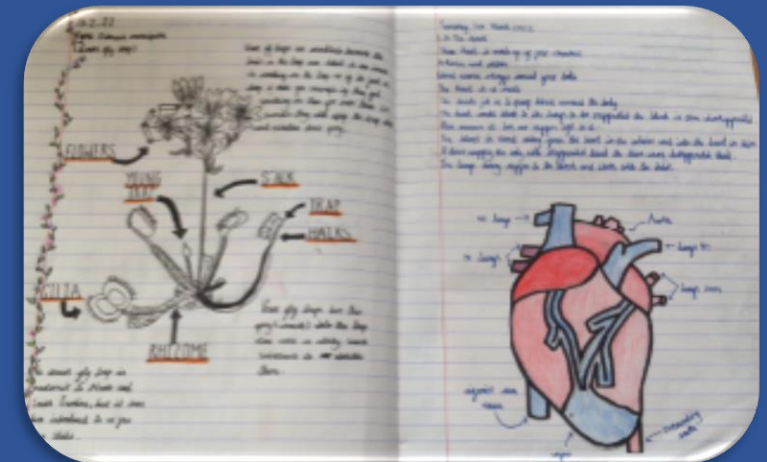
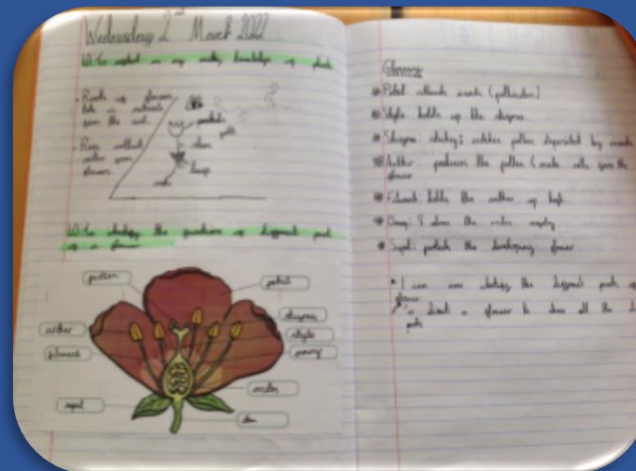
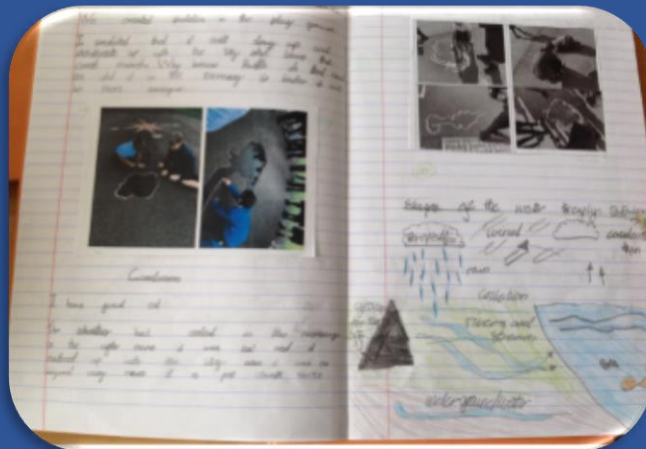




Science at Fir Tree

Hello!

My name is Miss Raheem, and I am the Science Subject Leader at Fir Tree.



Intent

Implementation

Impact

At Fir Tree, Science aims to build on children's enthusiasm and natural sense of wonder about the world. Our Science curriculum enables children to confidently explore and discover, so they have a deeper understanding of the world. Children are encouraged to be inquisitive and to question the world around them. We want children to love science and remember their science lessons at school. We want to create lasting memories. At Fir Tree, we achieve this by ensuring science lessons involve exciting, practical hands on activities enabling children to develop their questioning, hypothesising, observation and communication skills. Additionally, where possible, children have opportunities to have real-life experiences of the phenomena they are learning about.



Click here to find our 'Fir Tree Curriculum' & 'Knowledge and Skills Progression' documents:

<https://www.fir-tree-juniors.org/science/>



Intent

Implementation

Impact

Fir Tree, takes a cross-curricular approach to teaching and learning. Children are taught their subjects through projects which link in a meaningful and purposeful context. Where parts of the curriculum do not fit easily into the projects that are being covered, Science is planned and taught discretely. The amount of Science taught per week may vary from class to class due to this cross-curricular approach, however, an average of two hours per week is taught. Where possible, Science is linked closely with both maths and computing in order to enhance the learning. For example, children are taught how to use data loggers to record light, temperature or noise over a period of time. Computing is also used to create databases or graphs of results. Where it is not possible to see a real investigation in front of them, for example, seeing the growth of a plant, children may use a computer simulation to show changes quickly.

