

# Greenfields Primary School Science Curriculum Statement

## Intent Drivers – Our Core Values

Honesty

Empathy

Aspirational

Respect

Team

## INTENT

At Greenfields, we are committed to bringing about the best in everyone and delivering a rich, diverse curriculum that inspires a love of learning. A curriculum that is creative and relevant to the needs of our children and our locality. A curriculum that will inspire and motivate all pupils to become the best that they can be and achieve better than they dared to dream.

Ultimately, our intention is to provide all children, regardless of ethnic origin, gender, class, aptitude or disability, with a broad and balanced science curriculum. As influential scientists themselves, children learn about the understanding that has been gained from the discoveries and processes undertaken by so many who have investigated and aimed to explain our uniquely wonderful, diverse, challenging and changing world which we live in together. This is then the inspiration for their own exploration and discovery, now and in the future, as they continually use, apply and build on their scientific skills, knowledge and understanding, developing as creative thinkers who approach scientific phenomenon with awe and wonder and strive to seek solutions to problems and answers to life's questions.

## IMPLEMENTATION

### EYFS

Science at Foundation Stage is covered in the '**Understanding the World**' area of the EYFS Curriculum. It is introduced indirectly through activities that encourage every child to explore, problem solve, observe, predict, think, make decisions and talk about the world around them. During their first years at school our children will explore creatures, people, plants and objects in their natural environments. They will observe and manipulate objects and materials to identify differences and similarities. They will also learn to use their senses, feeling dough or listening to sounds in the environment, such as sirens or farm animals. They will make observations of animals and plants and explain why some things occur and talk about changes. Children will be encouraged to ask questions about why things happen and how things work. They might do activities such as increasing the incline of a slope to observe how fast a vehicle travels, or opening a mechanical toy to see how it works. Children will also be asked questions about what they think will happen to help them communicate, plan, investigate, record and evaluate findings.

### KS1

The principal focus of science teaching in key stage 1 is to enable pupils to experience and observe phenomena, looking more closely at the natural and humanly-constructed world around them. They should be encouraged to be curious and ask questions about what they notice. They should be helped to develop their understanding of scientific ideas by using different types of scientific enquiry to answer their own questions, including observing changes over a period of time, noticing patterns, grouping and classifying things, carrying out simple comparative tests, and finding things out using secondary sources of information. They should begin to use simple scientific language to talk about what they have found out and communicate their ideas to a range of audiences in a variety of ways. Most of the learning about science should be done through the use of first-hand practical experiences, but there should also be some use of appropriate secondary sources, such as books, photographs and videos.

#### Working Scientifically KS1

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:   
 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 to provide

### Science – Lower KS2

The principal focus of science teaching in lower key stage 2 is to enable pupils to broaden their scientific view of the world around them. They should do this through exploring, talking about, testing and developing ideas about everyday phenomena and the relationships between living things and familiar environments, and by beginning to develop their ideas about functions, relationships and interactions. They should ask their own questions about what they observe and make some decisions about which types of scientific enquiry are likely to be the best ways of answering them, including observing changes over time, noticing patterns, grouping and classifying things, carrying out simple comparative and fair tests and finding things out using secondary sources of information. They should draw simple conclusions and use some scientific language, first, to talk about and, later, to write about what they have found out.

### WS – Lower KS2

During years 3 and 4, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:   
 asking relevant questions and using different types of scientific enquiries to answer them   
 setting up simple practical enquiries, comparative and fair tests   
 making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers   
 gathering, recording, classifying and presenting data in a variety of ways to help in answering questions   
 recording findings using simple scientific

### Science – Upper KS2

The principal focus of science teaching in upper key stage 2 is to enable pupils to develop a deeper understanding of a wide range of scientific ideas. They should do this through exploring and talking about their ideas; asking their own questions about scientific phenomena; and analysing functions, relationships and interactions more systematically. At upper key stage 2, they should encounter more abstract ideas and begin to recognise how these ideas help them to understand and predict how the world operates. They should also begin to recognise that scientific ideas change and develop over time. They should select the most appropriate ways to answer science questions using different types of scientific enquiry, including observing changes over different periods of time, noticing patterns, grouping and classifying things, carrying out comparative and fair tests and finding things out using a wide range of secondary sources of information. Pupils should draw conclusions based on their data and observations, use evidence to justify their ideas, and use their scientific knowledge and understanding to explain their findings.

### WS – Upper KS2

During years 5 and 6, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:   
 planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary   
 taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate   
 recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs   
 using test results to make predictions to set up further comparative and fair tests   
 reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations   
 identifying scientific evidence that has been used to support or refute ideas or arguments.

## IMPACT

Pupils leave Greenfields with a secure understanding of the academic content of the National Curriculum. Our children will have a confident set of skills, knowledge and values which can be used to get ahead in education and life more generally. In short they will learn more, remember more, enjoy more and develop more socially and emotionally; enabling them to be ready for their next stage in education. We know that by working with our community we can all have a positive impact on their lives. By working together in partnership, the Greenfields family will ensure that every child succeeds.

Our approach to learning in science at Greenfields results in a fun, engaging, high-quality science education that provides children with the foundations for understanding their world. The impact and measure of this is to ensure children not only acquire the appropriate age related knowledge linked to the science curriculum, but also skills which equip them to progress from their starting points, and within their everyday lives. Through their experience of learning science at Greenfields, children will have developed: a mastery of scientific knowledge and understanding; wider variety of scientific enquiry skills along with the ability to appropriately and effectively use and apply them; a richer vocabulary which will enable to articulate their thoughts ideas & understanding of taught concepts; high aspirations, which will see them through to further study, work and a successful adult life in an increasingly scientific and technological world; an appreciation of the world in which we live, an awareness of human impact upon this world and an understanding of their role in protecting its future.