                      Reproduce                      Expire                      Excrete                      Defecate                      Breathe                      Respire                      Name of local habitats e.g. pond/wood/meadow                      Desert                      Ocean/sea                      Animals e.g. mammals, reptiles, birds, fish                      Amphibians                      Micro-habitat e.g under log, on a stony path, under bushes                      Damp/wet/dry                      Hot/warm/cool/cold                      Light/dark</p>	<p>Push/pushing                      Pull/pulling                      Squash/squashing                      Twist/twisting                      Bend/bending                      Stretch/stretching                      Roll/rolling                      Squeeze/squeezing                      States of matter                      Solid                      Liquid                      Gas                      Air                      Oxygen                      Carbon dioxide                      Powder/grains                      Change state                      Ice/water/steam                      Water vapour                      Heated/heating                      Cooled/cooling                      Temperature</p>

<p>Grow/growth  Healthy  Shoot/seedling  Wither/limp/die  Germinate  Soil/earth  Role/function  Nutrients  Fertiliser  Transported  Life cycle  Pollination  Seed dispersal</p>	<p>Suitable/suited  Adapt  Depend  Predator/prey  Herbivore/omnivore  Carnivore  Food  Food chain  Shelter  Needs  Comparative e.g. hotter</p>	<p>Melting  Boiling  Freeze  Solidify  Viscous  Condensation</p>
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<p>Everyday Materials</p> 	<p>Animals, including humans</p> 	<p>Seasonal Change</p> 
<p>Object Material Wood Plastic Glass Metal Water Brick Paper Fabrics Elastic Foil Card/cardboard Rubber Wool Clay Property/properties Strong/weak Flexible Hard Soft Stretchy Stiff Bendy/floppy</p>	<p>Names of common animals e.g. dog, lion, horse , parrot, shark Human Wild animals/pets Eat other animals—carnivores Eat plants—herbivores Eat plants and animals—omnivores External body parts e.g. arm, leg, eye, knee, toe, ankle, mouth, fingers etc. Internal body parts e.g. brain, heart, lungs, Stomach Senses See/seeing Hear/hearing Touch/touching Smell/smelling Taste/tasting Rough/smooth Identify/classify Amphibians Mammals Birds Reptiles Fish</p>	<p>Season Spring Summer Autumn Winter Weather Warm/hot Cool/cold Sun/sunny Cloud/cloudy Hail/hailing Snow/snowing Sleet Frost Thunder/lightning Storm Light/dark Day/night Sun Earth Moon Orbit Angle Turning</p>



Waterproof Absorbent Breaks/tears Rough/smooth Shiny /Dull Magnetic/non –magnetic Suitable/unsuitable Transparent Opaque Translucent Changed Reflective/non-reflective	Feathers, scales, skin,hair Baby/toddler/child/ teenager/adult Change/grow Badic needs Food, water, air/breathing Food types e.g. fat, dairy, vegetables etc Hygiene –clean, healthy Drugs/medicine	Rotate Source of light Reflects
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