PSHE/RSE Knowledge Organiser Year 4 Spring 2



How can we manage risk in different places?

Essential Vacabulary		
predict	say what might happen as a consequence	
unfamiliar	unknown, not experienced/recognised	
antisocial	annoying/upsetting behaviour contrary to laws	
peer pressure	influence of friends/other children	

Key Knowledge

- Learn how to keep safe in the local environment and less familiar locations (e.g. near rail, water, road; fire/firework safety; sun safety and the safe use of digital devices when out and about)
- Understand how people can be influenced by their peers' behaviour and by a desire for peer approval and how to manage this influence
- Revise how people's online actions can impact on other people and how to keep safe online, including managing requests for personal information and recognising what is appropriate to share or not share online. Also how to report concerns, including about inappropriate online content and contact

Links to Prior Learning.

- Know how to recognise hazards
- Know how to help keep their body protected and safe, e.g. wearing a seatbelt, protective clothing and stabilizers, cycle helmet etc, bright clothes in dark months
- Learn that their body belongs to them and should not be hurt or touched without their permission; what to do and who to tell if they feel uncomfortable – (recap NCPCC Pantasuarus if required)
- Discover how everyday health and hygiene rules and routines help people stay safe and healthy (including managing the use of medicines, such as for allergies and asthma, and other household products responsibly)
- Basic First Aid

Key Questions

- · How do we stay safe?
- How are we influenced by friends/others?
- How can we keep ourselves/others safe online?
- What do I do if I'm worried about something online?

RSE No Outsiders

Red. A Crayon's Story by Michael Hall.

Children will discuss the idea that sometimes people don't speak up and say what it means to be proud of whot you are.



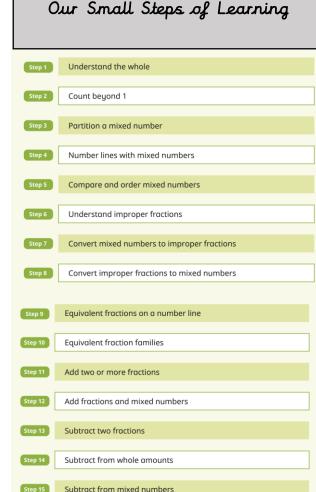
Michael Hall

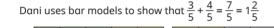
Fractions - Number

Essential Vocabulary		
Tenths	One out of ten equal parts of a whole	
Hundreths	One out of one hundred equal parts of a whole	
Equivalent	Equal in value, function or meaning	
Simplify	Reducing to it's simplest form	
Denominator	The number below the line in the fraction. The denominator shows how many parts the whole has been split in to.	
Numerator	The number above the line in the fraction. The numerator shows how many parts of the whole we have.	
Mixed number fraction	A combination of an integer (whole number) and fraction (part of a whole number).	
Improper fraction	A fraction that has a numerator that is greater or equal to the denominator.	

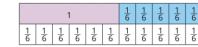
Links to Prior Learning

- In Year 3, recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators
- · In Year 3 count up and down in tenths
- In Key Stage | rec'ognise simple equivalent fractions













Key Questions

- Has the whole been divided into equal parts? How do you know?
- What do you know about a fraction with the same numerator and denominator?
- What is a mixed number fraction?
- How can you partition the mixed number into wholes and a fraction?
- · What is each interval worth on the number line?
- How is comparing mixed numbers similar to comparing proper fractions? How is it different?
- What do you think comes next in this count: 3 fifths, 4 fifths, 5 fifths?
- How do you know if a fraction is improper?
- What are equivalent fractions?
- Are the denominators the same? Why is this important?
- How can you partition the whole number to help with the subtraction?

Key Knowledge

- Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators
- Recognise and show, using diagrams, families of common equivalent fractions
- Add and subtract fractions with the same denominator

Decimals. - Number

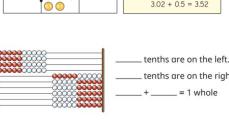
Essential Vocabulary		
Decimal point	A point or dot after the figure.	
Tenths	The first digit to the right of the decimal point indicates the tenths	
Hundreths	The second digit to the right of the decimal point indicates the hundreths	
Equivalent	Equal in value	
Rounding	Making a number simpler but still close to it's actual value.	

