Y2 Science Planning

A note about the planning

Please read.

This planning has been created and adapted by the science leaders at Sacred Heart RC Primary School. It is primarily based on the ASE planning matrices and the exemplification materials. It includes other high quality resources to support the lessons and assessment, such as Explorify, STEM, BP, YouTube, and TAPs. The planning is set out to provide teachers with a series of approximately 6 lessons (a half term's worth) which include the opportunities for working scientifically, incorporating the 5 enquiry types (a table at the end of the planning shows where these enquiry types have been met).

Each set of plans begins with key learning, possible evidence , vocabulary to be used within the topic (created by the ASE), the statutory national curriculum aims and a suggested LO for that lesson. Where possible, we have included the opportunities to incorporate SMSC into the lessons, the opportunity to develop the children's science capital by providing them with potential job opportunities that this area of science offers and the chance to learn briefly about a scientist who was well-known within that area of study. Teachers may wish to expand on this further in reading/writing lessons. As this planning has been created for teachers at Sacred Heart, this document can be edited by class teachers if they have alternative ideas but they must inform the science lead before hand and the editing must be done in a different colour and not replace the original.

A set of exemplification materials with the activities supplements this planning and is where teachers can see how the activities were delivered and the work produced by children. The exemplification materials also include the national curriculum statements for the previous year group and the later year groups. Teachers should look at this before making any changes to the planning.

Where appropriate, there are teacher notes that provide extra information about what teachers may need to be aware of before the topic begins, such as resources that may need to be purchased before the topic or the way that the topic has been split.

Please note that it is down to the teacher's discretion as to how they adapt the activities for SEND /more able pupils although some suggestions have been made. It is important to remember that currently there is no criteria for GD in science.

The start of each topic should begin with the children completing a concept map with the key vocabulary on to show their understanding prior to the topic. When necessary children should revisit this using a different colour when new learning has taken place and children are secure with their understanding of the vocabulary.

Y2 Plants

1. observe and describe how seeds and bulbs grow into mature plants
2. find out and describe how plants need water, light and a suitable temperature to grow and stay healthy

Please note that this topic involves the planting of different sized seeds. Please ensure children have the correct resources to do so and allow the time in the day to water their plants. Parents will need to be notified that children will be bringing plants home to look after and a text will need to go out to parents asking them to send their child in with something to plant a seed in – this should be an unusual object such as a Pringles tube, yoghurt pot etc.

	Assessment guidance	**Key learning**	**Possible Evidence**
SECURE	Shows understanding of a concept using scientific vocabulary correctly	Plants may grow from either seeds or bulbs. These then germinate and grow into seedlings which then continue to grow into mature plants. These mature plants may have flowers which then develop into seeds, berries, fruits etc. Seeds and bulbs need to be planted outside at particular times of the year and they will germinate and grow at different rates. Some plants are better suited to growing in full sun and some grow better in partial or full shade. Plants also need different amounts of water and space to grow well and stay healthy. **Key vocabulary** As for year 1 plus - light, shade, sun, warm, cool, water, grow, healthy	Can describe how plants that they have grown from seeds and bulbs have developed over time Can identify plants that grew well in different conditions

	Applying knowledge in familiar related contexts, including a range of enquiries	Make close observations of seeds and bulbs Classify seeds and bulbs Research and plan when and how to plant a range of seeds and bulbs Look after the plants as they grow – weeding, thinning, watering etc. Make close observations and measurements of their plants growing from seeds and bulbs Make comparisons between plants as they grow	Can spot similarities and difference between bulbs and seeds Can nurture seeds and bulbs into mature plants identifying the different requirements of different plants

	LOs	Activities
Planning	Lesson 1 LO: to group and classify seeds Grouping and classifying	Introduce the topic by showing the children the video clip and run the activity to spark discussion https://explorify.wellcome.ac.uk/en/activities/whats-going-on/rich-pickings Explain to the children that this half term their science learning will be based on plants. Provide children with a vocabulary concept map and ask them to write down the definitions of the words if they know them. Give chn 10 minutes to complete this. As this topic has previously been covered. Teacher should provide chn with a quick pre-assessment activity to check what the children have remembered from last year. Give them the Y1 plants quiz and possibly the following activity as class. http://www.crickweb.co.uk/ks1science.html Give children a range of seeds and bulbs and ask them to closely observe them. Ask them what they notice, what is the same and what is different about them. Allow the children to group and classify them based on their own criteria – this could be size, shape, or the ones with or without shoots. Once you have discussed this as a class. In pairs, ask the children to make predictions about what they think the seeds will turn into it. There will be lots of 'awe and wonder' for the children in seeing this – that is your SMSC in this lesson x Give children an image of a magnifying glass and inside ask them to carefully draw some of the seeds that they have observed. Ask children to make comments about the seeds/bulbs e.g the bulbs already have shoots but the seeds do not'. 'Some of the bulbs already look like what they will grow into.'

Lesson 2

LO: to plant seeds

observe and describe how seeds and bulbs grow into mature plants find out and describe how plants need water, light and a suitable temperature to grow and stay healthy

Pattern seeking

Observing over time

Begin the lesson with the odd one out activity and ask children to stick this into their books



Children need to make careful observations of the seeds and decide which is the odd one out. Ask the children to think about what one has that the others don't and this should help them to arrive at their decision. Remind the children that some bulbs/seeds turn into fruit/vegetables.

Explain to the class that they are going to be planting seeds which they will need to take care of and look after as they will be our responsibility. This is good spiritual training (in terms of being responsible) . The class will be working scientifically over the next few weeks as they will be investigating the question:

Do bigger seeds create bigger plants?

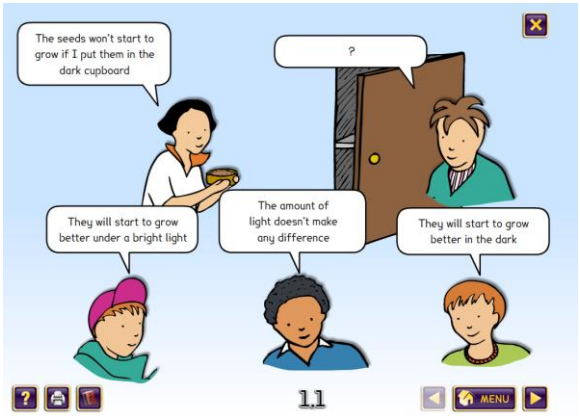
They will be looking to see if a pattern emerges. Do all the small seeds that have been planted end up small and all of the big seeds tall?

Children will need to know what seed they are planting. This activity will likely need to be done in small groups. While one or two groups are planting. Ask the children, in their science books, to make a prediction about what their plants will need to grow, this can be done in pictures. Children may draw the sun, water etc.

TAPs assessment activity

As a class you will also plant some other types of seeds and bulbs for example 3 seeds in 3 different pots and observe them as class over the next few weeks. Ask the children what we could do differently in each of the pots to see how seeds are affected. Ideas could be planting the bulbs upside down, giving one pot more shade than the other, giving one plant more water than the others.

