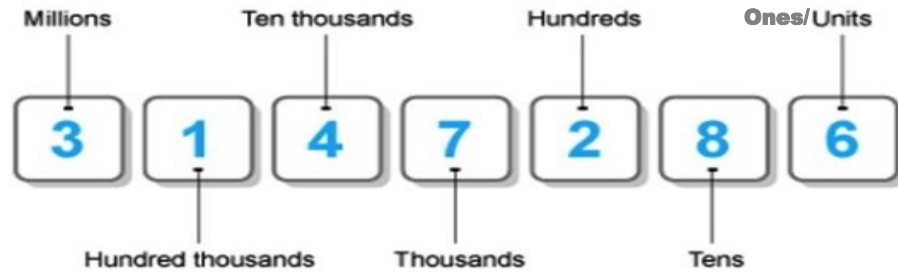




Saint Nathaniel's Academy  
Knowledge Organisers  
Autumn Term One  
Year 6

## Place Value



### Vocabulary

**Numeral/Digit** — A single numerical symbol which can be used to create a number e.g. 0,1,2,3,4,5,6,7,8,9

**Value**—The amount that the digit represents in Place value e.g. The digit 4 in the number 49 has a value of 40.

**Partitioned**—Splitting the number into it's place values e.g.  $452 = 400 + 50 + 2$

**Rounding**—Making a number simpler whilst staying close to it's original value.

**Negative**—A number who's value is less than 0.

### Rounding Poem

Find your **place**  
 Look **next door**  
 5 or greater, **add one** more  
 All digits in front stay the same  
 All digits behind, zero's your name

Example:

Round to nearest ten

6 3 → 60  
 6 5 → 70  
 5 2 → 520  
 5 2 → 530

Round to nearest hundred

4 3 → 400  
 4 6 → 500  
 7 3 → 7300  
 7 3 → 7400

## Four Operations

### Addition

$\begin{array}{r} 1 \\ 65 \\ + 72 \\ \hline 137 \end{array}$	$\begin{array}{r} 1 \quad 1 \\ 296 \\ + 46 \\ \hline 342 \end{array}$	$\begin{array}{r} 1 \quad 1 \\ 276 \\ + 459 \\ \hline 735 \end{array}$
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### Subtraction

Line up the tens and ones with the big number on top.

Subtract the ones.

If the bottom number in the ones column is bigger than the top then adjust from the tens before you subtract.

Subtract the tens

	tens	ones	
	2	3	
	<del>3</del>	3	-
	1	6	
	20	13	
	10	6	
	1	7	

### Multiplication

$\begin{array}{r} 52 \\ \times 38 \\ \hline 416 \\ \hline 1560 \\ \hline 1976 \end{array}$	Write the numbers above each other in columns.
$\begin{array}{r} 52 \\ \times 38 \\ \hline 416 \\ \hline 1560 \\ \hline 1976 \end{array}$	Multiply 52 x 8
$\begin{array}{r} 52 \\ \times 38 \\ \hline 416 \\ \hline 1560 \\ \hline 1976 \end{array}$	Multiply 52 x 30
$\begin{array}{r} 416 \\ + 1560 \\ \hline 1976 \end{array}$	Add the products.

### Division

$84 \div 6 = ?$

	1	4
	6	8
	6	8
		4

### Vocabulary

**Product** — A result of multiplying numbers together e.g. the product of 6 & 3 is 18.

**Multiple**— The product result of one number multiplied by another.

**Factor**—To break a number up into numbers that can be multiplied together to get the original number e.g. Factors of 6 =  $6 \times 1$  &  $2 \times 3$  so 1,2,3 & 6.

**Squared**— A number multiplied by itself  $4^2 = 4 \times 4 = 16$

**Cubed**— A number multiplied by itself and then again  $4^3 = 4 \times 4 \times 4 = 64$

**Prime**— A number with 2 factors, itself and 1.



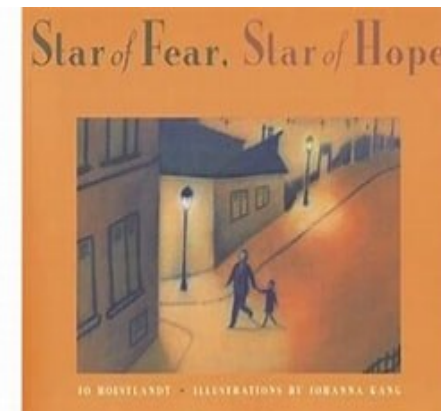
### Writing Outcome

To write a story with a flashback from another character's point of view.


