Year: 5	Term: 1
How is the world connected? Visit: Local transport fieldwork study Outcome: Printing exhibition	Builds on: Y1: Where can the sea take us? Y2: Why travel the world? Y4: What makes a building iconic? Leads to: Y6 - Are humans good for the planet?
Key concepts: An understanding that different parts of the word produce different materials due to carried human and physical features and therefore the peoples of the world are interdependent upon one another through trade though this trade isn't always fair or equal. An understanding of the ways that trade and interdependence has supported people to work together and develop knowledge such as in Baghdad in 900AD.	**Key vocabulary:** settlement, land use, economic activity, trade links, natural resources (energy, food, water and minerals) environment, **Animals including humans** Foetus, Embryo, Womb, Gestation, Baby, Toddler, Teenager, Elderly, Growth, Development, Puberty **Living things and their habitats** Mammal, Reproduction, Insect, Amphibian, Bird, Offspring Tessellate, rotate, mirror image, abstract pattern, print block, collograph, lino
Books to support this topic: Golden Domes and Silver Lanterns - Henna Khan The Silk Route - John S. Major	**Resources to support this topic:** **https://www.rgs.org/schools/teaching-resources/global-trade/** https://www.geography.org.uk/teaching-resources/videos/interdependent-world https://www.geography.org.uk/teaching-resources/investigating-longitude-latitude-daylight https://www.ncetm.org.uk/resources/18030
Assessment activities: **Geography:** Quiz: Discussion - Do the connections between us makes us stronger? **Science:** **Observe + Measure - Animals inc Human: growth survey**	

Interpret and report - Living things: life cycle research

Science (Discrete):

- The child can observe and record the life cycles of living things in the local environment including plants, mammals, amphibians, insects and birds and compare these with similar organisms around the world.
- They understand how our knowledge of the living world around the globe has been enhanced by the work of naturalists and animal behaviourists such as David Attenborough and Jane Goodall.
- The child can describe sexual and non-sexual reproduction in plants and can experiment with growing new plants from different parts of the parent plant, for example, seeds, stem and root cuttings, tubers, bulbs.
- The child can describe how animals reproduce through external fertilisation, (e.g. fish, frogs) and internal fertilisation. This should link to their learning in RSE.

Geography

- The child can explain how the world is linked through the need to trade resources including energy, food, minerals and water and manufactured products.
- They understand that Britain, like many developed economies in the 'North' imports raw materials and exports services and manufactured products. They can describe how products such as food and clothing are produced around the world.
- They can locate the world's countries, using maps to focus on Europe (including the location of Russia) and North and South America, concentrating on their environmental regions, key physical and human characteristics, countries, and major cities and understand how this impacts on the countries' trade.
- They recognise that trade is not always fair and consider ways that they can support fair trade.
- They can describe how the demand for certain raw materials is affecting the environment and ways that people are attempting to manage this.
- The child can undertake fieldwork in the local environment to answer questions such as: 'How is Sheffield connected to the world?' through examining transport networks

History

- The child can place the early Islamic civilisation on a large-scale timeline identifying BC and AD and understanding how this period was contemporary to the period of Anglo-Saxon settlement and invasion on the British Isles.
- Using maps, children can locate the city of Mecca, Medina and Baghdad and tell the story of the expansion of Islam in the 7th Century AD showing an understanding for the reasons for this expansion such as: the decline of the Roman empire in the region, the move away from polytheistic religion to monotheist, the spread of religious ideas using established trading routes known as the Silk Routes.
- The child can use a range of sources to identify goods traded along the Silk Route and use this to understand the rise of cities along the route, particularly Baghdad.
- Using primary and secondary sources, the child can describe features of life in Baghdad at the time and compare this to Anglo-Saxon Britain.
- The child can describe how trade links impacted on the development of Baghdad as a centre of knowledge and can describe some of the achievements of the time.

Art

- The child can use their sketchbook to experiment with patterns created by tessellating shapes.

