Fellgate Primary School
Together Everyone Achieves More

Subject Overview with challenge

BOLD = National Curriculum Objectives
Italics = Concepts

Year 2 expected			
Working scientifically	Chemistry	Biology	Physics
Planning Investigations *Pupils can ask questions* **Ask simple questions** • Ask simple questions that can be tested, e.g. about the local environment and how organisms depend on each other. *Pupils can plan an enquiry* **Recognise that questions can be answered in different ways** • Suggest different ways of answering a question, e.g. testing the suitability of materials for different purposes.	**Uses of everyday materials** *Materials have physical properties which can be investigated and compared* **Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching** • Describe changes achieved by applying forces in different directions. *The physical properties of materials determine their uses* **Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses** • Select and justify a material for a particular use.	**Living things and their habitats** *Habitats provide living things with what they need* **Identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other** • Explain how, for a named animal or plant, it gets what it needs from its habitat and other living things that are there **Identify and name a variety of plants and animals in their habitats, including microhabitats** • Identify a range of living things in habitats of various sizes. **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** • Construct a simple food chain and identify what is eating what. **Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy**	

		• Explore and identify what plants need to thrive.	
Conducting experiments *Pupils can use equipment to take Measurements* **Observe closely, using simple equipment** • Examine carefully, e.g. using a hand lens. **Perform simple tests** • Conduct simple tests, e.g. setting up comparative tests to show that plants need water and light.		**Plants** *Life exists in a variety of forms and goes through cycles* **Observe and describe how seeds and bulbs grow into mature plants** • Describe stages of development of a full grown plant.	
Recording evidence *Pupils record work with diagrams and label them* **Record and communicate their findings in a range of ways and begin to use simple scientific language** • with assistance, draw and label diagrams, e.g. recording plants changing over time, starting from seed or bulb.		**Animals, including humans** *Life exists in a variety of forms and goes through cycles – Animals* **Notice that animals, including humans, have offspring which grow into adults** • Describe the relationship between adult animals and their offspring. **Find out about and describe the basic needs of animals, including humans, for survival (water, food and air)** • Identify human's basic needs. *The human body has a number of systems, each with its own function* **Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene**	
Reporting findings *Pupils process findings to develop conclusions and identify causal relationships* **Identify and classify** • identify and group key outcomes from enquiry, e.g. describing			

conditions in different habitats and how these affect the numbers and types of organisms.		• Describe the importance of a healthy diet and exercise.	
<u>Conclusions and predictions</u> *Pupils can analyse data* **Gather and record data to help answer questions** • Collect data relevant to the answering of questions, e.g. seeing how the shapes of some materials can be changed. *Pupils can draw conclusions* **Use their observations and ideas to suggest answers to questions** • Answer enquiry questions using data and ideas, e.g. to help decide how the properties of certain materials make them suitable for certain applications.			
Year 2 challenging			
Working scientifically	Chemistry	Biology	Physics
<u>Planning Investigations</u> *Pupils can ask questions* **Ask simple questions** • Develop relevant, testable questions. *Pupils can plan an enquiry* **Recognise that questions can be**	**<u>Uses of everyday materials</u>** *Materials have physical properties which can be investigated and compared* **Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching**	**<u>Living things and their habitats</u>** *Habitats provide living things with what they need* **Identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of**	

answered in different ways • Plan enquiry, such as a comparative or fair test. **<u>Conducting experiments</u>** *Pupils can use equipment to take Measurements* **Observe closely, using simple equipment** • Observe carefully and suggest useful measurements, e.g. examine a leaf and suggest measuring its length. **Perform simple tests** • Conduct a series of simple tests.	• Identify that some changes to shapes are permanent and others are temporary, and that this can influence their uses. *The physical properties of materials determine their uses* **Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses** • For particular materials in particular uses, identify limitations as well as suitability.	**animals and plants, and how they depend on each other** • Explain why there may be a limit as to how many of a certain living thing can live in a particular area **Identify and name a variety of plants and animals in their habitats, including microhabitats** • Identify a range of living things and suggest why they may be found in that habitat. **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** • Suggest, within a simple food chain, what might happen if one of the living things becomes scarce. **Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy** • Identify the effects of a shortage of each of the things that plants need to grow and stay healthy	

Recording evidence *Pupils record work with diagrams and label them* **Record and communicate their findings in a range of ways and begin to use simple scientific language** • Draw and label diagrams**.**		**Plants** *Life exists in a variety of forms and goes through cycles.* **Observe and describe how seeds and bulbs grow into mature plants** • Compare and contrast the growth patterns of different types of plants	
Reporting findings *Pupils process findings to develop conclusions and identify causal relationships* **Identify and classify** • Suggest what an enquiry shows.		**Animals, including humans** *Life exists in a variety of forms and goes through cycles – Animals* **Notice that animals, including humans, have offspring which grow into adults** • Compare and contrast adults and their offspring for different animals. **Find out about and describe the basic needs of animals, including humans, for survival (water, food and air)** • Suggest how the basic needs of different animals influences their choice of habitat. *The human body has a number of systems, each with its own function* **Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene** • Suggest effects of poor diet and hygiene.	
Conclusions and predictions *Pupils can analyse data* **Gather and record data to help answer questions** • Recognise patterns that relate to scientific ideas, when prompted. *Pupils can draw conclusions* **Use their observations and ideas to suggest answers to questions** • use evidence to produce simple conclusion.			