St Joseph's RC Primary

National Curriculum 2014



Year 6

This document contains all of the statutory requirements of the National Curriculum (2014) broken down by subject.

Please note this document should also be read in conjunction with the English and Maths appendices.

English			
Spoken Word Word Reading	g Comprehension		
Pupils should be taught to: Pupils should be taught to:	Pupils should be taught to:		
Ilisten and respond appropriately to adults and their peers ask relevant questions to extend their understanding and knowledge use relevant strategies to build their vocabulary articulate and justify answers, arguments and opinions give well-structured descriptions, explanations and narratives for different purposes, including for expressing feelings maintain attention and participate actively in collaborative conversations, staying on topic and initiating and responding to comments use spoken language to develop understanding through speculating, hypothesising, imagining and exploring ideas speak audibly and fluently with an increasing command of Standard English participate in discussions, presentations, performances, role play, improvisations and debates gain, maintain and monitor the interest of the listener(s) consider and evaluate different viewpoints, attending to and building on the contributions of others select and use appropriate registers for effective communication.	rds, prefixes and maintain positive attitudes to reading and understanding of listed in English what they read by:		

 drawing inferences such as inferring characters'
feelings, thoughts and motives from their actions,
and justifying inferences with evidence
predicting what might happen from details stated
and implied
 summarising the main ideas drawn from more than
one paragraph, identifying key details that support
the main ideas
 identifying how language, structure and
presentation contribute to meaning
discuss and evaluate how authors use language, including
figurative language, considering the impact on the reader
 distinguish between statements of fact and opinion
 retrieve, record and present information from non-fiction
 participate in discussions about books that are read to
them and those they can read for themselves, building on
their own and others' ideas and challenging views
courteously
explain and discuss their understanding of what they have
read, including through formal presentations and debates,
maintaining a focus on the topic and using notes where
necessary
 provide reasoned justifications for their views.
provide reasoned justifications for mon-views.

Writing - transcription	Writing - handwriting	Writing - Composition	Writing – Grammar, vocabulary and Punctuation
Spelling(see English Appendix 1) Pupils should be taught to: use further prefixes and suffixes and understand the guidance for adding them spell some words with 'silent' letters [for example, knight, psalm, solemn] continue to distinguish between homophones and other words which are often confused use knowledge of morphology and etymology in spelling and understand that the spelling of some words needs to be learnt specifically, as listed in English Appendix 1 use dictionaries to check the spelling and meaning of words use the first three or four letters of a word to check spelling, meaning or both of these in a dictionary use a thesaurus.	Pupils should be taught to: write legibly, fluently and with increasing speed by: choosing which shape of a letter to use when given choices and deciding whether or not to join specific little choosing the writing implement that is best suited for a task.	Pupils should be taught to: • plan their writing by: • identifying the audience for and purpose of the writing, selecting the appropriate form and using other similar writing as models for their own • noting and developing initial ideas, drawing on reading and research where necessary • in writing narratives, considering how authors have developed characters and settings in what pupils have read, listened to or seen performed • draft and write by: • selecting appropriate grammar and vocabulary, understanding how such choices can change and enhance meaning • in narratives, describing settings, characters and atmosphere and integrating dialogue to convey character and advance the action • précising longer passages • using a wide range of devices to build cohesion within and across paragraphs • using further organisational and presentational devices to structure text and to guide the reader [for example, headings, bullet points, underlining] • evaluate and edit by: • assessing the effectiveness of their own and others' writing • proposing changes to vocabulary, grammar and punctuation to enhance effects and clarify meaning • ensuring the consistent and correct use of tense throughout a piece of writing	 Pupils should be taught to: develop their understanding of the concepts set out in English Appendix 2 by: recognising vocabulary and structures that are appropriate for formal speech and writing, including subjunctive forms using passive verbs to affect the presentation of information in a sentence using the perfect form of verbs to mark relationships of time and cause using expanded noun phrases to convey complicated information concisely using modal verbs or adverbs to indicate degrees of possibility using relative clauses beginning with who, which, where, when, whose, that or with an implied (i.e. omitted) relative pronoun learning the grammar for years 5 and 6 in English Appendix 2 indicate grammatical and other features by: using commas to clarify meaning or avoid ambiguity in writing using hyphens to avoid ambiguity using brackets, dashes or commas to indicate parenthesis using semi-colons, colons or dashes to