- They can experiment with printing techniques including using small print blocks and stamps to create repeated patterns and using larger print tiles.
- They understand the effect of rotating or reflecting the shape or tile has on the pattern created.
- They can experiment with the use of colour when creating repeated patterns. The child can identify how patterns have been created in everyday items and focus on Islamic tile patterns.
- They can use their understanding of pattern, colour and shape to create an effective repeated design using print techniques.

PE

Orienteering –

- Can find a number of controls on a map working with a partner
- Can run to find controls when working with a partner around the school including the field taking turns to find each control but running for sustained periods of time.
- Can find controls without going in the wrong direction / marking the wrong box.
- Can identify controls on a map working with a partner and discuss where they are in reality.
- Can locate most things e.g. building on a map using the key.
- Mostly shows compassion for others in the race either congratulating others for winning or consoling others for losing.
- Encourages everyone in the group caring for those who aren't as strong.

Music

MFL – French

- To transcribe sentences with opinions
- To give more detailed answers to questions using opinions
- To translate sentences with opinions into English
- To translate sentences with opinions into the target language

Topics: Weather, filming forecast, holidays, writing postcards.

Computing

· Sheffield Scheme Unit 3.4 How is data shared online? (note this is a Year 4 unit in the Sheffield Scheme). Purple Mash Unit 6.6 Networks.

· The child can understand that computers and digital devices all around the world are connected via the internet, and we can use this to share data and information.

· The child creates a survey about the internet habits of class members, e.g. favourite games, websites, who they talk to online. Present findings and share results with another class using a cloud service, blog, VOIP (Skype) or shared drive in school according to school acceptable use policy, and ensuring all data is anonymous.

· Sheffield Scheme Unit 1.5 How do we collaborate online?

- The child understands that the World Wide Web is the collection of information on the network of computers around the world called the Internet. They can use Internet services to share information with others.

The child can create an online resource on a cross-curricular theme using the school blog/YouTube channel and Google Docs. Improve the resource according to feedback.

Year: 5	Term: 2
What is my place in the universe? Visit: Planetarium Outcome: Science fair	Builds on: Y2: What will my great achievement be?
Key concepts: An understanding of the movement of the planets in the solar system including the Earth, sun and moon and the impact of these on Earth. An appreciation of scientific principles. An understanding of how levers, cams and other mechanisms affect the impact or direction of force exerted on an object.	Key vocabulary: variables, repeat, precision, classification, causal relationships latitude, longitude, Equator, Northern Hemisphere, Southern Hemisphere, the Tropics of Cancer and Capricorn, Arctic and Antarctic Circle, the Prime/Greenwich Meridian and time zones **Forces** Air resistance, Water resistance, Friction, Gravity, Newton, Gears, Pulleys **Earth and Space** Earth, Sun, Moon, Axis, Rotation, Day, Night, Phases of the Moon, star, constellation
Books to support this topic:	**Resources to support this topic:**
Assessment activities: **Geography:** Quiz: Identification of latitude, longitude, equator, etc **Science:** Observe + Measure - Forces: spinners Evaluate - Forces: aquadynamics Record - Space craters Explanation: How does the movements of the planets and sun within the solar system **DT:**	

Geography

- The child can identify the position and significance of latitude, longitude, Equator, Northern Hemisphere, Southern Hemisphere, the Tropics of Cancer and Capricorn, Arctic and Antarctic Circle, the Prime/Greenwich Meridian and time zones (including day and night).
- They can use this when describing how the Earth's relation to the Sun affects different parts of the Earth and how the rotation of the Earth explains time zones.

