Heather Garth Primary Academy

Year 5 Programme of Study

2023-2024

Heather Garth Primary Academy
Stars Aiming High

Reading

At Heather Garth, we teach reading through a whole class novel-based approach as well as through small group guided reading. Each class is also immersed in high quality, age-appropriate texts through daily story time.

In Year 5, the texts we study include:
The Explorer – Katherine Rundell
Harry Potter – J K Rowling
Running Wild - Michael Morpurgo
Escape from Pompeii – Christina Balit
Song of the Witches by William Shakespeare
Daddy Fell Into the Pond by Alfred Noyes
On The Ning Nang Nong by Spike Milligan

Writing

At Heather Garth, we teach writing using the Jane Considine Write Stuff approach. The approach provides the children with a stimulating and language rich writing environment surrounded by print in a variety of forms and contexts. Jane Considine units are based around high quality, age-appropriate texts. Units teach a full range of writing strategies, including spelling, grammar, sentence structure and composition. For more details of the elements taught, please make reference to the year group termly overviews on the writing area of the school website.

Children then apply all the taught and modelled skills to independent writing tasks. Following independent writing, children are encouraged to find and correct errors, using their purple “polishing pens” to make their amendments.

The units we cover in Year 5 are:

Poetry (Narrative) - The Highwayman by Alfred Noyes
Fiction - Narrative - The Great Kapok Tree by Lynne Cherry
Fiction - Christmas Narrative - The Snowman by Raymond Briggs
Non-Fiction - Biography - David Attenborough
Non-Fiction - Non-Chronological Report - The Emperor Penguin
Fiction - Narrative - Escape from Pompeii by Christina Balit
Fiction - Adventure Narrative - The Explorer by Katherine Rundell

We also use Spelling Shed to teach spelling. Children can also access this at home so they can practise throughout the week.

Mathematics

In Year 5, the maths units we cover are:

Number: Place Value
Read, write, order and compare numbers to at least 1000000 and determine the value of each digit.

Count forwards or backwards in steps of powers of 10 for any given number up to 1000000.

Interpret negative numbers in context, count forwards and backwards with positive and negative

whole numbers including through zero.

Round any number up to 1000000 to the nearest 10, 100, 1000, 10000 and 100000

Solve number problems and practical problems that involve all of the above.

Read Roman numerals to 1000 (M) and recognise years written in Roman numerals.

Know that 10 tenths are equivalent to 1 one, and that 1 is 10 times the size of 0.1. Know that 100 hundredths are equivalent to 1 one, and that 1 is 100 times the size of 0.01. Know that 10 hundredths are equivalent to 1 tenth, and that 0.1 is 10 times the size of 0.01.

Recognise the place value of each digit in numbers with up to 2 decimal places, and compose and decompose numbers with up to 2 decimal places using standard and non-standard partitioning.

Reason about the location of any number with up to 2 decimals places in the linear number system, including identifying the previous and next multiple of 1 and 0.1 and rounding to the nearest of each.

Divide 1 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in units of 1 with 2, 4, 5 and 10 equal parts.

Number- Addition & Subtraction
Add and subtract numbers mentally with increasingly large numbers.

Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction) Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy.

Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.

Number- Multiplication & Division
Multiply and divide numbers mentally drawing upon known facts.

Multiply and divide whole numbers by 10, 100 and 1000.

Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers.

Recognise and use square numbers and cube numbers and the notation for squared (2) and cubed (3)

Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes.

Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers.

Establish whether a number up to 100 is prime and recall prime numbers up to 19

Multiply numbers up to 4 digits by a one or two digit number using a formal written method, including long multiplication for 2 digit numbers.

Divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context.

Secure fluency in multiplication table facts, and corresponding division facts, through continued practice.

Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 1 tenth or 1 hundredth), for example: 8+6=140.8+0.6=1.40.08+0.06=0.143 x 4 = 12 0.3 x 4 = 1.2 0.03 x

4 = 0.12

Solve problems involving multiplication and division and a combination of these, including understanding the use of the equal's sign.