 ensuring correct subject and verb agreement when using singular 	mark boundaries between independent
and plural, distinguishing between the language of speech and	clauses
writing and choosing the appropriate register	 using a colon to introduce a list
 proof-read for spelling and punctuation errors 	 punctuating bullet points consistently
• proot-read for spelling and punctuation errors	 use and understand the grammatical
perform their own compositions, using appropriate intonation,	terminology in English Appendix 2 accurately
volume, and movement so that meaning is clear.	and appropriately in discussing their writing
	and reading.

		Mathematics		
Number- Number and Place Value	Number – Addition and subtraction, Multiplication and division	Number- fractions inc decimals and %	Number- fractions	Algebra
Pupils should be taught to:	Pupils should be taught to:	Pupils should be taught to:	Pupils should be taught to:	Pupils should be taught to:
 read, write, order and compare numbers up to 10 000 000 and determine the value of each digit round any whole number to a required degree of accuracy use negative numbers in context, and calculate intervals across zero solve number and practical problems that involve all of the above. 	 multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context perform mental calculations, including with mixed operations and large numbers identify common factors, common multiples and prime numbers 	 Pupils should be taught to: use common factors to simplify fractions; use common multiples to express fractions in the same denomination compare and order fractions, including fractions > 1 add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, \frac{1}{4} \times \frac{1}{2} = \frac{1}{8}] divide proper fractions by whole numbers [for example, \frac{1}{3} \div 2 = \frac{1}{6}] associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, 	 compare and order fractions whose denominators are all multiples of the same number identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number [for example, \frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1\frac{1}{5} \] add and subtract fractions with the same denominator and denominators that are multiples of the same number multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams 	 use simple formulae generate and describe linear number sequences express missing number problems algebraically find pairs of numbers that satisfy an equation with two unknowns Enumerate possibilities of combinations of two variables.

•	use their knowledge of the order
	of operations to carry out
	calculations involving the four
	operations

- solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why
- solve problems involving addition, subtraction, multiplication and division
- use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.

$$\frac{3}{8}$$
]

- identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places
- multiply one-digit numbers with up to two decimal places by whole numbers
- use written division methods in cases where the answer has up to two decimal places
- solve problems which require answers to be rounded to specified degrees of accuracy
- recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.

read and write decimal numbers as fractions [for example, 0.71 =
$$\frac{71}{100}$$
]

- recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents
- round decimals with two decimal places to the nearest whole number and to one decimal place
- read, write, order and compare numbers with up to three decimal places
- solve problems involving number up to three decimal places
- recognise the per cent symbol (%)
 and understand that per cent
 relates to 'number of parts per
 hundred', and write percentages as
 a fraction with denominator 100,
 and as a decimal
- solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{2}{5}$, $\frac{4}{5}$ and those fractions with a denominator of a multiple of 10 or 25.

Measurement	Geometry - Properties of shape	Geometry - Position and direction	Statistics
Pupils should be taught to: solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to three decimal places convert between miles and kilometres recognise that shapes with the same areas can have different perimeters and vice versa recognise when it is possible to use formulae for area and volume of shapes calculate the area of parallelograms and triangles calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm³) and cubic metres (m³), and extending to other units [for example, mm³ and km³].	Pupils should be taught to: draw 2-D shapes using given dimensions and angles recognise, describe and build simple 3-D shapes, including making nets compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.	Pupils should be taught to: describe positions on the full coordinate grid (all four quadrants) draw and translate simple shapes on the coordinate plane, and reflect them in the axes	Pupils should be taught to: interpret and construct pie charts and line graphs and use these to solve problem calculate and interpret the mean as an average

Science Year A Knowledge and Understanding

Living things and their habitat	Light	Animals inc Humans
Pupils should be taught to: 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. 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 give reasons for classifying plants and animals based on specific characteristics.	Revisit Year 3 Light (taught in year 1) Pupils should be taught to: 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.	Pupils should be taught to: 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. describe the changes as humans develop to old age.