Links to Prior Learning

- In Year 3 understanding that tenths are a whole split into 10.
- · Understanding of parts and whole in Key Stage

Ones	Tenths	Hundredths
1	• 0.0 0.1	0.01 0.01
		-
Ones	Tenths	Hundredths
11	•	0.01 0.01
Ones	Tenths	Hundredths
111	•	0.01 0.01 0.01

0000000000	tenths are on the left.
999999999999999999999999999999999999999	tenths are on the right
0000000	+ = 1 whole





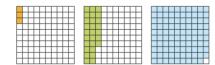


Key Questions

- · When dividing a number by 10, how many equal parts is the number split into?
- · How can you use counters and a place value chart to show dividing a number by 10?
- How can you represent hundredths in a hundred square?
- How many hundredths are there in I whole?
- How is the hundredths column on a place value chart similar to/different from the column?
- Does the decimal point ever move?
- · How many tenths make I whole?
- How many equal parts is I whole split into for one hundredth to be one of the parts?
- What is the role of zero in the number 4.06?
- How could you partition the number into ones, tenths and hundredths?
- How would you write the fraction as a decimal?

Key Knowledge

- · Count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing 1-digit numbers or quantities by 10 (Y3)
 Recognise and write decimal equivalents of any number
- of tenths or hundredths
- Compare numbers with the same number of decimal places up to 2 decimal places
- Find the effect of dividing a 1- or 2-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths
- Solve simple measure and money problems involving fractions and decimals to 2 decimal places.
- Recognise and write decimal equivalents to 1/4, 1/2 and



Year 4 - Spring 2 & Summer 1 - Maths

Science Knowledge Organiser Year 4 Spring 2

States of Matter

	Essential Vocabulary
Evaporation	If water (liquid) is heated, it changes to water vapour (gas). This change is called evaporation.
Condensation	Condensation is when something changes from gas to liquid.
Water cycle	The water cycle shows the continuous movement of water within the Earth and atmosphere.
Particle	A particle is a tiny piece of "stuff" or matter, which we cannot see with our eyes. Every single thing on Earth is made up of these particles.

Links to Prior Learning

Natural materials are materials which are found in nature.

Man-made materials are materials which have been produced by humans. (Year 1)

Materials are used for different purposes based on their properties. (Year 1)

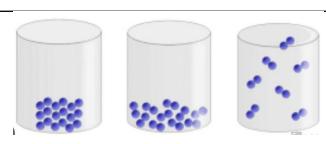
Spoons are made from metal, because it is waterproof and can be cleaned easily. (Year 2)

Key Knowledge

Compare and group materials together, according to whether they are solids, liquids or gases

Observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius

Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.



Key Questions

- What is a particle?
- How are solids, liquids and gases dillerent?
- Why is water so amazing? What is the Water Cycle?



Enquiry Skills - Science Disciplines

Asking relevant questions and using different types of scientific enquiries to answer them.

Setting up simple practical enquiries, comparative and fair tests.

Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units..

Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions. Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.

Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions...

Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions. Identifying differences, similarities or changes related to simple scientific ideas and processes. Using straightforward scientific evidence to answer questions to support their findings.

Fiction- Adventure

Essential Vocabulary		
Expanded noun phrase	An expanded noun phrase gives more detail or information about a noun in a simple noun phrase. e.g. She walked through the dark, mysterious forest.	
Fronted adverbial	Words or phrases placed at the beginning of a sentence which are used to describe the action that follows. e.g. Before sunrise, Zach ate his breakfast.	
Determiner	A type of word that comes before a noun to introduce it and provide additional information about the quantity and proximity of the noun. e.g. 'this plate' or 'my house'.	
First person	First person is used in a narrative when someone wants to refer to themselves. E.g. I, me, my.	
Pronoun	A pronoun is a word that can replace a roun in a sentence. E.g. he, she, you, me, I, we, us, this, them, that	
Dialogue	A conversation between two or more people as a feature of a book, play or film.	

Key Knowledge

This half term we will be reading the books 'Koji's Island' by The Literacy Company and 'Amazing Islands' by Sabrina Weiss and Kerry Hyndman. Both books discuss the beauty of an island that celebrates diversity and explores information on wildlife, history, culture and treasures.

We will explore life through the eyes and minds of the characters in the book by using role play, writing setting descriptions and recounts of the events that unfolded in the style of an adventure story.

We will end this unit by writing our own version of 'Koji Island in either the first person from the point of view from the boy in the story or from the

scientist's point of view.





Key Skills

- Expand noun phrases by the addition of modifying adjectives, nouns and prepositional phrases
- Choose nouns or pronouns appropriately for clarity and cohesion and to avoid repetition
- Use and punctuate direct speech
- Use commas after fronted adverbials

Lime Tree

Primary Academy

- Sequence stories in different stages: introduction, build-up, climax, resolution
- Create dialogue between characters that shows their relationship with each other
- Use first or third person consistently
- Use small details to describe characters and for time, place and mood

Links to Prior Learning

- R.E -Geography 'The Wider World' (Year
 2)
- English- Recount from a character perspective- KSI and KS2
- Science (KSI/2) Animals Including Humans

Year 4 - Spring 2 - English

- Where is the story set?
- Are the texts fiction or nonfiction?
- · How do the styles of text differ?
- Have you visited any of the places on the map? What are your experiences or understanding of the countries discussed in the books?