Number: Decimals & Percentages
Read, write, order and compare numbers with up to three decimal places.

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.

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 and those fractions with a denominator of a multiple of 10 or 25.

Solve problems involving numbers up to three decimal places.

Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000.

Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.

Number: Fractions
Compare and order fractions whose denominators are 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 as a mixed number

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.

Read and write decimal numbers as fractions

Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.

Find non-unit fractions of quantities.

Recall decimal fraction equivalents for 12,14,15and110and for multiples of these proper fractions.

Geometry- Position and Direction
Identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed.

Geometry: Properties of Shapes
Identify 3D shapes, including cubes and other cuboids, from 2D representations.

Use the properties of rectangles to deduce related facts and find missing lengths and angles.

Distinguish between regular and irregular polygons based on reasoning about equal sides and angles.

Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles.

Draw given angles, and measure them in degrees (o)

Identify: angles at a point and one whole turn (total 360o), angles at a point on a straight line and ½ a turn (total 180o) other multiples of 90o

Compare angles, estimate and measure angles in degrees (°) and draw angles of a given size.

Compare areas and calculate the area of rectangles (including squares) using standard units.

Measurement Converting Units
Convert between different units of metric measure [for example, km and m; cm and m; cm and mm; g and kg; l and ml]

Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints.

Solve problems involving converting between units of time.

Measurement: Perimeter, Area and Volume
Measure and calculate the perimeter of composite rectilinear shapes in cm and m.

Calculate and compare the area of rectangles (including squares), and including using standard units, cm2, m2 estimate the area of irregular shapes.

Measures & Volume
Volume [for example using 1cm3 blocks to build cuboids (including cubes)] and capacity [for example, using water]

Use all four operations to solve problems involving measure.

Art and Design

In art and design, Year 5 will focus on: Drawing – I need Space, Painting and mixed media- Portraits and Sculpture and 3D – Interactive Installation.

In drawing, the children will develop ideas more independently, considering the purpose of drawings as they explore the purpose and effect of imagery. They will develop drawn ideas through printmaking, test and develop ideas before combining collage and printmaking to create a piece in their own style.

In painting and mixed media, the children will investigate self-portraits by a range of artists and use photographs of themselves as a starting point for developing their own unique self-portraits using mixed-media. They will experiment with materials and techniques for effect.

In sculpture and 3-D, the children will identify and compare features of art installations, investigate the effect of space and scale when creating 3D art and problem solve when constructing 3D artworks. They will plan an installation that communicates a message and develop their ideas into a finished piece.

Citizenship

In citizenship, Year 5 will cover four units: VIP's, Teams, Diverse Britain and Well-being- Think positive, delivered by our Learning Mentor Mrs LeMasurier.

In the VIP (Very Important Persons) unit, the children will focus on relationships. Children will identify who their VIPs are within their families and friendship groups and how important kindness and respect are within these relationships. The unit addresses conflicts and resolutions in relationships. The children will also look at the secrets and dares, as well as healthy and unhealthy relationships.

In Teams (Together Everyone Achieves More), we explore the positive qualities of a team, learning how to disagree respectfully and communicate effectively. It looks at the key qualities and skills needed for a team to be successful. The lessons address collaborative learning and teach children how to compromise to ensure a group task is completed successfully.

In Diverse Britain, the children look at how Britain represents a wide range of faiths and ethnicities and that the structures within it are there to support all. It aims to enable the children to identify how they can make a positive contribution to the community. In this unit, children learn about the law and the consequences of not respecting it. They will also learn about the workings of local and national government and the role of charities and voluntary groups in British society.

In Well-being- Think positive, the unit is designed to help children further develop their understanding about thoughts and emotions, both positive and negative. The lessons centre around themes such as the links between our thoughts, feelings and emotions, making good choices and mindfulness and applying a growth mindset approach to life.

Computing

In computing, Year 5 will cover six units: computing systems and networks, programming, online safety, data handling, creating media and programming with Robotics, further developing their knowledge and skills.

In computing systems and networks, the children will be learning about how page ranking works and how to identify inaccurate information.