	Lesson 3 observe and describe how seeds and bulbs grow into mature plants **Activity 1 LO:** Record our findings **Activity 2 LO:** Discuss and justify our ideas Observe over time	Show chn the following video https://www.youtube.com/watch?v=Z-iPp6yn0hw of a time lapse of a seed growing. Explain that this has been observed and recorded over a period of time and that it is important to be patient when growing plants. **Activity 1:** **Recording our findings** Give children 2 tables (one for their own seed investigating and one for the whole class planting investigation) with 3 columns – column 1 for week 1 – week 6, column 2 - blank box next to each week for a comment and column 3 a box for children to record the height of their plant. Each week the children will need to draw in what is happening to their seed/plant and describe in words what is happening. This can be done at the very beginning of each lesson. If children have planted In pairs, they can take it in turns to measure the height of the plant and record that into their science books – this can then be used to answer their investigation question. Allow chn to complete the boxes for week 1 and week 2. Again – awe and wonder here is your SMSC x **Activity 2:** Give the children the concept cartoon Ask them to read each statement and to discuss with their partners who they agree and disagree with. Gte the chn to draw a line from each box and to either write agree or correct the comment with that they think (see exemp)

		
	Lesson 4 observe and describe how seeds and bulbs grow into mature plants LO: To record our findings Observation	Ask the children to observe their own plants and in groups the class plants. Chn should record what is happening to each plant on their recording sheet. Tell children they will need to be accurate as this will help to answer their investigation questions. Facetime a farmer – chn should remember doing this in y1 last year. Give the chn 10 minutes to come up with a list of plant related questions to ask the farmer. Remind children that some plants will grow into fruit/vegetables so their questions may be linked to this. Here you're developing the children spiritually as they're allowed to follow their intellectual curiosity, socially they're engaging with someone new, culturally they may be becoming more exposed to a different way of life from one they're used to x Lots here 😊

	Lesson 5: find out and describe how plants need water, light and a suitable temperature to grow and stay healthy LO: To plant seeds in different conditions Pattern seeking	 The chn should have brought in something to plant seeds in (please see exemp). These could be pringles tubes, pots, etc. Explain that in school we have already planted seeds, which we are observing in class, but they will have the chance to take some home today to look after with their families. Allow chn to plant their seeds and provide them with a simple plant diary at the end of the day. You will need to give parents notice of this and encourage the to send pictures in of their plants growing (parental engagement). Pictures may be taken for evidence in books. (Good social activity) Also in doing this, you may be exposing some of the children to a culturally new experience x
	Lesson 6: LO: to answer our investigation question Pattern seeking	Chn need to make a final recording of their plants. Explain to the ch that the plants they have been growing in pairs have been growing for 5-6 weeks now. Before planting we asked ourselves the question: Do bigger seeds grow bigger plants? And now we are going to write a conclusion based on our findings. Ask the children to look back at their recording table. If they planted a smaller seed they must pair up with someone who planted a bigger seed and look at the final height recording. Chn need to compare heights. Bring the chn back together and ask for a show of hands of whose seed has grown the biggest. Record what you find on the board – this could be done as a tally chart. Once complete, ask children to draw the plant that was originally and smaller seed and a plant that was originally a bigger seed and write a simple conclusion. Can they see a pattern? Did this happen for everyone? You could use the always, sometimes, never true approach. In finding out the answer to this, they are finding out something of the mind of the creator of our world x

Y2 Living Things and their Habitats

1. explore and compare the differences between things that are living, dead, and things that have never been alive
2. identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other
3. identify and name a variety of plants and animals in their habitats, including micro-habitats
4. describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food

	Assessment guidance	**Key learning**	**Possible Evidence**
SECURE	Shows understanding of a concept using scientific vocabulary correctly	All objects are either living, dead or have never been alive. Living things are plants (including seeds) and animals. Dead things include dead animals and plants and parts of plants and animals that are no longer attached e.g. leaves and twigs, shells, fur, hair and feathers (this is a simplification but appropriate for year 2 children). An object made of wood is classed as dead. Objects made of rock, metal and plastic have never been alive (again ignoring that plastics are made of fossil fuels). Animals and plants live in a habitat to which they are suited which means that animals have suitable features that help them move and find food and plants have suitable features that help them to grow well. The habitat provides the basic needs of the animals and plants – shelter, food and water. Within a habitat there are different micro-habitats e.g. in a woodland – in the leaf litter, on the bark of trees, on the leaves. These micro-habitats have different conditions e.g. light or dark, damp or dry. These conditions affect what plants and animals live there. The plants and animals in a habitat depend on each other for food and shelter etc. The way that animals obtain their food from plants and other animals can be shown in a food chain. **Key vocabulary:** Living, dead, never been alive, suited, suitable, basic needs, food, food chain, shelter, move, feed, names of local habitats e.g. pond, woodland etc., names of micro-habitats e.g. under logs, in bushes etc.	Can find a range of items outside that are living, dead and never lived Can name a range of animals and plants that live in a habitat and micro-habitats that they have studied Can talk about how the features of these animals and plants make them suitable to the habitat Can talk about what the animals eat in a habitat and how the plants provide shelter for them Can construct a food chain that starts with a plant and has the arrows pointing in the correct direction
	Applying knowledge in familiar related contexts, including a range of enquiries	Explore the outside environment regularly to find objects that are living, dead and have never lived Classify objects found in the local environment Observe animals and plants carefully, drawing and labelling diagrams Create simple food chains for a familiar local habitat from first hand observation and research Create simple food chains from information given e.g. in picture books (Gruffalo etc.)	Can sort into living, dead and never lived Can give key features that mean the animal or plant is suited to its micro-habitat Using a food chain can explain what animals eat Can explain in simple terms why an animal or plant is suited to a habitat e.g. the caterpillar cannot live under the soil like a worm as it needs fresh leaves to eat; the seaweed we found on the beach cannot live in our pond because it is not salty

Please note that Living Things and their Habitats will be split over a full term.

In term 1 – Living things and Micro-habitats

1. identify and name a variety of plants and animals in their habitats, including micro-habitats
2. explore and compare the differences between things that are living, dead, and things that have never been alive

In term 2 – Living things and Larger habitats

3. describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food
4. identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other

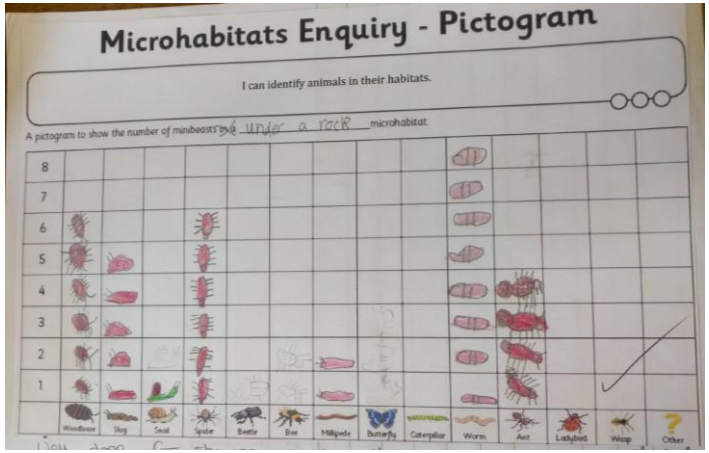
This is to ensure there is enough coverage of the topic and to provide the children with the opportunity to do lots of investigation.