Mountains of the U.K. - IF YOU WERE A RAMBLER, WHAT WOULD YOUR JOURNEY LOOK LIKE ACROSS A U.K MOUNTAIN RANGE?



EA	Essential Vocabulary	
Physical geography	vegetation, mountains, earthquakes, tectonic plates, volcanoes, erosion, relief map, contour, peak, valley, gradient, cliff, height, landscape, altitude, elevation, topography, the water cycle, deforestation	
Human geography	types of settlement and land use, economic activity, trade links, the distribution of natural resources, energy, food, minerals and water, mountain rescue, farmland, tourism	
Locational	latitude, longitude, Equator, Northern Hemisphere, Southern Hemisphere, Arctic and Antarctic Circle	

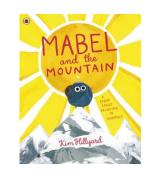
Spring I - Key Knowledge

- Knowledge of volcanoes and earthquakes in simple terms including key features of the places which experience volcanoes and earthquakes around the world.
- · Knowledge of how a mountain forms and where mountains can be located in the U.K.
- · Knowledge of how landscapes are changed by extreme physical events.
- Knowledge of mountains in the U.K and Europe on a local, national and international scale.
- · Knowledge of the key similarities and differences between The Alps (Europe) and The Peak District (The U.K)

Spring 2 - Key Knowledge and Fieldwork Skills

- Knowledge of the human and physical geography impact upon people living in mountainous areas of the U.K.
- · Knowledge of settlement, land use, economic activity and natural resource distribution in the countries studied.
- · Observe, measure and record the local geography using sketch maps and graphs.
- Conduct surveys and simple questionaries
- · Use of simple equipment such as quadrats to measure and record data.

Story Stimulus



Mabel and the Mountain by Kim Hillyard

Fieldwork Visit

- Fieldwork case study -Heaton Park, Manchester - A study on the journey of a rambler in Heaton Park
- Bolton Mountain Rescue guest speakers.

Key Skills

- Name and locate some of the world's countries on a map, focussing on Europe as well as regions in the U.K. Notice their
 environmental regions, key physical and human characteristics, major cities within them and some topographical features too.
- · Use of a wider geographical vocabulary bank to describe places or geographical features in different ways. Use of mathematical and scientific vocabulary to describe geographical features and processes.
- Use of world maps, atlases and globes and OS symbols to identify human and physical characteristics of regions in Europe.
 Use of atlas indexes to locate places, as well as use of a key. Using maps, scale/distances are understood in conjunction with
- mathematical skills.
- Use of the 8 points of a compass and 4 figure coordinates. Use of ariel photographs and satellite images.

The Music Year Theme: Music from Manchester (Spring 1) and LGBTQ+ musicians (Spring 2)



Essential Vocabulary		
Texture	The layers of sound working	
	together to make music interesting to	
	listen to.	
Timbre	The sound quality of all	
	instruments, including the voice.	
Structure	Referring to how the piece of music	
	is constructed with an introduction,	
	verse, chorus and ending perhaps.	
Notation	The link between sound and symbol.	
Tempo	The speed of music; fast, slow or	
	in between.	
Dynamics	How loud or quiet the music is	

	Key Questions
L	Listening
	 What is the mood/feeling of pieces of the piece of music? Who is the composer/writer? Which genre is the piece of music?
	Singing
	 What are the key principles to warming up our voices? Is your voice ready for singing? Why/why not?
Π	Perform (instrumental and vocal)
•	 How can you engage with the audience to enhance the quality of your performance? What were your reflections on the live/recorded performance?

· How will you work effectively to

improvise a successful performance?

Wider Opportunities		
Listening suggest	Listening suggestions for this term	
DAVID BEWIE Space Oddity	David Bowie Space Oddity	
CONTRACTOR	Oasis Wonderwall	
CANPAROCK THIS IS THE	Demi Lovato This is Me	

Links to Prior Learning

In Autumn, Year 4 have learned to play Samba instruments as part of an ensemble by collaborating between classes to deliver a performance to an audience.

