

Writing Outcome

To write a fact-file about Katherine Johnson, including a short biography



Y3/4 Word List

believe	interest
century	knowledge
consider	learn
different	popular
difficult	possible
earth	question
eight	remember
famous	separate
favourite	special
history	strength
important	woman/women

Pathways to Write keys

Gateway keys (non-negotiables/basic skills)	Mastery keys (year group national curriculum expectations)	Feature keys (vocabulary, manipulating sentences and tense, structure)
<ul style="list-style-type: none"> Use punctuation correctly (full stops, capital letters - including for proper nouns, exclamation marks, question marks, commas in a list, apostrophes for contraction and singular noun possession) Use subordination (when, if, that, because) and co-ordination (or, and, but) Use present and past tenses correctly and consistently including the progressive form Use expanded noun phrases Write sentences with different forms: statement, command, question, exclamation 	<ul style="list-style-type: none"> Build an increasing range of sentence structures Use prepositions, conjunctions and adverbs to express time, place and cause Use present and past tenses correctly and consistently including the progressive form and the present perfect form Group related ideas into paragraphs 	<p>Information:</p> <ul style="list-style-type: none"> Use specific vocabulary e.g. Olympic, and some technical vocabulary e.g. medallist Use description to compare and contrast e.g. Bolt is one of the most popular sportspeople of the 21st century. Write with clear and precise description Use layout features e.g. questions to draw in the reader, headings and sub-headings, paragraphs to group related ideas, diagrams

Developing Vocabulary

grave—something that is serious

peril—serious and immediate danger.

Astronaut—is a person trained by a human spaceflight program to command, pilot, or serve as a crew member of a spacecraft.

mission—an important Task or duty.

project—an individual or collaborative enterprise that is carefully planned to achieve a particular aim.

explosion—a violent expansion or bursting with noise

feat—an achievement that requires great courage, skill, or strength

celebrate—to take part in special enjoyable activities in order to show that a particular occasion is important

research—investigation into and study of materials and sources in order to establish facts and reach new conclusions

mathematician—someone who uses an extensive knowledge of mathematics in their work, typically to solve mathematical problems.

universe—is all of space and time and their contents, including planets, stars, galaxies, and

all other forms of matter and energy.

agency—a business that represents one group of people when dealing with another group

spaceship—a vehicle or machine designed to fly in outer space.

destination—the place to which someone or something is going or being sent.

energy—how things change and move

design—a plan or drawing produced to show how something will look object before it is made.

orbit—a regular, repeating path that one object in space takes around another one

flight path—a route followed by airplanes or spacecraft when flying.





fuel - a substance that is used to provide heat or power, usually by being burned.

slingshot—the effect of the gravitational pull of a celestial object in accelerating and changing the course of another object or a spacecraft.

gravity—is the force by which a planet or other body draws objects toward its center.

Place Value

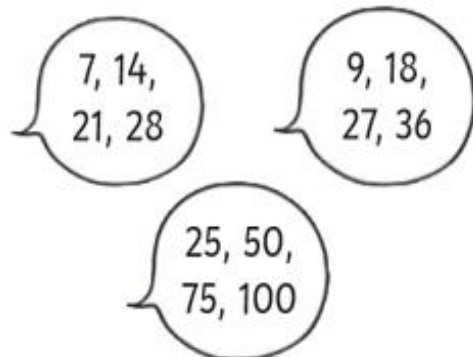
Place Value Chart

			
thousands	hundreds	tens	ones

_____ + _____ + _____ + _____

Counting

Count in multiples of 6, 7, 9, 25 and 1000



Count backwards though zero to include negative numbers

Addition and Subtraction

Methods

Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate

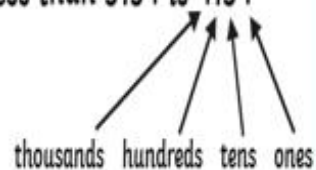
$$\begin{array}{r} 6029 \\ + 457 \\ \hline 6486 \end{array}$$

$$\begin{array}{r} \cancel{4}1\cancel{6}13 \\ - 364 \\ \hline 4809 \end{array}$$

Place Value

Find 1000 more or less than a given number.
Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones)

1000 less than 5134 is 4134



Rounding

Round any number to the nearest 10, 100 or 1000

135 rounded to the nearest 10 is 140
(5 goes up)

2183 rounded to the nearest 100 is 2200
(80 up)

8145 rounded to the nearest 1000 is 8000
(100 down)

Solve Problems

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

Two children collect all the pencils in a classroom, collecting 76 and 105 each. The teacher throws away 43 of them, as they are broken. How many pencils are left?

$$76 + 105 = 181, 181 - 43 = 138$$

Sound – Knowledge Organiser (Saint Nathaniel's Academy Year 4 Autumn 1)

Sound Travels to the Ear

Sounds are made when objects **vibrate**. The vibration makes the air around vibrate, and the air vibrations enter your ear. Our brain hears the vibrations and turns this into a sound.

How Sound is Made

- Like light, sound travels through the air in waves.
- Sound is made by air molecules vibrating.
- When you clap your hands, the air around your hands shakes. This is the air molecules vibrating.



