Electricity

associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit

compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches

use recognised symbols when representing a simple circuit in a diagram.

Little Gaddesden C of E Primary School

Curriculum Map Key Stage 2 National Curriculum 2014

This curriculum map presents the statutory curriculum content for pupils in Key Stage 2 which is specified in the National Curriculum 2014. This forms the foundations of the Little Gaddesden Primary curriculum experience which aims to bring learning to life and life to learning and enables all our pupils to:

perform to their full potential	be curious & creative thinkers;
be independent and enthusiastic learners;	be confident individuals
develop into citizens of the future;	try new challenges;
be versatile;	develop resilience for when things go wrong
play a full part in all aspects of school life;	develop respect and responsibility;
develop positive attitudes to healthy lifestyles;	develop an awareness of the wider world;
show respect for others;	have a shared sense of community.

National Curriculum 2014

Art and design : In art and design, pupils:

create sketch books to record their observations and use them to review and revisit ideas

improve their mastery of art and design techniques,

including drawing, painting and sculpture with a range of materials [for example, pencil, charcoal, paint, clay]

learn about great artists, architects and designers in history

Computing : In computing, pupils:

design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems;

solve problems by decomposing them into smaller parts

use sequence, selection, and repetition in programs; work with variables and various forms of input and output

use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs

understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration

use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content

select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information

use technology safely, respectfully and responsibly;

recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact

Design and technology : When designing and making, pupils:

Design

use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups
generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer- aided design

Make

select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing],
accurately select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities

Evaluate

investigate and analyse a range of existing products
evaluate their ideas and products against their own design criteria and consider the views of others to improve their work
understand how key events and individuals in design and technology have helped shape the world

Technical knowledge

apply their understanding of how to strengthen, stiffen and reinforce more complex structures
understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]
understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]
apply their understanding of computing to program, monitor and control their products.

Cooking and nutrition

understand and apply the principles of a healthy and varied diet
prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques
understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.

English : see separate curriculum leaflet

Geography : In Geography, pupils:

Develop locational knowledge

locate the world's countries, using maps to focus on Europe (including the location of Russia) and North and South America, concentrating on their environmental regions, key physical and human characteristics, countries, and major cities
name and locate counties and cities of the United Kingdom, geographical regions and their identifying human and physical characteristics, key topographical features (including hills, mountains, coasts and rivers), and land-use patterns; and understand how some of these aspects have changed over time
identify the position and significance of latitude, longitude, Equator, Northern Hemisphere, Southern Hemisphere, the Tropics of Cancer and Capricorn, Arctic and Antarctic Circle, the Prime/Greenwich Meridian and time zones (including day and night)

Develop place knowledge

understand geographical similarities and differences through the study of human and physical geography of a region of the United Kingdom, a region in a European country, and a region within North or South America

Develop an understanding of human and physical geography

describe and understand key aspects of: physical geography, including: climate zones, biomes and vegetation belts, rivers, mountains, volcanoes and earthquakes, and the water cycle

ask relevant questions and using different types of scientific enquiries to answer them
set up simple practical enquiries, comparative and fair tests
make systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers
gather, record, classify and present data in a variety of ways to help in answering questions
record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables
report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions
use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions
identify differences, similarities or changes related to simple scientific ideas and processes
use straightforward scientific evidence to answer questions or to support their findings.

Plants :

identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers
explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant
investigate the way in which water is transported within plants
explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.

Animals, including humans :

identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat
identify that humans and some other animals have skeletons and muscles for support, protection and movement.
describe the simple functions of the basic parts of the digestive system in humans
identify the different types of teeth in humans and their simple functions
construct and interpret a variety of food chains, identifying producers, predators and prey.

Living things and their habitats :

recognise that living things can be grouped in a variety of ways
explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment
recognise that environments can change and that this can sometimes pose dangers to living things.

Rocks :

compare and group together different kinds of rocks on the basis of their appearance and simple physical properties
describe in simple terms how fossils are formed when things that have lived are trapped within rock
recognise that soils are made from rocks and organic matter.

States of matter :

compare and group materials together, according to whether they are solids, liquids or gases
observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C)
identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.

Light :

recognise that they need light in order to see things and that dark is the absence of light

give reasons for classifying plants and animals based on specific characteristics.

Animals including humans

describe the changes as humans develop to old age.

identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood

recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function

describe the ways in which nutrients and water are transported within animals, including humans.

Evolution and inheritance

recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago

recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents

identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.

Properties and changes of materials

compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets

know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution

use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating

give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic

demonstrate that dissolving, mixing and changes of state are reversible changes

explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda.

Earth and space

describe the movement of the Earth, and other planets, relative to the Sun in the solar system

describe the movement of the Moon relative to the Earth

describe the Sun, Earth and Moon as approximately spherical bodies

use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.

Forces

explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object

identify the effects of air resistance, water resistance and friction, that act between moving surfaces

recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.

Light

recognise that light appears to travel in straight lines

use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye

explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes

use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.

human geography, including: types of settlement and land use, economic activity including trade links, and the distribution of natural resources including energy, food, minerals and water

Develop geographical skills and undertake fieldwork

use maps, atlases, globes and digital/computer mapping to locate countries and describe features studied;

use the eight points of a compass, four and six-figure grid references, symbols and key (including the use of Ordnance Survey maps) to build their knowledge of the United Kingdom and the wider world;

use fieldwork to observe, measure, record and present the human and physical features in the local area using a range of methods, including sketch maps, plans and graphs, and digital technologies.