States of Matter	Evolution and Inheritance	Forces and Magnets
Pupils should be taught to: 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.	Pupils should be taught to: 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.	Pupils should be taught to: 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.

Science Year B Knowledge and Understanding			
Sounds	Forces	Animals inc Humans	
Pupils should be taught to: 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.	Pupils should be taught to: 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.	Pupils should be taught to: 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. Link to year 5 objective: describe the changes as humans develop to old age.	

Earth and Space	Properties and changes of materials	Living things and their habitats
Pupils should be taught to: 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.	Properties and changes of materials Pupils should be taught to: 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.	Living things and their habitats Pupils should be taught to: 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 give reasons for classifying plants and animals based on specific characteristics.

Plants	Animals inc Humans
ould be taught to: lore and compare the differences between things that are g, dead, and things that have never been alive atify that most living things live in habitats to which they suited and describe how different habitats provide for the c needs of different kinds of animals and plants, and how y depend on each other atify and name a variety of plants and animals in their litats, including micro-habitats cribe how animals obtain their food from plants and other hals, using the idea of a simple food chain, and identify and the different sources of food.	Pupils should be taught to: identify that animals, including humans, need the right types and amounts 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. identify and name a variety of plants and animals in their habitats, including micro-habitats describe the changes as humans develop to old age. (Y5)
	ore and compare the differences between things that are g, dead, and things that have never been alive tify that most living things live in habitats to which they suited and describe how different habitats provide for the c needs of different kinds of animals and plants, and how depend on each other tify and name a variety of plants and animals in their tats, including micro-habitats cribe how animals obtain their food from plants and other hals, using the idea of a simple food chain, and identify and

Living things and their habitats	Electricity	
Living things and their habitats Pupils should be taught to: 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.	Revisit Y4 electricity (taught Y2) Pupils should be taught to: 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. recognise some common conductors and insulators, and associate metals with being good conductors. 	

Working Scientifically - Ongoing skills

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.

	Non- Core subjects
Art & Design	Pupils should be taught to develop their techniques, including their control and their use of materials, with creativity, experimentation and an increasing awareness of different kinds of art, craft and design. Pupils should be taught: to create sketch books to record their observations and use them to review and revisit ideas to improve their mastery of art and design techniques, including drawing, painting and sculpture with a range of materials [for example, pencil, charcoal, paint, clay] about great artists, architects and designers in history.
	Pupils should be taught to:
Computing	 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 & Technology	Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home, school, leisure, culture, enterprise, industry and the wider environment]. When designing and making, pupils should be taught to:
	 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

skills to enhance their locational and place knowledge.

- 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.

Locational knowledge

Pupils should be taught to:

- 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

Pupils should extend their knowledge and understanding beyond the local area to include the United Kingdom and Europe, North and South America. This will include the location and characteristics of a range of the world's most significant human and physical features. They should develop their use of geographical knowledge, understanding and

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)

Place knowledge

Geography

	 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 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 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 Geographical skills and 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 Y5/6	Pupils should continue to develop a chronologically secure knowledge and understanding of British, local and world history, establishing clear narratives within and across the periods they study. They should note connections, contrasts and trends over time and develop the appropriate use of historical terms. They should regularly address and sometimes devise historically valid questions about change, cause, similarity and difference, and significance. They should construct informed responses that involve thoughtful selection and organisation of relevant historical information. They should understand how our knowledge of the past is constructed from a range of sources. In planning to ensure the progression described above through teaching the British, local and world history outlined below, teachers should combine overview and depth studies to help pupils understand both the long arc of development and the complexity of specific aspects of the content. Pupils should be taught about: 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 a study of an aspect or theme in British history that extends pupils' chronological knowledge beyond 1066 the achievements of the earliest civilizations - an overview of where and when the first civilizations appeared and a 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.
Music	Pupils should be taught to:

	 play and perform in solo and ensemble contexts, using their voices and playing musical instruments with increasing accuracy, fluency, control and expression
	 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.
P.E.	Pupils should be taught to:
P.E.	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.
MFL	Pupils should be taught to:
MIL	Iisten attentively to spoken language and show understanding by joining in and responding
	 explore the patterns and sounds of language through songs and 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
	 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
	 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-
	 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.