Please take a look at:

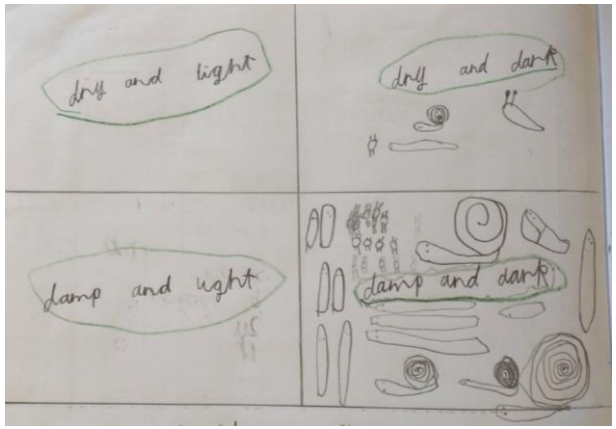
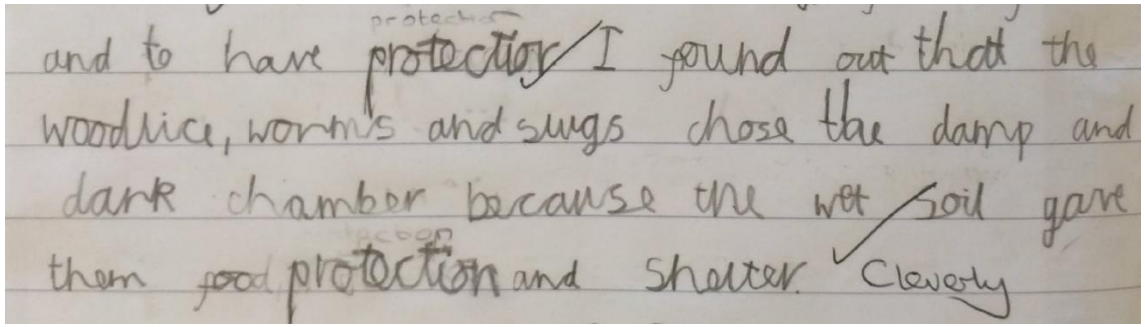
https://www.bhwt.org.uk/wp-content/uploads/2017/08/Every-Living-Thing-resource-pack.pdf This has some fantastic supplementary resources for lessons which can be used and adapted.

	LOs	Activities
Planning	Lesson 1 explore and compare the differences between things that are living, dead, and things that have never been alive LO: identify objects as living, dead or never been alive Grouping and classifying	Introduce the topic by showing the class the Zoom in, zoom out activity https://explorify.wellcome.ac.uk/en/activities/zoom-in-zoom-out/frozen-desert Ask the questions from the 'run activity' section and read and share the background science with the children. Give chn 5-10 minutes to fill in vocab concept map. Explain to the children that their new topic is all about living things and their habitats. Ask the children what is meant by something that is a living thing and ask for examples. Share ideas – this could be done on flip chart paper and stuck on your display. If children provide answers such as all living things can walk/talk/ etc remind them that a plant/seed is also a living thing – if plants has been looked at before this topic then most children should know this already. **Activity 1** Explain to the children that all objects are either living, dead or have never been alive. Tell the children that they are going to go on a hunt around the school/school grounds to collect some items. If chn are collecting minibeasts, please ensure there are suitable pots to collect them in. Once this has taken place children will need to put their items in the middle of their tables –this is when the most important discussion will take place. In table places/groups, chn will need to put their objects into 3 groups – living, dead, never been alive. Hae other items ready such as plastic spoons, glass, metal so that children are aware that those things have never been alive, but, for example, a leaf that was part of a tree was once living, but is now dead. **Activity 2** Give children a table with three columns for the living, dead and never been alive and ask them to draw and label their objects in the correct column. For your Has, ask them to write a few sentences about their choices – sentence states/frames may help with this. For your LAs, provide a table with 2 columns – living and dead. This exploration of the transition of things can lead to discussion on the transitory nature of all matter, energy never dies, it continually transforms.

	Lesson 2 identify and name a variety of plants and animals in their habitats, including micro-habitats LO: To investigate what animals live in micro-habitats Observation	Ask the children what is meant by a habitat and if they can give examples. Make sure children know that animals choose habitats that will provide them with food, shelter and protection – these are natural habitats. Habitats are usually large parts of the earth e.g the ocean/sea, deserts, rainforests, fields, woodland etc where you would find a whole range of animals. **Activity 1** This would be a good opportunity to play the game corners – have 4 habitats printed out and stuck up in the four corners of your classroom. Ask the children to write down on a whiteboard an animal of their choice. When you say go, the children have to go to the habitat that their animal lives in. Those who are wrong have to sit out. Play 2 or 3 rounds and address any misconceptions along the way. **Activity 2** Tell the children that they are going to go on a micro-habitat hunt today and investigate the mini-beasts that live there. Ensure children know what a mini-beast is. Discuss the meaning of the word micro habitat and ask the children where in school they might find micro-habitats. Remind the children that these creatures are part of God's creation and we have been instructed by Pope Francis to care for our common home, ensuring we are respectful at all times. (Good spiritual/moral/social training -caring for our common home) Tell the children they are going to be collecting some data. Give the children a table with names of minibeasts so that hey can write down how many of each mini-beast they find. You could ask the chn to do this as tally chart while outside. Once inside, ask children to turn their tally charts/ numbers into a pictogram.

		
	Lesson 3: identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other LO: To investigate the conditions of micro-habitats	Remind children of last lesson's learning. Can they remember what a micro-habitat is and what did they find there. **Activity 1** Tell the children that they are going to go ack to those micro-habitats but this time they are going to be making careful observations of the conditions that these animals live in. To enhance their experience magnifying glasses could be provided. **Activity 2 – PLEASE NOTE THAT THIS ACTIVITY IS ALSO A TAPs ASSESSMENT ACTIVITY. DOWNLOAD IT FROM** https://pstt.org.uk/resources/curriculum-materials/assessment - WOODLICE ACTIVTY Once back in class give the children a table with 3 columns – column 1 for the name of the mini-beast, column 2 for the micro-habitat e.g under a rock/stone/log and number 3 the conditions of that micro-habitat and get children to fill this in. This will help them to come up with a conclusion from their findings. Underneath the table, children should write sentences based on their findings e.g 'I found lots of woodlice under planks of rocks. The soil was damp so I think woodlice prefer damp and dark conditions.' If time permits, allow chn to fill in their concept map in a different colour with new learning.

