

# Heather Garth Primary Academy

## **Year 6 Programme of Study**



Heather Garth  
Primary Academy  
Stars Aiming High

## Reading

At Heather Garth, we teach reading through both small groups guided reading sessions and the whole class Jane Considine Comprehension Units.

We also read age-appropriate texts to the children on a daily basis to encourage reading for pleasure.

Please refer to the Year 6 Termly Overview in the reading section of the school website for a detailed overview of the texts we use.

## English

At Heather Garth, we teach English in Year 6 through the use of carefully developed themed units. These units are created to draw upon prior learning from the wider curriculum. This is to ensure the children are securing understanding of key conceptual vocabulary and context. Over the year, these units cover a wide range of age-appropriate, challenging narratives/novels, non-fiction and poetry.

These units are used in whole class reading lessons to develop pupils' vocabulary, oracy, fluency, comprehension and to apply the reading skills they have been taught. Staff integrate carefully developed assessment activities into each unit to check that pupils have truly learned the important knowledge they have been taught and can apply this in meaningful contexts. Explicit teaching of speaking and listening also forms part of our English curriculum, while also ensuring that it is integrated into wider learning.

We also read age-appropriate texts to the children on a daily basis to encourage reading for pleasure.

The English units also provide children with purposeful writing opportunities linked to the texts they have been exploring in their reading lessons. Units teach a full range of writing strategies, including spelling, grammar, sentence structure and composition. 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 blue pens to complete their editing.

Spelling Shed is used to teach spelling weekly. It is directly linked to the English National Curriculum, designed to cover all statutory and non-statutory spelling targets, rules, and high-frequency words. Children can also access this at home so they can practise throughout the week.

Handwriting is taught using the Letterjoin handwriting programme.

Please refer to the Year 6 half-termly English Overviews on the class page for a more detailed overview of the texts studied and the writing opportunities that take place.

## Mathematics

In Year six, the maths units we cover are:

### **Number: Place Value**

Read, write, order and compare numbers up to 10,000,000 and determine the value of each digit.

Recognise the place value of decimal fractions.

Compose and decompose numbers up to 10 million using standard and non-standard partitioning.

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.

Understand the relationship between powers of 10 from 1 hundredth to 10 million, and use this to

make a given number 10, 100, 1,000, 1 tenth, 1 hundredth or 1 thousandth times the size (multiply and divide by 10, 100 and 1,000).

Divide powers of 10, from 1 hundredth to 10 million, into 2, 4, 5 and 10 equal parts, and read scales/number lines with labelled intervals divided into 2, 4, 5 and 10 equal parts.

### **Number- addition subtraction, multiplication + division**

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

Multiply multi-digit number up to 4 digits by a 2-digit number using the formal written method of long multiplication.

Understand that 2 numbers can be related additively or multiplicatively, and quantify additive and multiplicative relationships (multiplicative relationships restricted to multiplication by a whole number).

Divide numbers up to 4 digits by a 2-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 2-digit number using the formal written method of short division, 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 four operations.

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

### **Number: Decimals**

Identify the value of each digit in numbers given to 3 decimal places and multiply numbers by 10, 100 and 1,000 giving answers up to 3 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

### **Number: Percentages**

Solve problems involving the calculation of percentages [for example, of measures and such as 15% of 360] and the use of percentages for comparison.

Recall and use equivalences between simple fractions, decimals and percentages including in different contexts.

### **Number: Algebra**

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.

### **Number: Ratio**

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 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.

### **Fractions**

Use common factors to simplify fractions; use common multiples to express fractions in the same

denomination

Compare and order fractions, including fractions  $> 1$

Generate and describe linear number sequences (with fractions)

Add and subtract fractions with different denominations and mixed numbers, using the concept of equivalent fractions.

Multiply simple pairs of proper fractions, writing the answer in its simplest form

Add and subtract fractions with different denominations and mixed numbers, using the concept of equivalent fractions.

Multiply simple pairs of proper fractions, writing the answer in its simplest form

Divide proper fractions by whole numbers

Associate a fraction with division and calculate decimal fraction equivalents

Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts

### **Geometry- Position and Direction**

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.