Key Knowledge

- The difference between minims, crotchets, paired quavers and rests.
- Recognising the mood and feeling of pieces of music from a range of genres and cultures such as $20^{\rm th}$ Century, Calypso, Rhythm and Blues and Bhangra.
- Recognise major and minor chords and how they contribute to creating specific moods in pieces of music.

Music groups in our local area

- Trafford Music Service (choirs and instrument lessons)
- Sale Youth Choir
- One Education Music Centre
- Greater Manchester Music Hub

Hope from despair (why is Jesus inspiring to some people?)

Essential Vocabulary		
Inspiration	A wanting to do or feel something. Someone inspirational could make you feel that way.	
Salvation	Deliverance from sin and its consequences	
Sacrifice	To give up something for the sake of others.	
Contemporary	Living or occurring at the same time.	
Maundy Thursday	Maundy Thursday is part of the Christian celebration of Easter and marks the night of the Last Supper.	

Links to Prior Learning

- What do we learn from sacred books?
 Year 2
- What does it mean to belong to a faith community? Year I
- · What makes some places sacred? Year I

Key Knowledge

- Being inspirational could be showing you are a good role model.
- Parables can give us examples of how Jesus inspires people. Such as: the kingdom of heaven (Matthew 13:1-45; sower, mustard seed, pearl etc.); parables of forgiveness (good Samaritan, Luke 10:29-37; two debtors, Luke 7:36-50; unforgiving servant, Matthew 18:21-35)
- The events of Holy Week are celebrated by Christians, e.g. Palm Sunday, waving palms; Maundy Thursday, washing feet; sorrow of Good Friday services; darkness in churches on Saturday; light and joy of Easter Day.

Key Skills

- Gather, select and organise ideas about religion and belief.
- Comment on connections between questions, beliefs, values and practice.
- Suggest meanings for a range of forms of religious expression, including symbols, using appropriate vocabulary.

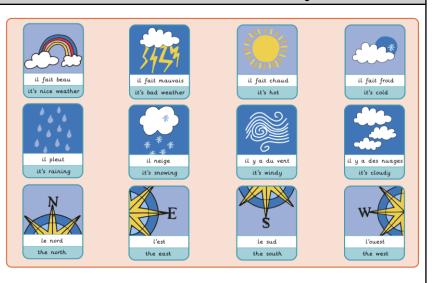


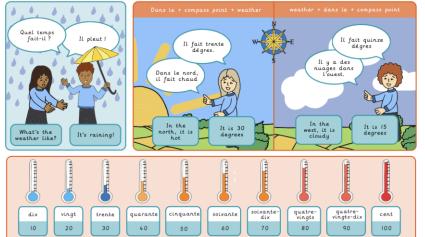
- What makes a person inspirational to others?
- How did the actions of Jesus inspire people?
- How did the words of Jesus inspire people?
- Why do the events of Holy week show that Jesus is so important to Christians today?
- Why do Christians think that Good Friday is "good"?
- How has Jesus had an impact on some inspirational Christians?
- Can the Holy spirit guide Christians to be inspirational like Jesus?

French Weather and the Water Cycle Year 4 Spring 2



Essential Vocabulary





Key Questions

- Can you name some weather phrases?
- Can you repeat short phrases accurately?
- Can you describe the weather using points of the compass?
- Can you recognise the French written words for multiples of ten?
- Can you talk about the water cycle in French?

Key Skills

- Listening and noticing rhyming words in French songs
- Following a short story, text or rhyme, listening and reading at the same time
- Recognising some familiar French words when written in a short phrase
- Beginning to adapt phrases from a rhyme/song
- Recognising that sounds and spelling patterns can be different from English
- Récognising how intonation an gesture can différentiate between statements and questions
- Building confidence by repeating short phrases
- · Selecting and writing short words and phrases

Key Knowledge

- To identify sounds created by linking some of the key phonemes: in, *ou, on, en, eau, eu, ez*
- To recognise and begin to predict key word patterns and spellings
- To compare weather between France and the UK
- To know that in France, temperature is measured in Celsius

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Mechanical systems - Making a slingshot car



Essential Vocabulary		
Air resistance	The kevel of drag on an object as it is forced through the air.	
Aesthetic	How an object or product looks.	
Chassis	The body of a car.	
Kinetic energy	The energy that causes an object to move.	
Net	A flat 2D shape, that can become a 3D shape once assembled.	
Structure	Something that has been made and put together and can usually stand on its own.	
Mechanism	The parts of an object that move together as part of a machine.	

Key Knowledge

- To understand that all moving things have kinetic energy.
- To understand that kinetic energy is the energy that something (object/person) has by being in motion.
- To know that air resistance is the level of drag on an object as it is forced through the air.
- To understand that the shape of a moving object will affect how it moves due to air resistance.