	Observation	Finish the lesson by explaining that we all have responsibilities towards other living things. Place four pieces of paper labelled 'people', 'plants' 'animals' and 'all living things' around the room. Good social awareness Explain that you'll call out a job or type of person and the pupils should think about which living things that person cares for and quickly run to the correct corner of the room. Call out the following: Vet, gardener, farmer, doctor, zoo keeper, nurse, tree planter, dog owner, dentist, bee keeper, parent, me. Remind the pupils that some people have special jobs caring for living things but it is up to all of us to look after the people, plants and animals around us. As the class prepare to finish the lesson ask everyone to think of one thing that they can personally do to care for living things; give a few examples such as 'walk my dog', 'water the plants in the classroom' or 'be kind to my brother and sister.' As everyone leaves the room for break, lunch or home time have them take turns to call out what they plan to do to care for living things. Lovely spiritual/moral/social link
	Lesson 4: Identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other LO: To investigate the	Begin the lesson by explaining that today the children are going to be doing some pattern seeking science. They are going to investigate the question: **Will all the woodlice choose the same conditions?**  You will need to have prepared a choice chamber. A plastic box and dark black paper will do. 4 sections must be created. **Light and dry** (uncovered and dry soil), **dark and dry** (covered with dry soil) **light and damp (**uncovered with damp soil) and dark and damp (covered with damp soil) Explain to the children that this is called a choice chamber and your going to investigate the choices that some minibeasts make. Explain each condition. The children are going to make predictions based on last week's work.

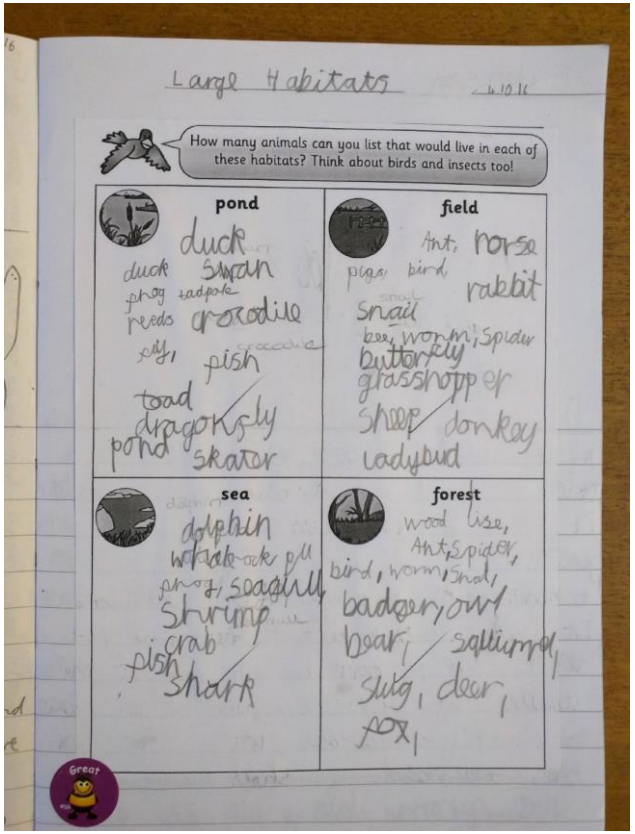
	choices minibeasts make about their habitats Pattern seeking	The predictions can be presented in this way.  Collect some woodlice, worms and other minibeasts and carefully put them into the choice chamber, You will need to allow the children to observe the box to see what happens. Maybe this could be connected through a phone to the whiteboard so all chn can see properly. Look at where the mini-beasts choose to go – take lots of pictures as evidence. Children should then write a short conclusion of their findings. Who decided what each living creature needs? Again, the varying needs of each of God's creation, reveals to us something of the intention of our creator. This could also link to a discussion on human 'needs' and 'wants' and the morally of 'wants' being attained when at the costs of another's need being negated. This would probably be too much as you don't want to detract from flow of lesson – just sharing SMSC things from top of my head which you may be able to use elsewhere if needed x 

	Lesson 5: identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other LO: to construct a food chain	Remind children that animals are suited to their habitats for food, shelter, protection etc. However, many animals still become prey to larger animals. Some animals eat plants, but some animals eat other animals – quiz the chn on their learning in Y1 of herbivores, carnivores and omnivores. https://www.youtube.com/watch?v=bW7PlTaawfQ show the chn the video clip of Mufasa talking to Simba about the circle of life and what animals eat. Draw or show three images on the board, one of a plant/grass, one of a mini beast and one of a larger animal Ask them what eats what. We know that plants can't eat animals so that comes first, out of the 2 remaining pictures, which one eats the pant/grass (herbivore) and finally the last image is the animal that eats the smaller animal (carnivore). Explain that we call this a food chain. Provide the chn with some ore opportunities to see this. Play the game https://www.bbc.co.uk/bitesize/topics/zbnnb9q/articles/zsphrwx Ask the children to create their own food chain. They should use their knowledge of their learning so far and see if they can include some of the minibeasts e.g soil – worm – bird. Good link to the need for good 'relationships' here due to recognising human need for inter-dependence not just with one another but with God's earth.

	Lesson 6:	This final lesson could celebrate learning. A visitor could be invited in such as the bee man to talk to the children about bee hives or the creepy crawly event could be booked. Awesome – again this would expand the children socially, culturally and spiritually x Love it! Launch the habitat in a shoebox competition and give children around 2 weeks to complete the projects – this will support a fantastic display for your classroom/breakout areas Excellent creative links – they could be given some links to certain artistic works for inspiration for a cultural learning opportunity here x