### **Geometry: Properties of Shapes**

Draw 2-D shapes using given dimensions and angles.

Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals and regular polygons.

Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.

### **Measurement Converting Units**

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 3dp.

Convert between miles and kilometres.

### **Measurement: Perimeter, Area and Volume**

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  $\text{cm}^3$ ,  $\text{m}^3$  and extending to other units ( $\text{mm}^3$ ,  $\text{km}^3$ )

### **Statistics**

Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius.

Interpret and construct pie charts and line graphs and use these to solve problems

Calculate the mean as an average

### **Problem solving and investigations**

Throughout all aspects of mathematics

## **Art and Design**

In art and design, Year 6 will focus on: Drawing and Painting (digitally), Printing and Sculpture. In the Drawing and painting (digitally) unit, the children will look at the work of Victoria Topping. Victoria works in mixed media to create vibrant prints, digital paintings and collages. The children will produce a digitally modified black and white portrait inspired by the artwork contained in the book 'Mythologica' by Victoria Topping.

In the printing unit, the children will learn about William Morris, an English architect, furniture and fabric designer, artist, writer, and socialist. The children will create a 'William Morris' inspired lino print design using at least 2 colours. The design will be transferred to fabric to create a cushion.

In the Sculpture unit, the children will look at the work of Henry Moore, a well-known sculptor of people with bumpy forms and hollow spaces in their bodies. The children will produce a wire-based sculpture inspired by the artworks of Henry Moore. Children will photograph the sculpture using a green screen backdrop of eg: a park, to see their sculpture in situ.

## **Citizenship**

In citizenship, Year 6 will cover four units: VIP's, Teams, Diverse Britain and Well-being- Think positive, delivered by our Learning Mentor Mrs LeMasurier.

In the VIP unit, the children focus on relationships, identifying who the VIP's are within their family and friendship groups. We explore how important kindness and respect are within these relationships. The unit also addresses conflicts and resolutions, secrets and dares and healthy and unhealthy relationships.

In Teams, we explore the idea that Together Everyone Achieves More. The children look at how to disagree respectfully and communicate effectively- key qualities and skills needed for a team to be successful. We explore the types and effects of unkind behaviours and explore strategies to help in these situations, as well as how important it is to care for team members and share responsibilities.

In Diverse Britain, we encourage the children to identify how they can make a positive contribution to the community. Children will learn about the law and the consequences of not respecting it. They will also learn about the workings of local and national government as well as the role of charities and voluntary groups in British society.

In our final unit, Well-being- Think positive, we look at further supporting children to understand their thoughts and emotions, both positive and negative. It also looks at making good choices, mindfulness and applying a growth mindset approach to life.

## **Computing**

In computing, Year 6 will cover six units: computing systems and networks, programming, online safety, data handling, creating media and a second data handling unit, further developing their knowledge and skills.

In computing systems and networks, the children will discover the history of Bletchley Park and its importance to the World War II war effort. We also learn about code breaking, password hacking and how to stay protected.

In programming, we use the programme Python to create designs and art. We learn how to create loops and to make our codes more efficient.

In our online safety unit, we learn how to deal with issues online, about the impact and consequences

of sharing information online and how to develop a positive online reputation.

In data handling unit one, we identify how barcodes and QR codes work, learning how infrared waves are used for the transmission of data while recognising the uses of RFID.

In creating media, we write, record and edit radio plays set during WWII, learning about how computers have evolved.

In our final data handling unit, we further develop our understanding of how networks and the Internet are able to share information. We also explore how big data can be used to design smart buildings.

## **Design and Technology**

In design and technology, Year 6 will focus on: textiles and food technology.

In textiles, the children will be creating a stuffed toy. The children will decide on the shape and materials they wish to use for their toy before demonstrating a variety of stitches they have learnt previously, as well as being introduced to the blanket stitch. The children will also add extra items, appendages and decorative stitches to complete their stuffed toys.

In food technology, the children will research and prepare a three-course meal. They will research the journey of their main ingredient from “farm to fork” before using a range of methods and equipment to safely and hygienically prepare their meal.

## **Geography**

In geography, Year 6 will cover two units: Climate change and sustainability and mapping the world.