In programming, we use the program scratch to building-on programming and deepen music skills to create different sounds, beats and melodies which are put to the test with a Battle of the Bands performance!

In our online safety unit, we learn about app permissions; the positive and negative aspects of online communication; that online information is not always factual; how to deal with online bullying and managing our health and wellbeing.

In data handling unit one, we look at the Mars Rover, exploring how and why it transfers data including instructions, and how messages can be sent using binary code.

In creating media, we will create animations using storyboard ideas to film a story by decomposing it into small parts before putting it together to create the illusion of a moving image.

In programming using robotics, we look more into programming machinery and the robotics side of programming, exploring when and why robots may be used in everyday life. Using algorithms and coding to create repetitive patterns and making them unique to the group's objectives.

Design and Technology

In design and technology, Year 5 will focus on: textiles, structures and food technology.

In textiles, the children will be creating a book sleeve including a fastening. The children will explore different fastenings around them and consider their advantages and disadvantages. They will then devise their own design criteria, create a mock-up, which will be used as a template, to cut out their fabric before making their own book sleeve. They will then attach their fastenings and decorate their book sleeves in accordance with their design criteria.

In structures, the children will design and create a model bridge. They will investigate different types of bridges, exploring how different shapes can affect a bridges strength. They will make a prototype to test their design before using their wood work skills to create a frame structure with diagonal struts to strengthen their bridge.

In food technology, the children will research and prepare a healthy Bolognese sauce. They will continue to develop their knowledge of cooking and nutrition and will learn about how beef is farmed and the main welfare issues that surround the rearing of cattle. They will then research and modify a traditional Bolognese recipe to make it healthier.

Geography

In geography, Year 5 will cover three units: The Amazon, Trade around the world and Volcanoes and Earthquakes.

The Amazon unit will begin by locating the continent of South America and discussing its physical and human characteristics. We then move on to the Amazon – its location, its climate, what lives there and the challenges it faces. The children will consider the vast biodiversity of the Amazon rainforest, as well as learn about the people and settlements by studying the Yanomami tribe. This will then lead the children deeper into understanding the threats to the Amazon rainforest and ways in which humans can protect it with more sustainable approaches.

The Trade around the World unit will extend our locational and place knowledge by looking at trade links across the world. We will understand the link between a place's natural resources and its imports and exports. We will find out about the UK's supply chains with South America, including chocolate and cotton. We will learn about fair trade and think about global inequality and how different approaches to trade can support goals of sustainability and equality.

The volcanoes and earthquakes unit combines the physical geography of the Earth's crust with the human geography of living in an area prone to natural disasters and coping with the impact. We will learn what happens when a volcano erupts and about life in volcanic areas. The children will look at how an earthquake is caused and how it is measured and will compare the impact of two different earthquakes in different regions of the world- New Zealand and Haiti.

History

In history, Year 5 will cover two units: Ancient Greece and Mayan Civilization.

In this unit children the will develop their understanding of the achievements of one of earliest European Civilizations. They will develop their understanding of historical concepts such as cause and consequence and continuity and change by looking at the Ancient Civilisation of Greece. They

will look at how evidence is used to make historical claims and begin to understand connections between national and international history. Learning will be further enhanced by a 'Living History' visitor.

In this unit, we will be learning about the Maya civilisation and we will be focusing on some key threads; societal structure, trade and legacy. We will be learning where in the world the Maya lived, when they lived and who they were. We will know that they used astronomy, developed calendar systems and used hieroglyphic writing. The Maya people were also known for creating elaborate ceremonial buildings, such as pyramids, temples and observatories and we will be looking at different aspects of their life.

Modern Foreign Language

In Spanish, Year 5 will cover three units: ¿Tienes una mascota? - Do you have a pet?, En la cafeteria - At the Café and Mi casa - My Home.

In ¿Tienes una mascota? - Do you have a pet, builds upon the theme 'Myself'. By the end of this unit pupils will have the knowledge and skills to present both orally and in written form about the pets they have and/or do not have in Spanish. They will move from 1st person singular to 3rd person singular verb usage so they are able to say what the pet is called and use conjunctions more confidently.