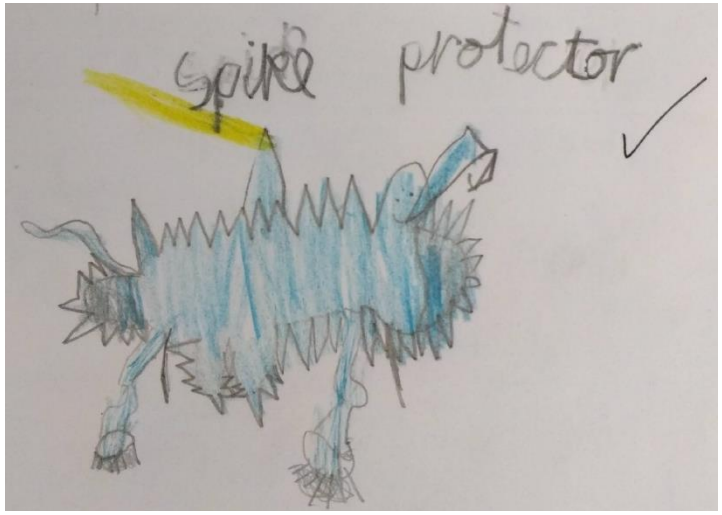
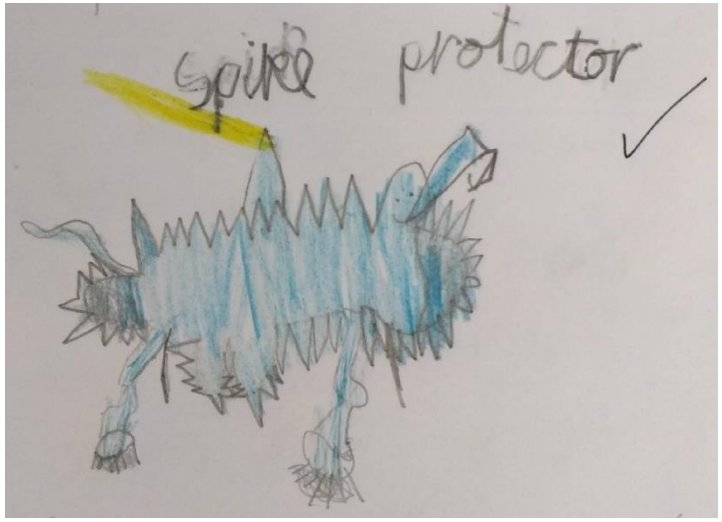
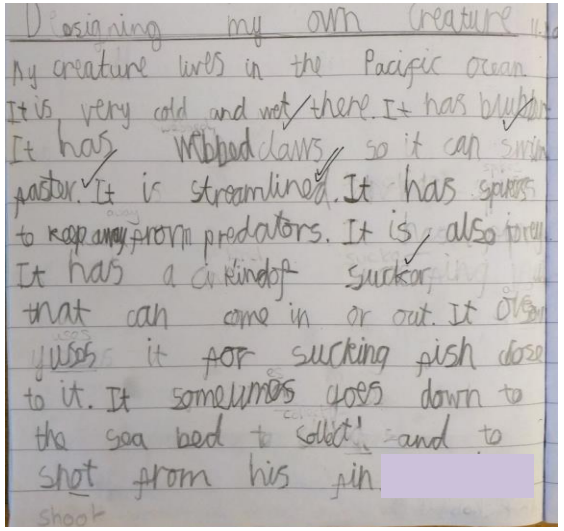
Living things and their Habitats – larger habitats

	LOs	**Activities**

Planning	Lesson 1 identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other LO: To identify which animals live in which habitats	Begin lesson with this video clip https://www.youtube.com/watch?v=ZrSWYE37MJs&t=43s This video clip should remind children of the importance of habitats for animals – food, shelter, protection etc and introduce them to larger habitats around the world. Explain that habitats can be found all around us. Last half term, we looked closely at micro-habitats and mini-beasts. This half term, our focus will be more on larger habitats. We can find some slightly bigger habitats within our school grounds e.g the pond.  Provide children with a sheet similar to this one or ask them to split their science book in half down the middle and half across if you want to avoid using worksheets. Ask them to write underneath each heading which animals you might find Here we could look at the 'providence' of God and also the philosophical question – does everything in existence have a reason/purpose, do we?

	Lesson 2 identify and name a variety of plants and animals in their habitats, including micro-habitats LO: to find out how plants are suited to their habitats Research	Explain to the children that it is not just animals that are suited to their surroundings, plants are too – they should link this back to their work on Plants. Download the YPTE ppt and accompanying notes and read through. Please note that this includes Y4 elements of living things. http://ypte.org.uk/lesson-plans/seashore-plants-and-animals-of-the-rocky-shore?gclid=CjwKCAjw7LX0BRBiEiwA__gNwyyOvdJr8ayenija4cHmZ2j6z1rCGRhbkCqkWG-9N9vta34EOxX_ZRoChSkQAvD_BwE Give each table a different sea plant from the ppt and ask them to produce some information about it. IPads could be used to support learning. This could be presented as a poster but expectations of presentation and handwriting must be consistent. Good 'sense of fascination' – spiritual development.
	Lesson 3: identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other	Introduce the children to the scientist Jane Goodall via a ppt or video clip– you may wish to have a picture of her up on your display. Explain that there are some scientists who research and study animals and their habitats. (A biography of Jane Goodall could be used as part of your guided read time) Tell the children that today, they will be like Jane Goodall as they are going to research different animals around the world. Choose two contrasting larger habitats e.g Arctic and an African habitat like the jungle/desert. To link to Geography show the children where these places are on a map and where they are in relation to the equator. Explain that different habitats are home to different animals. Show images of these two places but do not show tem the animals that live there. Provide the children with a suitable 'research' template for them to note down their findings. You may wish to have questions on this sheet so that the children are guided on what to research and appropriate websites. This could be linked to 'differences' as a part of God's intended design as something to celebrate e.g. different cultures and possibly how climate has impacted on some of these. E.g. skiing being developed in cold places and water

	LO: to find about habitats in two contrasting places Research	drumming in wet places etc. Difference gives us more to play with and greater opportunities to mirror our creator in being creative ourselves.
	Lesson 4 identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other LO: to create an animal and describe the habitat it lives in	Please note that this lesson may go over two Using all of their knowledge tell the children that they are going to be choosing a habitat and creating their own made up animal – this could be a large animal or a small animal like a mini-beast. The challenge is to be able to confidently explain how and why their animal is suited to its habitat. For example, they may wish to pick The Arctic as their habitat – the children should know based on their previous research that animals that live in the Arctic like polar bears/seals have thick fur to protect it from the cold and sharp claws to grip onto the ice. The children should be given adequate time to plan their ideas. They can come up with a new name for this animal.

		Show children this example Wonderful opportunity children to be creative x SMSC could be brought in through looking at some work by an artist who has already done this x The work could be based upon heavenly beings described in the prophet Ezekiel's vision of the heavenly chariot in the first and tenth chapters of the Book of Ezekiel. 
	Lesson 5:	If the children have completed their drawing and labelling. They will need to write about their new creature. They can come up with a new name for this animal. Again this could be linked to Adam naming the animals of the earth, also to classification – apparently humans are the only animals to possess this skill. Show children this example and encourage the children to use key vocabulary. Living, dead, never been alive, suited, suitable, basic needs, food, food chain, shelter, move, feed, names of local habitats e.g. pond, woodland etc., names of micro-habitats e.g. under logs, in bushes etc.   Designing my own creature My creature lives in the Pacific ocean. It is very cold and wet there. It has blubber. It has webbed claws so it can swim faster. It is streamlined. It has spikes to keep away from predators. It is also furry. It has a kind of sucker that can come in or out. It uses it for sucking fish close to it. It sometimes goes down to the sea bed to collect and to shot from his pin shoot

	Lesson 6:	Celebrate the learning of the children over the last term. This could be a fantastic opportunity to showcase all of the wonderful learning that has taken place – shoebox competition, choice chamber, creating their own animals, investigations etc. Invite parents in for the last half an hour of the day and turn your classroom into a Living Things museum showcasing the children's work/pictures etc. This is a super social event, also it's good culturally as you will be discussing features of a museum!