#### Punctuation and Grammar

##### Non-negotiables

- ◆ **Contraction apostrophes** - shortened forms of words from which one or more letters have been omitted
- ◆ **Possessive apostrophes** - When you want to show that someone possesses something, and that someone is **singular**, all you do is add an 's
- ◆ **Commas for lists** - used to separate one **list** item from the next
- ◆ **Paragraph** - 3 or more sentences that group related ideas
- ◆ **Past and present tense** -  
The **past** is used to describe things that have already happened.  
The **present tense** is used to describe things that are happening right now, or things that are continuous..
- ◆ **Preposition, conjunctions and adverbs** to express - time, place and cause.
- ◆ **Expanded noun phrases**, to describe nouns.
- ◆ **Fronted adverbials**, to begin sentences in a descriptive way, telling us how, when or where.



These are the writing 'keys' which we aim to use in our Y6 writing.

 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"> <li>• Use devices to build cohesion within a paragraph</li> <li>• Link ideas across paragraphs using adverbials of time, place and number</li> <li>• Use of inverted commas and other punctuation to punctuate direct speech</li> <li>• Use Y5 standard punctuation</li> <li>• Use consistent and correct tense</li> </ul>	<ul style="list-style-type: none"> <li>• Use expanded noun phrases to convey complicated information concisely (recap from Y5)</li> <li>• Use passive verbs</li> <li>• Link ideas across paragraphs using a wider range of cohesive devices</li> <li>• Integrate dialogue to convey character and advance the action</li> </ul> <p>For suggested information text at the end of the unit:</p> <ul style="list-style-type: none"> <li>• Use a colon to introduce a list</li> <li>• Punctuate bullet points consistently</li> </ul>	<ul style="list-style-type: none"> <li>• Use small details for characters to amuse, entertain or create drama</li> <li>• Engage reader through selecting effective grammar and vocabulary e.g. manipulating sentence length, figurative language</li> <li>• Manipulate tense and verb forms</li> <li>• Manipulate structure using a flashback</li> <li>• Use paragraphs to vary pace and emphasis</li> </ul>

### New Curriculum Spelling List Years 5 and 6

accommodate	communicate	equip	immediately	physical	sincerely
accompany	community	equipped	individual	prejudice	soldier
according	competition	equipment	interfere	privilege	stomach
achieve	conscience	especially	interrupt	profession	sufficient
aggressive	conscious	exaggerate	language	programme	suggest
amateur	controversy	excellent	leisure	pronunciation	symbol
ancient	convenience	existence	lightning	queue	system
apparent	correspond	explanation	marvellous	recognise	temperature
appreciate	criticise	familiar	mischievous	recommend	thorough
attached	curiosity	foreign	muscle	relevant	twelfth
available	definite	forty	necessary	restaurant	variety
average	desperate	frequently	neighbour	rhyme	vegetable
awkward	determined	government	nuisance	rhythm	vehicle
bargain	develop	guarantee	occupy	sacrifice	yacht
bruise	dictionary	harass	occur	secretary	
category	disastrous	hindrance	opportunity	shoulder	
cemetery	embarrass	identity	parliament	signature	
committee	environment	immediate	persuade	sincere	