Every year group will build upon the learning from prior year groups therefore developing depth of understanding and progression of skills. There are regular opportunities to review the learning taken place in previous topics as well as previous lessons. At the start of each topic children will review previous learning and will have the opportunity to share what they already know about a current topic. Education visits and visitors are planned, to enrich and enhance the pupil's learning experiences within the Science curriculum.



Fir Tree Curriculum Overview of Projects



The rings show
the projects
that link to
Science



Projects such as
'River Journey –
States of Matter' in
Year 4 focus on
Science and
Geography

Autumn Term			Spring Term		Summer Term	
	Term 1 (7w+2d)	Term 2 (7w)	Term 3 (7w)	Term 4 (6w)	Term 5 (5w)	Term 6 (6w+2d)
Year 6	Take One Picture (Art) Macbeth (Shakespeare) The Origin of Species - Evolution and Inheritance (Science)	Lest We Forget – Remembrance (History and Geography) Shine A Light – Light (Science)	Take One Piece (Music) Awesome Egyptians (History and Geography) Animal Architects - Living Things and their Habitats (Science)	Take One Tale (English) Staying Alive - Animals Including Humans (Science)	From Past to Present - UK (Geography) Innovative Inventors - Working Scientifically (Science)	Shocking Electricity - Electricity (Science) The Prince of Egypt - Production
Year 5	Take One Picture (Art) Hamlet (Shakespeare) Phenomenal Forces - Forces (Science)	Out of this World - Earth and Space (Science) The World From Above – Ordnance Survey Maps (Geography)	Take One Piece (Music) Majestic Mayans (History and Geography) Growing and Changing - Animals, Including Humans (Science)	Extreme Earth (Geography) The Circle of Life - Living Things and their Habitats (Science)	Take One Tale (English) The Godly Greeks (History and Geography) Sensational Scientists - Working Scientifically (Science)	Victorious Victorians (History) From Yorkshire to Mexico (Geography) Terrific Transformations Properties and Changes of Materials (Science)
Year 4	Take One Picture (Art) River Journey – States of Matter (Science and Geography)	Magnificent Mappers (Geography) Disgusting Digestion – Animals, Including Humans (Science)	Take One Piece (Music) Production Bright Sparks - Electricity (Science)	A Midsummer Night's Dream (Shakespeare) Listen Up - Sound (Science)	Take One Tale (English) Creepy Crawlies – Living Things and their Habitats (Science)	Vicious Vikings (History and Geography) Inventors and Discoveries – Working Scientifically (Science)
Year 3	Take One Picture (Art) The Stone Age (History) Beneath My Feet – Rocks and Fossils (Science)	Extraordinary Journeys (Geography) Luminous Light - Light (Science) Nativity (RE)	Take One Piece (Music) The Great Invasion - Romans (History and Geography) Exciting Experiments - Working Scientifically (Science)	The Iron Man (English) May The Force Be With You – Forces and Magnets (Science) Marvelous Maps (Geography)	Take One Tale (English) Amazing Bodies – Animals Including Humans (Science)	The Tempest (Shakespeare) Wonderful Wallingford (History) Roots and Shoots - Plants (Science)



Fir Tree Curriculum Knowledge and skills progression grid



Fir Tree Junior School Curriculum Knowledge and Skills Progression

Science Plants

The topic being taught

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Key Knowledge	Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees. Identify and describe the basic structure of a variety of common flowering plants, including trees.	Observe and describe how seeds and bulbs grow into mature plants. Find out and describe how plants, need water, light and a suitable temperature to grow and stay healthy. Identify and name a variety of plants and animals in their habitats, including microhabitats. (Y2 Living things and their habitats)	Identify and describe the functions of different parts of flowering plants: roots; stem/trunk; and flowers. Explore the requirements of plants for life and growth (air, light, water, nutrients from the 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 dispersal.	Recognise that living things can be grouped in a variety of ways. (Y4 - Living things and their habitats) Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment. (Y4 - Living things and their habitats)	Describe the life process of reproduction in some plants and animals. (Y5 - Living things and their habitats)	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. (Y6 - Living things and their habitats) Give reasons for classifying plants and animals based on specific characteristics. (Y6 - Living things and their habitats)
Key Vocabulary	Leaf, flower, blossom, petal, fruit, berry, root, seed, trunk, branch, stem, bask, stalk, bud Names of trees in the local area Names of garden and wild flowering plants in the local area	As for Year 1 plus light, shade, sun, warm, cool, water, grow, healthy	Photosynthesis, pollen, insect/wind pollination, seed formation, seed dispersal (wind dispersal, animal dispersal, water dispersal)			

Key learning in each year group - what children need to know to be secure



Key scientific vocabulary for children to use to show understanding of a concept.