Science

Forces

- The child understands that gravity is a force acting between all objects pulling them towards one another. They know that the larger the object, the greater the force of gravity it exerts.
- They know that the sun and planets exert large forces of gravity and it is this that holds them together in their orbits. They understand that on Earth unsupported objects fall towards the ground because of the force of gravity acting between the Earth and the falling object.
- They understand that all objects fall at the same rate, regardless of their mass and can explain how this was asserted by Galileo Galilei.
- The child understands that air resistance, water resistance and friction are forces that slow objects that are moving. They can describe instances where these forces are useful and where we attempt to limit them.
- The child can plan scientific enquiries to answer questions about these forces, controlling variable where necessary. They might design and making a variety of parachutes and carrying out fair tests to determine which designs are the most effective. They might explore resistance in water by making and testing boats of different shapes.
- The child knows that forces are measured in newtons after Sir Isaac Newton who developed the theory of gravity.
- They can use a newton meter/ force meter to compare the force needed to move objects. They know that a machine is a mechanism that allows a smaller force to have a greater effect.
- They can describe how simple machines work – that levers make that effort or work required to move an object less though the distance pushed is further, (e.g. wheelbarrow), that several pulleys can make it easier to lift an object though twice as much rope needs to be pulled through, (e.g. lifts) and that gears allow smaller amounts of force on smaller cogs to exert larger force on larger cogs though they move slower, (e.g. gears in a bike)

Mechanical systems

- The child can use research to investigate how mechanisms are used in products to make tasks easier.
- The child understands how cross-sectional diagrams and annotated sketches are used to communicate how these products function.
- The child can design a product incorporating a mechanism for a purpose and communicate how it would work using cross-sectional and annotated diagrams.
- The child can use hacksaws, drills and simple wood working tools to create a frame for a simple mechanical system involving a pulley, gear, cam or lever.
- The child can evaluate their product and consider how it could be improved.

Earth and space

- The child can explain that the Earth and other planets are approximately spherical bodies that orbit the sun in the solar system.
- They know that the Earth orbits the sun once every 365.25 days or once a year.
- They understand that although it appears that the sun moves across the sky, scientific observation and evidence has led to this 'heliocentric' model of the solar system.
- They understand the role that scientists (Nicolaus Copernicus, Galileo Galilei) had in refuting earlier 'geocentric' models of the solar system.
- They recognise that the sun is a sources of light and heat and can compare temperatures and lengths of years in the planets in the solar systems using tables.
- The child knows that the Earth spins/ rotates on its axis every 24 hours or once a day.
- They can compare the time of day at different places on the Earth through internet links and direct communication.
- They take measurements using a range of equipment to chart the apparent movement of the sun over a day, for example using a shadow clock. They can record their findings in tables and line graphs and explain what they have found with links to their understanding of Earth's rotation.
- The child knows that a moon orbits a planet and that our moon is one of many in the solar system. They know that the moon orbits the earth every 28 days and that its rotation means that from Earth we only ever see one face of the moon.
- The child recognises that the moon is not a light source but reflects the light form the sun and that although it appears that the moon changes over the month, this is caused by the shadow of the Earth. The child can describe the relative movement of the Earth, sun and moon using models and diagrams.

DT

- In Year 5 pupils will develop their understanding of the design process by making prototypes (building on learning from year 3) and developing this to include annotated sketches, showing clarity of understanding of the purpose of the product.
- Understand and use mechanical systems in their products *(e.g. gears, pulleys, levers and linkages and cams)*
- Apply their understanding of computing to program, monitor and control their products

- Pupils use their knowledge of how wheels and axles move from Year 2 and make links to the science curriculum and their understanding of forces and motion to develop a hand powered mechanism for their toy.
- Pupils in Y5 will be taught how to apply their understanding of computing to program, monitor and control products. These products will be determined by the children as they carry out their design and make process in relation to the computing curriculum and their chosen theme (this will be linked to transition).
- When they evaluate these products, children in Year 5 will build on prior knowledge whilst actively seeking and considering the views of others to improve their work. Pupils can evaluate their own product, judging whether it is fit for purpose against their own criteria and suggest meaningful improvements.

PE

Gymnastics –

- Can sequence points and patch balances together with dynamic movement in a controlled and graceful way.
- Can roll with control in a variety of ways.
- Can jump and land with control and accuracy.
- Can use apparatus to travel using their imagination.
- Can begin to complete dynamic balances with increasing difficulty e.g. cartwheels and handstands.
- Can add straight lines and show core body strength when balancing.
- Can climb to a range of different heights and across on top of a range of different structures.
- Can name a range of different balances.
- Can evaluate their own and others performance referring to each technique point.
- Can work out how to scale apparatus of a variety of heights.
- Encourages everyone in the group caring for those who aren't as strong.
- Accepts peer assessment advice.