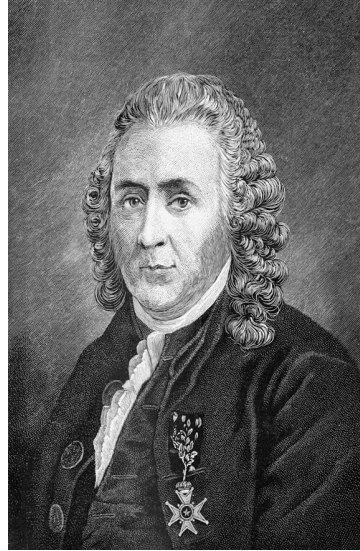


## Classifying Living Things

## Year 6 Science: Autumn 1

### Carolus Linnaeus

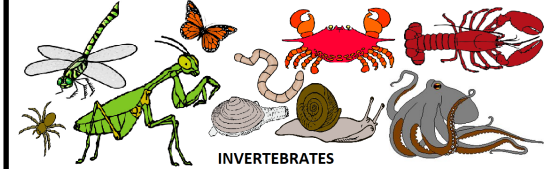
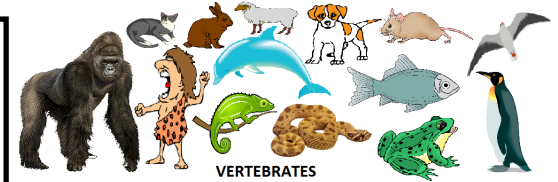
Carolus Linnaeus, a Swedish botanist, devised a way to classify animals and plants based on their shared physical characteristics. He developed this system to classify animals over 200 years ago. We still use it today.



### Important facts

**Vertebrates:** A vertebrate is an animal with a spinal cord surrounded by cartilage or bone. The word comes from vertebrae, the bones that make up the spine. Vertebrates include birds, fish, amphibians, reptiles and mammals.

**Invertebrates:** Invertebrates are animals that neither possess nor develop a spine. Examples of invertebrates include jellyfish, starfish, sea urchins, earthworms and slugs. Some invertebrates have an exoskeleton (a skeleton on the outside of their body) such as a shell.