Key skills
developed each
year



Fir Tree Working Scientifically Skills



Children use their
prior knowledge
when asking
questions

During practical
investigations
children make
systematic and
careful
observations using
a range of
equipment.

	Year 3	Year 4	Year 5	Year 6
Questioning	Ask relevant questions.	Ask relevant questions and use different types of scientific enquires to answer them	Plan different types of scientific enquires to answer questions.	Plan different types of scientific enquires to answer questions, including recognising and controlling variables where necessary.
Observing	Observe closely using a variety of equipment.	Observe multiply things closely using a variety of equipment.	Make organise and careful observations and take accurate measurements using the right units using a range of equipment.	Make organise and careful observations and take accurate measurements using the right units using a range of equipment including thermometers and data loggers.
	Make organise and careful observations.	Make organise and careful observations and take accurate measurements.		
Testing	Set up simple practical investigations.	Set up simple practical investigations, compare things and make fair tests.	Set up practical investigations, compare things and make fair tests.	Set up complex practical investigations, compare things and make fair tests.
Findings / Recording and Results	Record findings using simple scientific language and drawings.	Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables.	Record data and results of increasing complexity using scientific diagrams and labels.	Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.
	Report findings from investigations, including explaining by talking and writing them.	Report findings from investigations, including explaining by talking and writing them, displaying or presenting results and conclusions.	Report findings from enquiries, including conclusions or causal relationships.	Report 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.
	Displaying or presenting results and conclusions, explaining my findings from investigations.	Displaying or presenting results and conclusions, explaining my findings from investigations, including explaining by talking and writing them.	Present findings from enquiries, including conclusions or causal relationships.	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.



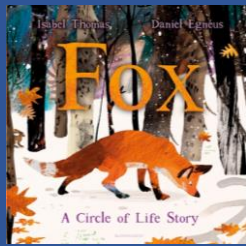
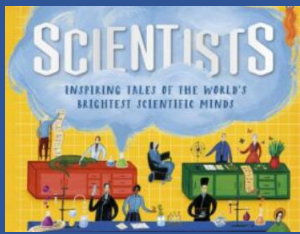
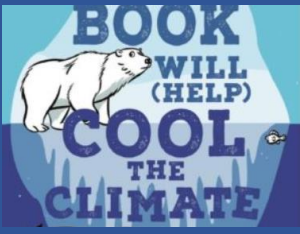
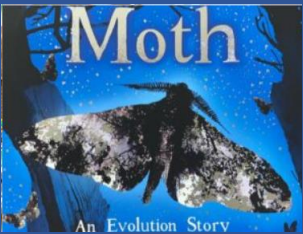
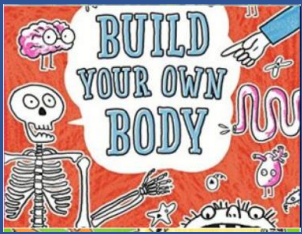
Fir Tree Junior School Curriculum Knowledge and Skills Progression Science

Data Gathering	Gather and present data in a variety of ways.	Gather, record and present data in a variety of ways to help in answering questions	Gather, record, sort and present data in a variety of ways to help in answering questions	Gather, record, sort and present data in a variety of ways to help in answering questions.
Concluding / Summarising	Use results to draw simple conclusions and make simple predictions.	Use results to draw simple conclusions, make predictions and suggest improvements.	Use results to draw simple conclusions, make predictions, suggest improvements and ask more questions.	Use results to draw detailed conclusions, make predictions, suggest improvements and ask more questions.
Comparing	Use clear scientific evidence to answer questions.	Use clear scientific evidence to answer questions or to support my findings.	Test results to make predictions to set up further tests.	Test results to make predictions to set up further comparative and fair tests.
	Identify differences and similarities.	Identify differences, similarities or changes related to simple scientific ideas and processes.	Identify differences, similarities or changes related to some scientific ideas and processes.	Identify differences, similarities or changes related to complex scientific ideas and processes.

A special visit from a Science writer and children's author, Isabel Thomas!



We were delighted to have Isabel Thomas visit Fir Tree. After delivering a whole school assembly, Isabel visited Year 3 and 4. Year 3 loved learning about insects! This tied in nicely with their Amazing Bodies project where they have been learning about different skeleton types.





"I love Science! I want to be a scientist when I am older."
Year 3 child

"I learned mass stays the same on the Moon and on Earth but weight changes because of their different gravity forces."
Year 5 child

"I've enjoyed learning about Electricity. A paddle switch turns on our class lights!"
Year 4 child

"I learned that air resistance is a bit like friction but in the air."
Year 5 child

"It was so much fun seeing if different liquids would mix together! I like having to think like a scientist."
Year 3 child

"My favourite lesson is Science! I love learning about the world!"
Year 3 child

"Meeting the Science author was amazing! Crickets have exoskeletons which means they can't get any bigger."
Year 3 child