Animals incl. Humans

1. notice that animals, including humans, have offspring which grow into adults
2. find out about and describe the basic needs of animals, including humans, for survival (water, food and air)
3. describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene

	Assessment guidance	**Key learning**	**Possible Evidence**

SECURE	Shows understanding of a concept using scientific vocabulary correctly	Animals including humans have offspring which grow into adults. In humans and some animals these offspring will be young, such as babies or kittens, that grow into adults. In other animals, such as chickens or insects, there may be eggs laid that hatch to young or other stages which then grow to adults. The young of some animals do not look like their parents e.g. tadpoles. All animals including humans have basic needs of feeding, drinking and breathing that must be satisfied in order to survive, and to grow into healthy adults they also need the right amounts and types of food and exercise. Good hygiene is also important in preventing infections and illnesses. **Key vocabulary:** Offspring, reproduction, growth, child, young/old stages (examples - chick/hen, baby/child/adult, caterpillar/butterfly), exercise, heartbeat, breathing, hygiene, germs, disease, food types (examples – meat, fish, vegetables, bread, rice, pasta)	Can describe how animals including humans have offspring which grow into adults, using the appropriate names for the stages Can state the basic needs of animals, including humans, for survival. Can state the importance for humans of exercise, eating the right amounts of different types of food and hygiene. Can name foods in each section of the Eatwell guide
	Applying knowledge in familiar related contexts, including a range of enquiries	Ask people questions and use secondary sources to find out about the life cycles of some animals Observe animals growing over a period of time e.g. chicks, caterpillars, a baby Ask questions of a parent about how they look after their baby Ask pet owners questions about how they look after their pet Explore the effect of exercise on their bodies Classify food in a range of ways, including using the Eatwell guide Investigate washing hands, using glitter gel	Can describe, including using diagrams, the life cycle of some animals, including humans, and their growth to adults e.g. by creating a life cycle book for a younger child Can measure/observe how animals, including humans, grow. Show what they know about looking after a baby/animal by creating a parenting/pet owners' guide Explain how development and health might be affected by differing conditions and needs being met/not met.

Please note that Animals and Humans can be split over the whole term.

Animals term 1
Humans term 2

Also note that butterfly kits are available to purchase between March-June. This is highly recommended and would help to support your learning of life cycles during this topic. https://www.insectlore.co.uk/butterflies/live-butterfly-kits.html

Please watch these videos to help you look after your butterflies

Setting up you Chrysalis Station: https://www.youtube.com/watch?v=8Prw9900jY0

Caring for your Chrysalis: https://www.youtube.com/watch?v=JcwOzy72vcM

Feeding your Butterflies:https://www.youtube.com/watch?v=WupoWdPnDOc

Releasing your Butterflies: https://www.youtube.com/watch?v=7_ImYSNCqBs

You may wish to download the https://ypte.org.uk/lesson-plans/animals-year-1-year-2-key-stage-1 **ppt and lesson plan to support learning. Please note that some of the slides link to Living things. The last few slides are the most appropriate for Animals and Human**

	LOs	Activities

Planning	Lesson 1 notice that animals have offspring which grow in to adults LO: to sort and name animals and their offspring	**If you have managed to obtain a butterfly kit, this should be introduced to the children and set up as soon as possible so that the children can observe what happens over a length of time. Please note that The process from egg to butterfly is weather dependent and also depends on the regional climate. It can take about four weeks in the peak of the summer in warmer climates. The egg takes 5 to 10 days, the larva/caterpillar and pupa/chrysalis each take about 10 to 14 days. The kits are usually delivered with caterpillars not eggs, so the children will need to be informed that the caterpillars hatched from eggs.** **You should allow the chn to make some record of what is happening each week. Provide the children with a table which has week 1 -6 in the column, a space for a written description and a space for an image or sketch.** FaceTime a farmer may be useful here as the children can ask questions and find out if any animals have been born etc. or arrange a trip to a local farm https://leafuk.org/farmertime/home **Activity 1** Provide the children with a range of pictures of animals and their young and explain that when animals have babies we call them their offspring. Ensure to address any misconceptions of anyone referring to animal babies as 'children'. We must remind them that 'children' is the word we use for young humans not animals. The pictures that you provide for the children may include African animals to link to Geography and the Living Things topic. Ask the children to write down the name of the animal and the name for the offspring e.g sheep and lamb, lion and cub etc. **Activity 2** Provide the children with a writing frame (sentence starters/key vocab) to help them to write a short piece of writing comparing animals and offspring (see exemp) Give children 5 minutes to make record in their table (beginning of topic) of what is happening to the caterpillars

	Lesson 2 notice that animals have offspring which grow in to adults LO: to know which animals hatch from eggs and which animals do not	Remind the children that all animals have offspring. Ask the children about the caterpillar/butterfly and where the caterpillar came from. Explain to the children that some animals lay eggs and therefore some baby animals hatch from eggs but other animals don't and stay in their mother's stomachs until they are ready to be born. Ask the children which animals they already know that hatch from eggs and discuss this with the children. Explain that it isn't just birds that lay eggs – other animals do this too. Activity 1 Show the chn the video clip https://www.youtube.com/watch?v=vq8-wqGYve0 Provide children with some baby animals (turtles, chicks, kittens, cubs etc) and ask them to sort them into animals that hatch from eggs and animals that don't. As an extension, children could write whether these eggs are laid on land/nests/in water. Give children 5 minutes to make record in their table (beginning of topic) of what is happening to the caterpillars
	Lesson 3 find out about and describe the basic needs of animals for survival. LO: To describe what animals need to survive	Recap last lesson. Explain to the children that we need all living things need certain thing to help them to survive. Allow children to watch the video clip before – you may wish to give the children some scrap paper to make notes on. https://www.bbc.co.uk/bitesize/topics/z6882hv/articles/zx38wmn - discuss **Activity 1** Provide the children with three different animals (mammal ,fish and bird for example)

	Research	Ask them to write a short piece of text explaining what these animals need and what they've learned from the video clip. You may wish to show the children the exemplification as an example. Give children 5 minutes to make record in their table (beginning of topic) of what is happening to the caterpillars
	Lesson 4: notice that animals, including humans, have offspring which grow into adults Observation over time	Begin the lesson with the quiz below to help recap on the previous lesson. https://www.bbc.co.uk/bitesize/topics/z6882hv/articles/zx38wmn Show the children the video clip https://www.bbc.co.uk/bitesize/clips/zxcmp39 which explains what a life cycle is and uses butterflies as an example. Allow children to make some notes about what is happening to the caterpillar. Make reference to the key vocab **egg, caterpillar, chrysalis, butterfly.** At this stage, the caterpillar should have now become a butterfly. **Activity 1** Ask the children to draw a life cycle of the butterfly and explain that all animals, humans and plants have a life cycle. Children could write a short description of each stage using key vocabulary e.f First, the butterflies began as eggs. It took around 5 days for the eggs to hatch into caterpillars. The RSPCA have some lesson plans/resources for the life cycle of a frog, the children could also look at this and draw the life cycle of a frog https://education.rspca.org.uk/education/teachers/primary/lessonplans/lifecycles/spawntofrog As an extension, they could describe the similarities and differences between the life cycle of a frog and a butterfly.
	Lesson 5: find out about and describe the basic needs	**Please note that this lesson is not on the exemplification materials.** If you feel this will support your teaching, please download https://www.tes.com/teaching-resource/pets-and-wild-animals-6054941.