In our climate change and sustainability unit we will locate both the arctic and Antarctic on a globe and atlas as well as learn about life in both regions. We will investigate the impact of climate change on our planet and learn about the ways in which we can live more sustainably using alternative energies.

During the summer term, in preparation for our high school transition, we focus on mapping skills. We explore a range of maps available to geographers and develop understanding of the key features and how they compare. We learn to use the eight compass points to give directions and grid references to locate places on a map. This also helps us to learn about the way places have changed over time.

## **History**

In history, Year 6 will cover three units: World War II and Crime and Punishment.

The World War II unit will fully explain how World War Two began and give the children a more comprehensive understanding of how empire and rebellion influenced Hitler and his plan to dominate Europe. The children will explore the significance of the Battle of Britain and complete a local study, looking at sources from different the local area.

In our Crime and Punishment unit, children will build on their knowledge of periods in history. Children will explore using different historical disciplinary concepts, how crime and punishment has changed over time in Britain. They will explore what was seen as a crime over time and the different gruesome punishments that were handed out to criminals. The children will find out about the development of

the police force from the Victorian period right through to the new millennium

### **Modern Foreign Language**

In Spanish, Year 6 will cover two units: En el colegio - At School and El fin de semana - The Weekend.

In En el colegio - At School, we learn the nouns and determiners/definite articles for ten school subjects in Spanish. We learn to conjugate the verb “to study”, an introduction to time and an expansion of opinions. By the end of the unit, children will have the knowledge and skills to talk about the subjects they like and dislike at school (along with a justification) and at what time / day they study various subjects.

In and El fin de semana - The Weekend, we learn ten phrases for activities we may do at the weekend in Spanish. We also carry out further extension work on telling the time and opinions / justifications.

### **Music**

In Music, Year 6 will cover three units: We’ve got Rhythm, Musical effects and mood and Celebrating Song.

In our first unit, We’ve got Rhythm, the children will explore time signatures and perform together, perform rhythms and polyrhythms expressively and organise rhythmic ideas in a structure.

In Musical effects and mood, we improvise and explore vocal and instrumental effects, use harmony to create moods and atmosphere, explore musical styles and performance skills and compose and perform music to create moods and atmosphere

In our final unit, Celebrating Song, we investigate song “ingredients”, explore scales and sequences, play and create chord sequences and basslines and compose and perform music for an occasion.

We also follow Barnsley Singing Strategy Lessons to supplement our Sparkyard lessons.

### **Physical Education**

In physical education we cover a number of areas throughout the year including: badminton, football, gymnastics, dance, fitness, handball, volleyball, basketball, athletics, Outdoor Adventurous Activities (OAA), tag rugby and rounders. Children have two PE sessions per week, delivered by the class team.

### **Religious Education**

In religious education, Year 6 learn about both the Christian and Sikh faiths.

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 6 will cover five units: animals including humans, living things and their habitats, evolution and inheritance, electricity and light.

In animals including humans, we identify and name the main parts of the human circulatory system and describe the functions of the heart, blood vessels and blood. We describe the ways in which nutrients and water are transported within animals, including humans. We also recognise the impact of diet, exercise, drugs and lifestyle on the way our bodies function.

In living things and their habitats, we 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. We give reasons for classifying plants and animals based on specific characteristics.

In evolution and inheritance, we 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. We recognise that living things produce offspring of the same kind, but that offspring normally vary and are not identical to their parents. We also identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.

In electricity, we learn to associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in a circuit. We 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. We also learn to use recognized symbols when representing a simple circuit in a diagram.

In light, we learn that light appears to travel in straight lines and use this idea to explain that objects are seen because they give out or reflect light into our eyes. We 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. Finally, we explore why shadows have the same shape as the objects that cast them.

## Enrichment Activities

Throughout the year, Year 6 take part in a number of enrichment activities. These include educational visits, visitors into school and after school clubs.

Educational visits that Year 6 take part in include:

Cannon Hall Museum for a World War II immersive experience day.

Crucial Crew to learn about keeping themselves and others safe in the community.

We also have a visit in school from Mr Singh, a Sikh education officer, who comes to talk to us about the Sikh faith as part of our Religious Education studies.

Year 6 have access to a range of after school activities. These can be found on the school website.