### Vocabulary

**Amphibians** –small vertebrates that need water or moist environment to survive.

**Classify**—to arrange or organise a group of things into categories.

**Excretion** –the process of eliminating waste.

**Group** –a number of things which are classed together.

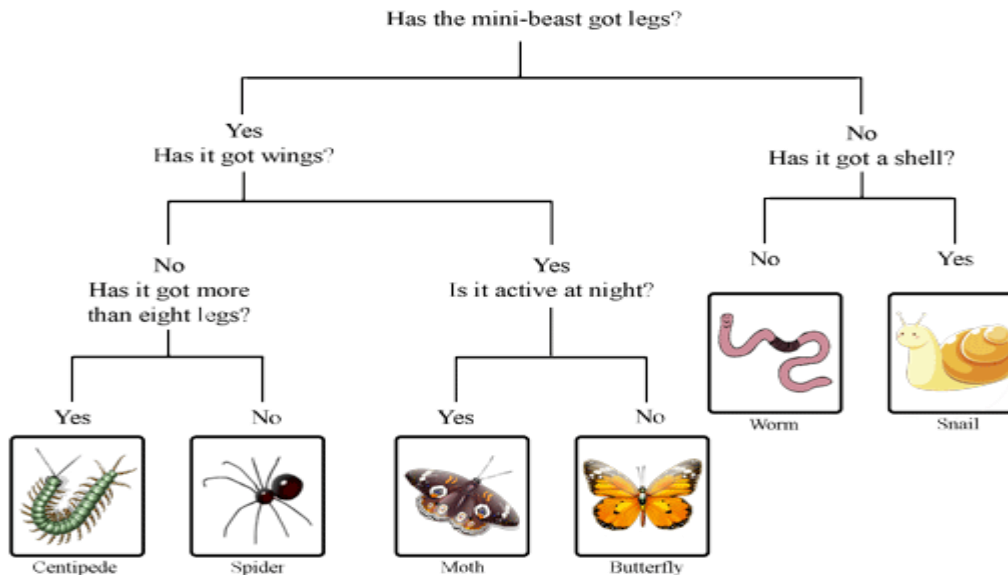
**Grow** –to increase in size or amount

**Move**—to make progress or change state.

**Nutrition** –obtaining food necessary for health and growth.

**Reptile** –a group of animals such as turtles, crocodiles, snakes and lizards.

**Reproduction** –a process by which 'offspring' are produced.



# Extreme Earth

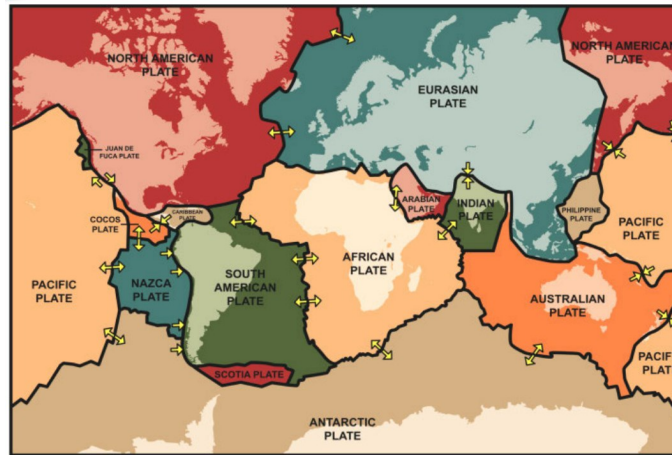
## Year 6 Geography – Autumn 1

### Locational Knowledge:

I can locate some places of extreme temperature ( such as Dallol in Ethiopia and Oymyakon in the Arctic Circle—the hottest and coldest places to live on Earth)



### A map of Earth's tectonic plates



### Human and physical Geography:

I know that the first layer of the earth is called the troposphere and this is where weather occurs

I can use data to create a graph comparing the hottest and coldest inhabited places on earth

I can explain what drought is and some of its causes and effects

I can explain why some areas get more rain than others in relation to the water cycle



### Human and physical

### Geography continued:

I can describe some extreme weather phenomena around the world, including tornados, tropical storms, hail storms and blizzards

I can describe the effects of extreme weather on the environment and know how people are affected

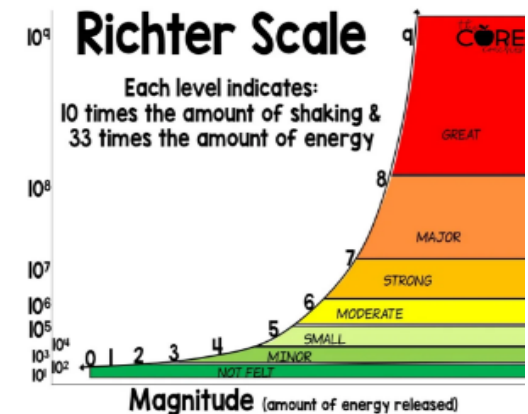
I can use plate tectonics to describe what earthquakes are and why they happen

I know what the Richter scale is

I can describe the effects of earthquakes on the environment and know how people are affected

I know that tsunamis occur when there are earthquakes on the ocean floor

I can describe what happens when a volcano erupts



# Crucial Knowledge Art: Autumn Year 6– Landscape Art

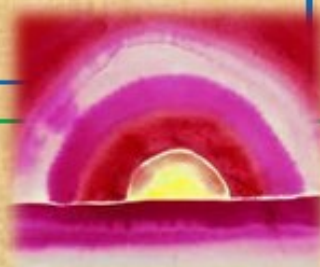


## Drawing– line, pattern and texture

- I can use vanishing points, horizon lines and construction lines to create perspective in my artwork

(perspective, height, width, depth, position, horizon line)

- I can sketch a landscape using linear perspective.
- I can use lines and patterns to create abstract artwork



## Collage, sculpture and 3-D art

- I can explain what collage is and how tearing paper can be used to create different effects
- I can create a torn paper collage of a landscape scene
- I can use different parameters to create torn paper collages, e.g. by altering the size of the paper I am using



## Painting, printing and colour

- I can experiment with different watercolour techniques to create effects
- I can paint a landscape using watercolours (atmospheric perspective, illusion, depth, aerial perspective)
- I can experiment with a variety of mediums, including watercolours and pastels, to explore how the medium changes the effect of a landscape (gradient washes)
- I can create tints and shades using a variety of different mediums
- I can use tints and shades to create atmospheric perspective



## Responding to artwork and using a sketchbook

- I can identify vanishing points and horizon lines in landscape paintings
- I can explain how artists use linear and atmospheric perspective in their artwork
- I can comment on abstract landscapes and explain what I feel about them
- I can create a selection of lines and patterns in my sketchbook to inform my artwork
- I can discuss landscape artwork by famous artists, saying what I think and feel about them
- I can identify which medium has been used to create a piece of art
- I can make decisions about how to create a piece of landscape artwork based on the ideas I have



Ivan Aivazovsky