	of animals for survival. LO: to describe which animals are wild and which animals are domesticated	This lesson will be a fantastic opportunity to have a debate with your class about zoos/conservation parks etc. Explain to the children that we are stewards of creation and that at SH we believe that God has asked us to look after our world, which includes animals. Introduce the words '**domesticated' and 'wild'** and discuss these words with the children. (Good spiritual/moral training) Tell the children that domesticated animals can usually be kept as pets and ask them to think about their pets at home and the pets that we have in school. How do they look after them? Do they need to do anything to help them survive? Ask them to think about what could happen to these animals if they didn't live in their homes. Could they survive? Good for being aware and responsible – this could be extended in terms of asking 'just because we can (domesticate animals), should we? This question may not be appropriate here as it could interrupt the flow of the lesson, but a big part of SMSC in science is in asking ethical questions about the advancements we're making/experiments we're carrying out – do the children agree with them and can they give reasons for their stance? Ask the children what they think the difference between wild and domesticated animals are – eventually arriving at the idea that wild animals can look after themselves – they search/hunt for their own food, look after their young and protect themselves from danger, but pets (domesticated) animals that need humans to look after them. Provide the children with a range of animals (wild, domesticated and of some animals clearly in cages/enclosures) and ask them to sort them - provide the children with a venn diagram to stick the pictures in with the 3 headings and info in brackets – **Wild (animals that look after themselves) Domesticated (pets – animals that need looking after by humans).** Ask the children what they might stick in the middle. After discussion, explain that some animals, although they are considered to be wild animals, are in danger of becoming extinct due to poaching etc. Explain that sometimes, humans may have to intervene to stop this from happening and that is why some Zoos and wildlife enclosures exist. Children can stick an animal in the middle aslong as they can justify their choice and have an understanding that lions, tigers, etc are still wild animals but sometimes need the help of humans to survive – however they are not domesticated in that they couldn't be kept in the house. Again, if children have seen programmes on TV of wild animals that are kept as pets – again this is a good opportunity for discussion and debate. Excellent! Under each picture ask them to write a short description about the animal for example, if the picture was of a dog, they may wish to write: ***'This animal is a dog and it is a domesticated animal. To help a dog survive, humans must buy it food and give it water,***

		humans needs to take it for walks to keep it healthy and take it to the vets if it is unwell. Without humans dogs would struggle to survive. ' For other animals like gerbils/hamsters, children may talk about humans cleaning their cages, making sure their habitat is clean and safe etc.
	Lesson 6:	Cross curricular writing opportunity to be done in writing books – teacher to choose.

This half term will focus on the 'humans' part of the topic.

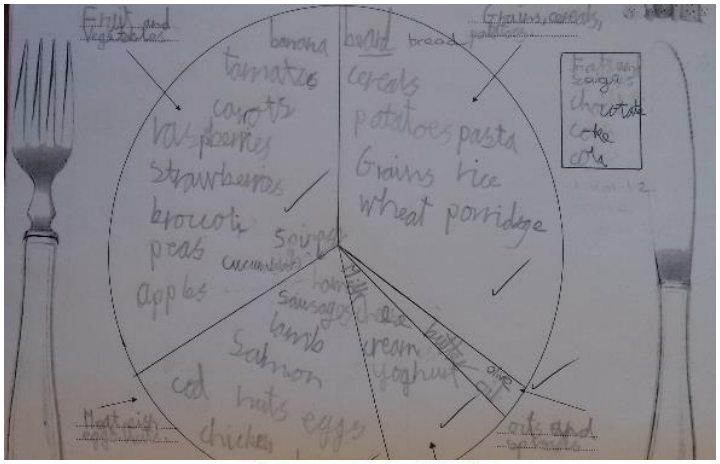
- **notice that animals, including humans, have offspring which grow into adults .**
- **find out and describe the basic needs of animals, including humans, for survival (water, food and air).**
- **describe the importance for humans of exercise, eating the right amounts of different types of foods and hygiene.**

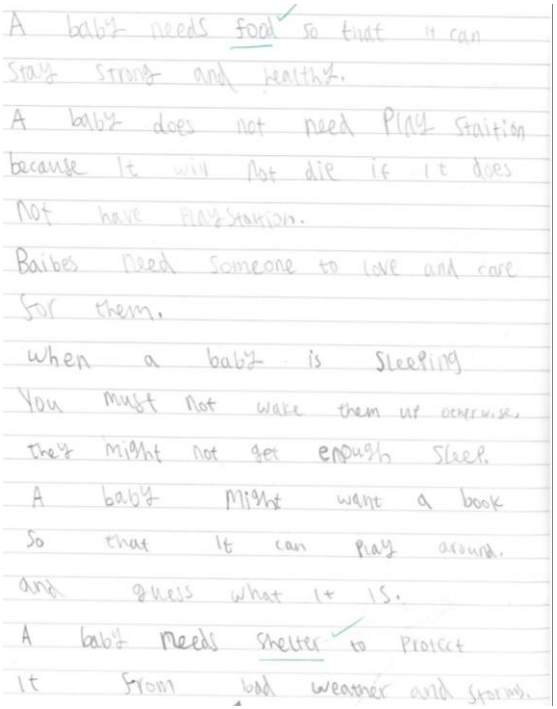
Please note: you will need to collect and clean a number of spray bottles for week 5's investigation.