Cricket –

- Can turn and change direction when running at a variety of paces.
- Can alter technique when catching and move to the path of the object catching it at high, medium and low levels.
- Can begin to bowl over arm using the correct technique.
- Can strike a moving or stationary ball with control and accuracy using equipment e.g. cricket bat
- Can find space on the pitch to field in a variety of positions, concentrating at all times.
- Can intercept and begins to move the ball quickly.
- Mostly shows compassion for others in a game either congratulating others for winning or consoling others for losing.
- Encourages everyone in the group caring and includes them all during the game no matter their ability.
- Begins to lead and pass on ideas.

Music

MFL – French

- To write down the main points from short passages and conversations
- To ask longer questions and ask for help
- To write down the main points from shorter texts which include people's opinions
- To give an opinion on familiar topics

Topics:Hobbies and sports, food and tasting, expressing preferences
Computing · Sheffield Scheme Unit 4.5 How do I program physical systems? · The child designs, writes and debugs programs that accomplish specific goals, including controlling or simulating physical systems; Working with variables and various forms of input and output; using logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. · The child works in class and in the suite programming Crumble Boards. · Use the Sheffield Scheme Unit 2.5 How do I create a radio advert as the basis for this topic. The child evaluates existing and their own digital content, and edits it to improve it according to feedback. They design and create digital content for a specific purpose. They edit existing digital content to make a new version with an awareness of copyright. The child can understand that people can give permission for others to use their content e.g. using Creative Commons

Year: 5	Term: 3
Does change always lead to progress? Visit: Jorvik Outcome: Book Launch	Builds on: Y1: What happened once upon a time? Y2: What will my great achievement be? Y3: How did people survive and thrive? Y4: What made Rome powerful? Lead to: Y6: Who Decides?
Key concepts: How to use a range of historical sources to develop a full picture of the lives of people in the past. An understanding of conflicting interpretations of the past means that lives of people can be seen in positive or negative ways compared to modern days. An understanding that despite technological developments community and quality craftwork are key elements of the Anglo-Saxon and Viking periods.	Key vocabulary: change, progress, primary source, secondary source examine, impact, evidence , illustrate invasion, fall of an empire, Anglo Saxons, Vikings, Normans, invade, empire, pillage, raid, chronological, timeline, culture, civilisation, artefacts, armies, weapons, sword, shield, helmet, tapestry, long ship, Jutes, Tribes, Sutton Hoo, Norse, thatched, Lindisfarne, settlement, conquest, voyage, conquest, warrior, outlaws **States of Matter** Solid, Liquid, Gas, Evaporation, Condensation, Particles, Temperature, Freezing, Heating **Properties and changes of materials** Hardness, Solubility, Transparency, Conductivity, Magnetic, Filter, Evaporation, Dissolving, Mixing
Books to support this unit:	Resources to support this unit: https://www.vam.ac.uk/collections/manuscripts
Assessment activities: **History:** Quiz: Discussion: 'Has change led to progress?' **Science:** Record - Sugar cubes Interpret + Report - Champion tapes	

Ask Qs and plan enquiry - Materials: dissolving

History:

- The child can place the period of Anglo-Saxon and Viking invasion and settlement on a large-scale timeline identifying BC and AD and being able to explain what these mean. They can place some key events chronicling the period and make links back to their previous learning on the earliest settlers, Romans and forward to the Medieval period.
- They understand that this period of history was characterised by the development of Anglo-Saxon kingdoms and the beginning of the rule of law, the spread of Christianity and development of religion and the beginning of writing and written culture. Despite this however the threat of Viking invasion and settlement menat life was still very dangerous.
- They can describe key events during the period and place these on a smaller-scale timeline such as Saxon invasion, settlement and the development of Christianity from 400AD, Viking raids from 790sAD including the sack of Lindisfarne in 793, Viking invasion from 871AD, Guthrum's defeat at the Battle of Edington in 878AD and the Danelaw, Unification of Britain under Edgar of Wessex in 973AD, Battle of Hastings and Norman conquest under William of Normandy in 1066AD.
- The child can use and interpret a range of sources including written 'Chronicles', art works and objects such as those from the Sutton Hoo burial to describe the lives of peoples at the time, comparing it to their own and empathising with people for the past during particular events such as the Lindisfarne raids.
- The child can use what they have learnt about peoples during this period to consider and evaluate how changes over the period contributed to overall progress and compare this to their own lives.

Geography:

- The child can locate modern British counties on a map of the British Isles and compare this with Anglo-Saxon Kingdoms.
- They can identify and locate the migratory paths of the Saxons and Vikings using a map of Europe and identify the modern day countries they came from.
- The child understands the geographical features that peoples at this time would have looked for when developing a settlement such as shelter, water, fertile ground etc. They recognise that 'Sheffield' is an Anglo-Saxon name and can identify on an OS map of Sheffield the topographical features that lead to this name and Anglo-Saxon settlement of this area.

Art:

- The child understands that the development of tools and practices during this period lead to more detailed craft work (e.g. metal work, tapestry, illustrated manuscripts). They can use these arts works to understand more about the people who produced them.
- The child can use their sketchbook to copy and develop ideas from work of this period, (e.g. illustrated manuscripts, metal work or tapestry).
- The child can develop their craft skills (e.g. embroidery, leatherwork, illustrated letters).
- They combine ideas to create a final piece.

PE

Athletics –

- Show good technique when running both short and long distance.

- Can alter technique based to jump for distance and height.
- Can alter technique when throwing for distance rather than target.
- Can sprint up to 30 metres without slowing drastically.
- Can jump using power in the legs for height and distance.
- Can throw smaller objects with power and aggression.
- Can explain the term pacing and describe how to alter techniques to increase accuracy or power.
- Mostly shows compassion for others in the race either congratulating others for winning or consoling others for losing.
- Encourages everyone in the group caring for those who aren't as strong.

Basketball –

- Can turn and change direction when running at a variety of paces.
- Can alter technique when catching and move to the path of the object catching it at high, medium and low levels.
- Can find space on the court / pitch moving forwards to help attack and back to help defend with speed.
- Can intercept and begins to move the ball quickly to start attacks.
- Mostly shows compassion for others in a game either congratulating others for winning or consoling others for losing.
- Encourages everyone in the group caring and includes them all during the game no matter their ability.

Music

- On a tuned instrument, regularly and accurately perform pieces in at least 3 contrasting tempos and time signatures
- Perform pieces which use offbeat and dotted rhythms and single quaver rests
- Perform from and compose with 5-8 different notes; capture the work in different formats so it can be recreated
- Whilst listening, pick out and perform syncopated and off-beat rhythms; be able to explain why that music uses those types of rhythms
- Create four bar melodies in different tempos and time signatures that can be performed and include some off-beat rhythms
- Perform 8 note melodies or developed chord progressions (e.g. 2+ chords per bar) and more complex rhythms
- Sing pieces, including those from a classical tradition, with a range of at least 8 notes and pieces with at least 2 different parts

MFL – French

- To follow instructions
- To answer questions with more accurate pronunciation
- To look up the meaning of simple unknown words in a dictionary
- To write simple sentences

Topics: Shops, maps and directions, phonic blends. giving preferences, French Christmas traditions.

Computing

- Sheffield Scheme Unit 5.5 How do I create maths games in Scratch?
- The child understands that the output of a program depends on the input. A variable is a value that can change in a program, e.g. score, number of lives.

The child creates a program using a range of events/inputs to control what happens. They use selection in algorithms and programs, i.e. if… then… They can decompose a problem and create a solution (sub-routine) for each step. The child recognises variables in a program.