History In history, pupils are taught about:

British History, to include:

changes in Britain from the Stone Age to the Iron Age ; the Roman Empire and its impact on Britain; Britain's settlement by Anglo-Saxons and Scots; the Viking and Anglo-Saxon struggle for the Kingdom of England to the time of Edward the Confessor.

A local history study

The achievements of the earliest civilizations – an overview of where and when the first civilizations appeared and an in-depth study of one of the following: Ancient Sumer; The Indus Valley; Ancient Egypt; The Shang Dynasty of Ancient China.

Ancient Greece – a study of Greek life and achievements and their influence on the western world.

A non-European society that provides contrasts with British history – one study chosen from: early Islamic civilization, including a study of Baghdad c. AD 900; Mayan civilization c. AD 900; Benin (West Africa) c. AD 900-1300.

Languages : In learning languages, pupils in Key Stage 2 will:

listen attentively to spoken language and show understanding by joining in and responding;

explore the patterns and sounds of language through songsand rhymes and link the spelling, sound and meaning of words;

engage in conversations; ask and answer questions; express opinions and respond to those of others; seek clarification and help*

speak in sentences, using familiar vocabulary, phrases and basic language structures

develop accurate pronunciation and intonation so that others understand when they are reading aloud or using familiar words and phrases*

present ideas and information orally to a range of audiences*

read carefully and show understanding of words, phrases and simple writing

appreciate stories, songs, poems and rhymes in the language

broaden their vocabulary and develop their ability to understand new words that are introduced into familiar written material, including through using a dictionary

write phrases from memory, and adapt these to create new sentences, to express ideas clearly

describe people, places, things and actions orally* and in writing

understand basic grammar appropriate to the language being studied, including (where relevant): feminine, masculine and neuter forms and the conjugation of high-frequency verbs; key features and patterns of the language; how to apply these, for instance, to build sentences; and how these differ from or are similar to English.

The starred (*) content above will not be applicable to ancient languages

Music : In music, pupils:

improvise and compose music for a range of purposes using the inter-related dimensions of music

listen with attention to detail and recall sounds with increasing aural memory
use and understand staff and other musical notations
appreciate and understand a wide range of high-quality live and recorded music drawn from different traditions and from great composers and musicians
develop an understanding of the history of music.

PSHE :
We aim to promote the Personal, Social & Health Education of every pupil. It is vitally important for us that all our children are adequately prepared for the future. The new SEAL (Social & Emotional Aspects of Learning) materials produced by the DfE provide excellent starting points for our work.

Physical Education : In PE, pupils:
use running, jumping, throwing and catching in isolation and in combination
play competitive games, modified where appropriate [for example, badminton, basketball, cricket, football, hockey, netball, rounders and tennis], and apply basic principles suitable for attacking and defending
develop flexibility, strength, technique, control and balance [for example, through athletics and gymnastics]
perform dances using a range of movement patterns
take part in outdoor and adventurous activity challenges both individually and within a team
compare their performances with previous ones and demonstrate improvement to achieve their personal best.
Swimming and water safety : All schools must provide swimming instruction either in key stage 1 or key stage 2. In swimming, pupils:
swim competently, confidently and proficiently over a distance of at least 25 metres
use a range of strokes effectively [for example, front crawl, backstroke and breaststroke]
perform safe self-rescue in different water-based situations

Religious Education :
The Religious Education curriculum follows the teachings of the Church of England. We aim to set positive standards of behaviour and morality, based on Christian ideals, rather than merely accepting or reflecting existing social or moral standards. In addition to detailed study of Christianity, our children look at four other major religious beliefs, with comparative work on cultural diversity. *Parents have the legal right to withdraw their children from Religious Education. In this event, details for alternative provision would be discussed with the Headteacher.*
Collective Worship
Our daily act of Collective Worship, designed to develop Christian knowledge and spirituality, is central to the life of our school. The whole school regularly attends special services in the Parish Church, at which parents and villagers are welcome. *Parents have the legal right to withdraw their children from the act of Collective Worship.*
In RE, pupils:
study the beliefs, festivals and celebrations of Christianity
study at least two other religions in depth (choose from Buddhism, Hinduism, Islam, Judaism or Sikhism)
study three of the major six religions not studied in depth in order to gain a brief outline
study other religions of interest to pupils
Science: Lower Key Stage 2 (Years 3 & 4) Working scientifically, pupils: play and perform in solo and ensemble contexts, using their voices and playing musical instruments with increasing accuracy, fluency, control and expression
notice that light is reflected from surfaces
recognise that light from the sun can be dangerous and that there are ways to protect their eyes
recognise that shadows are formed when the light from a light source is blocked by a solid object
find patterns in the way that the size of shadows change.
Forces and magnets :
compare how things move on different surfaces
notice that some forces need contact between two objects, but magnetic forces can act at a distance
observe how magnets attract or repel each other and attract some materials and not others
compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials
describe magnets as having two poles
predict whether two magnets will attract or repel each other, depending on which poles are facing.
Sound :
identify how sounds are made, associating some of them with something vibrating
recognise that vibrations from sounds travel through a medium to the ear
find patterns between the pitch of a sound and features of the object that produced it
find patterns between the volume of a sound and the strength of the vibrations that produced it
recognise that sounds get fainter as the distance from the sound source increases.
Electricity :
identify common appliances that run on electricity
construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers
identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery
recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit
recognise some common conductors and insulators, and associate metals with being good conductors.

Science : Upper Key Stage 2 (Years 5 & 6) In working scientifically, pupils:
plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary
take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate
record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs
use test results to make predictions to set up further comparative and fair tests
report and present 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
identify scientific evidence that has been used to support or refute ideas or arguments.
Living things and their habitats
describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird
describe the life process of reproduction in some plants and animals.
describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro- organisms, plants and animals