When air molecules inside the ear vibrate, they shake tiny hairs on the insides of the ears. The hairs are connected to nerves under the skin.



These nerves send messages to your brain to tell you that you heard a noise. Sound travels much slower than light, whether in air or in water. You often hear things after you see them, for example you see the lightning before you hear the thunder.

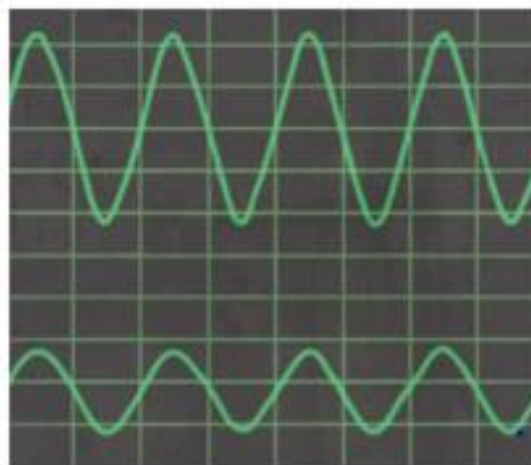


Vibrations - Sounds are made when something vibrates. By placing rice on a drum, you can see the vibrations when you hit the drum, as well as hearing the sound.



Loud and Quiet

The louder the sound, the bigger the vibration. You should have noticed that the rice grains vibrated more when you hit the drum harder, creating a louder sound.

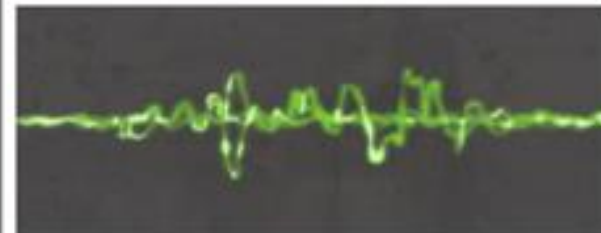


The size of the vibration is called the amplitude.

Quieter sounds have a smaller amplitude, and louder sounds have a bigger amplitude.

How Does Sound Travel ?

Sound can travel through solids, liquids and gases. Sound travels as a wave, vibrating the particles in the medium it is travelling in.



So in our example, when you hit the drum, the drum skin vibrated. This made the air particles closest to the drum start to vibrate as well. The vibrations then passed to the next air particle, then the next, then the next. This carried on until the air particles closest to your ear vibrated, passing the vibrations into your ear.

Absorbing Sounds If you lived near a noisy building site, or a busy nightclub, you would not want to hear the sounds of the machines or music! You would need to find a way to absorb the sounds so your house remained quiet and peaceful. This is called soundproofing.

The Time around the World



Key Vocabulary

Equator	An imaginary line that is drawn around the middle of the Earth to divide it into the Northern and Southern Hemispheres.
Northern Hemisphere	The half of the earth that is north of the equator
Southern Hemisphere	The half of the earth that is south of the equator
Latitude	Lines of latitude are a series of imaginary lines that divide up the Earth from north to south.
Longitude	Lines of longitude run between the North and South Pole.
Co-ordinates	A set of values that show the exact position of something.
The tropics	The region of the Earth's surface that is closest to the Equator is called the tropics.
Climate	Climate is the average weather in a place over many years.
Greenwich mean time	Greenwich Mean Time is an internationally standard time format. It is the main time zone in several countries, including the United Kingdom and Portugal
Time zone	A time zone is an area on Earth that has a specific time that all citizens can set their clocks to.

Map of the World



Interesting Facts

- Earth is widest at the Equator. If you sailed around the Earth along the Equator, you'd travel almost 25,000 miles. If you sailed around the Earth on any other line of latitude, you would travel a shorter distance.
- In the North Pole, from March to August it is daylight for 24 hours!
- On average in the UK there are 133 days of rain or snow. In Hawaii, there are 272 days of rain each year!

Insects – Knowledge Organiser (Saint Nathaniel's Academy Year 4 Autumn 1)

Unit Overview – In this unit you will use pencil, colour, mosaic design, puppet making and sculpture to create quality artwork. You will also find out about some artists who produce work about insects such as Louise Bourgeois and Jenifer Angus.

Key Vocabulary

Sculpture	The art of making 2d or 3d objects using materials such as wood, stone, plaster or metal.
Mosaic	A picture or pattern produced by arranging together small pieces of stone, tile, glass, etc.
Line	A drawing done using only narrow lines, without blocks of shading.
Pattern	A repeated design that is used to decorate something.
Texture	Texture refers to the way an object feels to the touch or looks as it may feel if it were touched.
Observational drawing	Studying an object carefully and carefully drawing what you see.
Thorax	The middle section of the body of an insect.
Abdomen	The abdomen is located just below the thorax.
Antennae	The antennae are located on insects head and help it to smell, touch and hear.



Activities

- Study a range of insects closely and carefully draw what you see in pencil and in colour.
- Design and create an insect mosaic using squares of coloured paper.
- Make a 3D model of an insect using a range of materials and resources.