Key Skills

- · Designing a shape that reduces air resistance.
- · Drawing a net to create a structure from.
- Choosing shapes that increase or decrease speed as a result of air resistance.
- Personalising a design.
- Measuring, marking, cutting and assembling with increasing accuracy.
- Making a model based on a chosen design.
- Evaluating the speed of a final product based on: the effect of shape on speed and the accuracy of workmanship on performance.

Key Questions

What can affect air resistance?

What variables can stop the motion of a moving object?

What is a net?

When an object moves quickly through the air, what do we call the object?

What materials are best to reduce air resistance?

Can the structure of a chassis be modified?

What is kinetic energy?



Links to Prior Learning

- In year 3 we learnt how to design and create a pneumatic toy.
- What a pivot is and the motion they can create.
- What a lever is.

Year 4 - Autumn I - Computing Information Technology: Data Logging



Essential Vocabulary		
Data:	Facts or information used by computers.	
Input device:	Tools to give information to a computer.	
Sensor:	Gadgets that measure things.	
Data logger:	Records information over time. Keeping track of events.	
Logging:	Keeping track of events.	
Data point:	A single piece of information.	
Interval:	The space data is divided up in to.	
Analyse:	Studying data for patterns.	
Data set:	A group of information.	
Import:	Bring data in.	
Export:	Send data out.	
Analyse:	Study data closely.	
Data:	Facts or information used by computers.	
Input device:	Tools to give information to a computer.	
Sensor:	Gadgets that measure things.	

Links to Prior Learning

· In Year 3, you explored how to branch data bases

Key Knowledge

- Choose a data set to answer a given question
- Suggest questions that can be answered using a given data set
- Identify data that can be gathered over time
- Explain what data can be collected using sensors
- Use data from a sensor to answer a given question
- Identify that data from sensors can be recorded
- Recognise that a data logger collects data at given points
- · Identify the intervals used to collect data
- Talk about the data that I have captured I can view data at different levels of detail
- · Sort data to find information
- Explain that there are different ways to view data

Online Safety

Health, wellbeing and lifestyle

I can identify times or situations when someone may need to limit the amount of time they use technology e.g. I can suggest strategies to help with limiting this time

Key Questions

What is the purpose of a data lagger, and how does it differ from other input devices we use?

How can sensors help us collect data, and what are some examples of sensors we might encounter in everyday life?

Explain the concept of logging in computing. Why might it be important to keep a record of events? What is the significance of data points in analysing information? Can you provide examples of data points in a real-world scenario?

How do we import and export data in computing? Can you think of situations where importing or exporting data would be useful?

Key Skills (NC Skills)

Use sequence, selection, and repetition in programs; work with variables and various forms of input and output Select, use, and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems, and content that accomplish given goals, including collecting, analysing, evaluating, and presenting data and information

Athletics

Essential Vocabulary		
scissor kick	a kick in which the legs make a sharp snapping movement like that of a pair of scissors.	
baton passing	The "upsweep" involves the incoming athlete passing the baton upward into the receiving hand.	
over -arm throw	made with the arm moving above the shoulder	
triple- jump technique	athletes sprint down a runway and perform three jumps in a row before landing in a sandpit. The three jumps are referred to as a hop, skip (or step) and jump	
hurdle technique	Bring your leading leg up quickly, and point it towards the hurdle. Then, extend your knee once it reaches the height of the barrier	

Links to Prior Learning

From Year 3 :

How to start a sprint race.

The importance of keeping my first few metres low and powerful.

Which my take off foot is.

The technique associated with hurdling

I can improve on personal bests.

Key Knowledge

- · How to start a sprint race.
- The importance of keeping my first few metres low and powerful
- The technique associated with hurdling.
- That my furthest point backwards in long jump triple jump is the point measured in competition.
 - To run in an arc & to approach the bar sideways on when high jumping
- · To position my body sideways on when throwing.
- How to receive and transfer a baton safely
- · How to remember the technique for triple jump.



Key Skills

- Develop my coordination to improve speed.
- Use the correct technique to start a sprint race.
- Be able to hurdle effectively.
- I can scissor kick.
- can jump consistently on each foot.
- Throw over-arm with power and distance.
- Accurately replicate the technique for running, jumping and throwing events.
- Run a relay efficiently as part of a team.



- Describe how you position yourself to start a sprint race.
- What are the techniques you must remember to hurdle successfully?
- What must I remember to do with my legs for triple jump? (hop, step, jump)
- Describe how to warm up safely
- How must I approach the high jump?
- What will give my_over arm throw more power?