In En la cafeteria - At the Café, the children will have the knowledge and skills necessary to perform a short role-play in a Spanish cafeteria. This is a unit that consolidates much of the grammar covered in our Early Language teaching type (nouns, gender, determiners and plurality) so that pupils can say and write what they are ordering to eat and/or drink using a wider range of vocabulary alongside very useful transactional language for the world around them.

Mi casa - My Home, the children will have the knowledge and skills to present both orally and in written form about where they live and which rooms they have and do not have in their homes in Spanish. This is a unit that focuses on recycling previously learnt grammar, using it with new vocabulary, conjunctions and grammar, demonstrating a growing ability to create independent responses. This unit continues to build upon the theme 'Myself' and 'The World Around Me' as pupils orally present and write where they live and what their homes look like.

Music

In Music, Year 5 will cover three units: Rhythm Builders, Music and Words and Song Ingredients.

In our first unit, Rhythm Builders, the children will develop their understanding of rhythm and rhythmic notation. They will get to grips with time signatures, learning to 'feel' the difference between three and four beats in a bar. They will explore folk traditions such as Morris dancing and Basque dance and have fun creating and performing their own dances.

In Music and Words, the children will brush up their Italiano, improvise musical conversations, scat like Ella Fitzgerald and compose music inspired by poetry!

In our final unit, Song Ingredients, the children will learn about the key ingredients used in songs: rhythm, melody, harmony and lyrics!

Physical Education

In physical education we cover a number of areas throughout the year including: fundamental skills, invasion games (handball, basketball and hockey), gymnastics, dance, net and wall games (volleyball and tennis), health and fitness (circuit training), striking and fielding (rounders) and athletics.

Children have two PE sessions per week, including one delivered by the class team and one delivered by our sports provider Grassroots.

Religious Education

In religious education, Year 5 learn about both the Christian and Buddhism.

For each religion we learn about sacred texts, places of worship, beliefs and traditions, festivals and families, significant people of faith as well as exploring how the children and others feel about life and universe around them. Children then compare and contrast, recognising similarities and differences of each faith.

Science

In science, Year 5 will cover five units: Animals including humans, Living things and their habitats, Earth and Space, Forces and Properties and Changes of Materials.

In animals including humans, we study animals, including humans, as part of the discipline of biology - the study of living organisms. In this Year 5 unit, pupils learn about the changes a human goes through as they develop across their lifetime. Pupils learn what older people need to stay healthy and the difficulties they may face.

In Living things and their habitats, we learn about plants and animals as part of the study of living organisms. The children will learn about the part flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.

In Earth and space, the children will learn the movement of the Moon relative to the Earth, being able to describe the Sun, Earth and Moon as approximately spherical bodies and use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.

In Forces, we learn knowledge of resistance and friction, are able to compare how things move on different surfaces and know that applying forces to objects can change their shape. They will learn about gravity, knowing that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object. We will also look at air resistance, water resistance and friction, that act between moving surfaces. By the end of the unit, pupils will know that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect

In Properties and Changes of Materials, the children further develop their knowledge as they compare and group together everyday materials on the basis of their properties, including hardness solubility, transparency, electrical and thermal conductivity. They will experiment with some materials knowing they will dissolve in liquid to form a solution, and knowing how to recover a substance from a solution. They will look at how materials change state when they are heated or cooled (e.g. evaporation and condensation in the water cycle) and associate the rate of evaporation with temperature.

Enrichment Activities

Throughout the year, Year 5 take part in a number of enrichment activities. These include educational visits, visitors into school and after school clubs.

Educational visits that Year 5 take part in include:
Robinwood: Three day residential including activities that will challenge, develop teamwork and stimulate the imagination.

Educational visitor to school:
History to Life days: covering Ancient Greece.
History to Life days: covering Maya Civilisation.
Bikeability: cycle training is a practical training programme, which provides schoolchildren with a life skill and enables them to cycle confidently and competently on today's roads.

Year 5 have access to a range of after school activities. These can be found on the school website.