



Fir Tree Junior School

Year 6

Learning Objectives in each Subject

English in Year 6

Spoken Language (The objectives for Spoken Language are common across Key Stages 1 and 2 (Years 1-6))

- listen 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, roleplay/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

Reading (The objectives for Reading are common across Years 5 and 6)

Word Reading

Our children will learn to:

- apply their growing knowledge of root words, prefixes and suffixes (morphology and etymology), both to read aloud and to understand the meaning of new words that they meet.

Comprehension

Our children will learn to maintain positive attitudes to reading and an understanding of what they read by:

- continuing to read and discuss an increasingly wide range of fiction, poetry, plays, non-fiction and reference books or textbooks
- reading books that are structured in different ways and reading for a range of purposes
- increasing their familiarity with a wide range of books, including myths, legends and traditional stories, modern fiction, fiction from our literary heritage, and books from other cultures and traditions
- recommending books that they have read to their peers, giving reasons for their choices
- identifying and discussing themes and conventions in and across a wide range of writing
- making comparisons within and across books
- learning a wider range of poetry by heart
- preparing poems and plays to read aloud and to perform, showing understanding through intonation, tone and volume so that the meaning is clear to an audience

understand what they read by:

- checking that the book makes sense to them, discussing their understanding and exploring the meaning of words in context
- asking questions to improve their understanding
- 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 1 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.

Writing (The objectives for Writing are common across Years 5 and 6)

Spelling

Our children will be learn 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
- use dictionaries to check the spelling and meaning of words
- use the first 3 or 4 letters of a word to check spelling, meaning or both of these in a dictionary
- use a thesaurus

Handwriting and Presentation

Our children will learn 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 letters
- choosing the writing implement that is best suited for a task

Composition

Our children will be learn 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
- ensuring correct subject and verb agreement when using singular and plural, distinguishing between the language of speech and writing and choosing the appropriate register
- proofread for spelling and punctuation errors
- perform their own compositions, using appropriate intonation, volume, and movement so that meaning is clear.

Vocabulary, grammar & punctuation

Our children will be learn to:

develop their understanding of the concepts 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 (ie omitted) relative pronoun
- learning the grammar for Year 6

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 semicolons, colons or dashes to mark boundaries between independent clauses
- using a colon to introduce a list
- punctuating bullet points consistently
- use and understand the grammatical terminology accurately and appropriately in discussing their writing and reading

Mathematics in Year 6

Number & Place Value

Our children will be learn 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 0
- solve number and practical problems that involve all of the above.

Addition & Subtraction, Multiplication & Division

Our children will learn to:

- 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
- use their knowledge of the order of operations to carry out calculations involving the 4 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.

Fractions (decimals & percentages)

Our children will learn 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, $\frac{3}{8}$]
- identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1,000 giving answers are up to three decimal places
- multiply one-digit numbers with up to 2 decimal places by whole numbers
- use written division methods in cases where the answer has up to 2 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.

Measurement

Our children will learn to:

- solve problems involving the calculation and conversion of units of measure, using decimal notation up to 2 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 3 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 (cm^3) and cubic metres (m^3), and extending to other units [for example, mm^3 and km^3].

Ratio and Porportion

Our children will learn to:

- solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts
- solve problems involving the calculation of percentages [for example of measures and such as 15% of 360] and the use of percentages for comparison
- solve problems involving similar shapes where the scale factor is known or can be found
- solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.

Algebra

Our children will learn to:

- 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 2 variables.

Properties of Shape

Our children will learn 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.

Position & Direction

Our children will learn to:

- describe positions on the full coordinate grid (all 4 quadrants)
- draw and translate simple shapes on the coordinate plane, and reflect them in the axes.

Statistics

Our children will be learn to:

- interpret and construct pie charts and line graphs and use these to solve problems
- calculate and interpret the mean as an average.

Science in Year 6

Working Scientifically

During Year 6 the children will learn 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 recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, and 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 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.

Living Things and their habitats

Our children will learn 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

Animals, including humans

Our children will be learn 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.

Evolution

Our children will learn 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.

Light

Our children will learn 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

Electricity

Our children will learn 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.

History in Year 6

Ancient Civilizations

Our children will learn about the achievements of the earliest civilization of ancient Egypt – an overview of where and when the civilization appeared

Non-European Study

Our children will be learn the Mayan civilisation, a non-European society that provides contrasts with British history

Local History

Our children will be taught about an aspect of local history. For example:

- a depth study linked to one of the British areas of study listed above
- a study over time tracing how several aspects of national history are reflected in the locality (this can go beyond 1066)
- a study of an aspect of history or a site dating from a period beyond 1066 that is significant in the locality.

Geography in Year 6

Locational Knowledge

Our children will learn 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
- 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

Our children will learn to:

- understand geographical similarities and differences through the study of human and physical geography of a region a European country

Human and Physical Geography

Our children will learn to:

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

Our children will learn to:

- use maps, atlases, globes and digital/computer mapping to locate countries and describe features studied
- use the 8 points of a compass, 4 and 6-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 maps, atlases, globes and digital/computer mapping to locate countries and describe features studied
- 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.

Physical Education in Year 6

Sport & Games

Our children will learn to:

- use running, jumping, throwing and catching in isolation and in combination
- play competitive games [for example, badminton, basketball, cricket, football, hockey, netball, rounders and tennis], modified where appropriate, 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

Our children will learn to:

- swim competently, confidently and proficiently over a distance of at least 25 metres
- use a range of strokes [for example, front crawl, backstroke and breaststroke] effectively
- perform safe self-rescue in different water-based situations.

Music in Year 6

Our children will learn 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 interrelated 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.

Computing in Year 6

Our children will learn to:

- design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts **Yr4/5/6**
- 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
- 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.

French in Year 6

Listening & Comprehension

Our children will learn to:

- listen 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

Speaking

Our children will learn to:

- 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

Reading & Comprehension

Our children will learn to:

- 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

Writing Year 5/6

Our children will learn to:

- 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.

RE in Year 6

Across the year the children will be looking Christianity; Islam and Judaism with a focus on beliefs and questions

In Christianity they will learn about:

Pentecost; Visual Symbols,; Symbolic titles given to Jesus; Art, Music and Architecture; Bible: Old and New Testaments

In Islam they will learn about:

Five Pillars; Sunnah; Dietary Laws; Modest dress; Imam; Family prayer; Service to others; Ummah

In Judaism they will learn about:

Ten Commandments; Mitzvot – good deeds; Daily prayer; Dietary Laws; Blessings; Abraham; Moses

Design & Technology in Year 6

Design

Our children will learn to:

- generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design

Make

Our children will learn to:

- 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

Our children will learn to:

- evaluate their ideas and products against their own design criteria and consider the views of others to improve their work **Yr4/5/6**
- understand how key events and individuals in design and technology have helped shape the world **Yr5/6**

Technological Knowledge

Our children will learn to:

- understand and use mechanical systems [for example, gears, pulleys, cams, levers and linkages] in their products
- understand and use electrical systems [for example, series circuits incorporating switches, bulbs, buzzers and motors] in their products
- apply their understanding of computing to programme, monitor and control their products

Cooking & Nutrition

Our children will learn to:

- cook a repertoire of predominantly savoury dishes so that they are able to feed themselves and others a healthy and varied diet
- become competent in a range of cooking techniques [for example, selecting and preparing ingredients; using utensils and electrical equipment; applying heat in different ways; using awareness of taste, texture and smell to decide how to season dishes and combine ingredients; adapting and using their own recipes]
- understand the source, seasonality and characteristics of a broad range of ingredients

Art & Design in Year 6

Our children will learn to:

- 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.