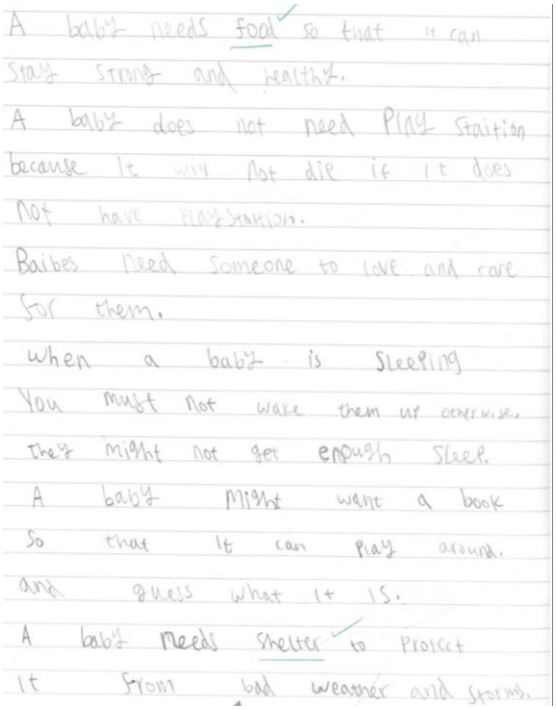
	LOs	Activities
Planning	Lesson 1 describe the importance for humans of exercise, eating the right amounts of different types of foods and hygiene. LO: identify and sort healthy foods and unhealthy foods Grouping,classifying, sorting	Explain to the children that last half term, they learned lots about animals- their basic needs, how thy survive etc and that this half term they will be focussing on us – humans. Show the Mo Farrah ppt to the children and make sure you highlight that he is an extremely successful athlete. Using notebook, display a picture of Mo Farrah and ask the children what they think makes him so successful (last years Y2s came up with things like a healthy diet, getting enough sleep, looking after his mental health – great link to SMSC and PCHSE). This is good in terms of developing self-awareness – did the children have time to reflect on their own self care? Once children have generated their ideas – ask the children to pick three things that they believe humans need in order to survive (they should remember from the animals topic). Explain that we are going to focus on food and healthy eating to begin with. Provide the children (in pairs or groups) with a mixture of pictures of foods and drinks both healthy and non healthy – these will need to be cut up prior to the lesson. Ask the children to sort these in any way they like but allow the children to choose. As you walk around ask the children to justify why they have selected this way of sorting. Ask chn to share with the rest of the class the way in which they have sorted their foods/drinks. Now ask the children to sort them into two groups 'healthy and non-healthy'. Once they have done this, ask them to further sort into healthy solids and healthy liquids and non-healthy solids and non healthy liquids.

		Show the children what a carroll diagram looks like and how it is used. Explain to the children that they are going to be sorting these foods into a carroll diagram. You may wish to give the children other pictures that they can cut and stick into their carroll diagram or ask them to think of their own. As a challenge, you may wish to ask children to justify their answers in writing e.g *cola is unhealthy because it has a lot of sugar in and that is bad for your teeth.* Example from exemplification: 

	Lesson 2 describe the importance for humans of exercise, eating the right amounts of different types of foods and hygiene. LO: to show that I have an understanding of eating the right amount of foods	Last week we discussed the athlete Mo Farrah – we talked about what it means to be a healthy person including mental health, eating well, regular exercise, hygiene and having enough sleep. The children then classified healthy and unhealthy food and drinks in their science books. Show children the two plates of food **(resources can be found on teacher drive)** and ask them what they think about the meal. Is it a balanced meal? What do they think a balanced meal is? – discuss. Should there be anything else on there so the person Is eating the right amount of food? Would they both suffice as meals or snacks? Show children this clip: https://www.bbc.co.uk/bitesize/clips/zwgnvcw then discuss how foods fall into different groups. Write the groups on the board and show chn A3 images. Ask them to decide which groups they think they fall in to.- discuss. **(Print images in colour on A3)** Activity: Provide the children with a blank pie chart based on the Eat Well plate **(resource on teacher drive)** Children need to identify which section of the pie should be for what group. Please note that children do not need to know words like protein and carbohydrates etc. They should label the groups as: Fruit and vegetables Grains Dairy Fats

		Sugars Meat and fish  Here is an example of the eatwell plate and of a child's work in the resources: Children could draw and label to give the work a bit more colour and SEND children could cut and stick the different foods in the right places. 
	Lesson 3 notice that animals, including	Explain to the children that today is very exciting because they have visitor who is coming into school (pre-arranged) with their baby. You may wish to keep this a secret or prepare the class so that they are sensible. Tell the children that they will be allowed to ask questions about the baby (guided towards how the baby is looked after)

	humans, have offspring which grow into adults . find out and describe the basic needs of animals, including humans, for survival (water, food and air). LO: to know that babies need help from older humans to stay safe and healthy	Ask the parent to talk to the children about all the things that they have to do to keep the baby safe and healthy because they are not old enough to look after themselves. If the baby is a bit older, you could ask the parent to talk about their food journey beginning with just milk to solid foods. The baby is unable to make their own healthy choices so parents/carers must make those choices for them and this is what helps the baby to stay safe and healthy so that one day it can grow from a baby to a toddler, to a child, to teenager and then into an adult. Take lots of pictures for evidence, which can be stuck into books and annotated at the start of the next lesson. Example of some writing from the exemp  A baby needs food so that it can stay strong and healthy. A baby does not need Play Station because it will not die if it does not have PlayStation. Baibes Need Someone to love and care for them. when a baby is Sleeping You must not wake them up otherwise. They might not get enough Sleep. A baby Might want a book So that It can Play around. and guess what it is. A baby needs shelter to Project It from bad weather and Storms.
	Lesson 4: describe the importance for humans of exercise,	Remind the children of their visitor last week. Activity 1

	eating the right amounts of different types of foods and hygiene. LO: describe the importance of exercise	Give the children 5-10 minutes under their pictures from last week to describe babies and how they are looked after. Refer to the exemp to help you:  Explain to the children that in order for Mo Farrah to stay healthy and to keep winning, exercise is very important. You may wish to ask the children about the types of exercise they do at home – dance and sports clubs etc. **Please note that this lesson has cross curricular links to P.E and Maths** Explain to the children the important of exercise by showing them this https://www.bbcchildreninneed.co.uk/resources/new-joe-wicks-why-we-need-to-exercise-ppt-ks1/

		Today we are going to investigate how exercise affects our bodies. The investigation that the children will be doing will be involving physical activity looking at how our heart is affected by doing a series of exercises and recording their heart rate before and a range of exercises. Children will record the information on a table and then convert this into a graph
	Lesson 5: describe the importance for humans of exercise, eating the right amounts of different types of foods and hygiene. LO: To understand the importance of good hygiene Observation over time	Ask the children about what it means to be healthy and show them the video below. https://www.youtube.com/watch?v=UxnEuj1c0sw Remind them that to be healthy also includes a having a healthy mind and hygiene. Remind children of the 'topical science' issue that we experienced (Coronavirus). Ask them what they remember about this and discuss with them how important it was for us to wash our hands – why? What did this help us to do? Share this video with the class. (Some of the vocab is tricky for Y2 but the voice over and images are easy for the children to understand) https://www.youtube.com/watch?v=YBGsoimPXZg There are two investigations you can do with the children that show the importance of good hygiene. Please choose one. **Investigation 1:** Split the children into groups and provide each group with 3 pieces of white bread in sealed bags. Ask the children to draw three pieces of bread in their science books with a heading underneath each one (this will be in preparation for next lesson): Sealed bag 1 – Not been touched Sealed bag 2 – Touched before washing our hands

		Sealed bag 3 – Touched after washing our hands Explain to the children that sealed bag number 1 must not be opened by anybody and must stay sealed. Bag number 2 will be opened and passed around the group. Allow each child to hold the piece of bread for at least 10 seconds. Bag number 3 can only be opened and the bread only passed around AFTER each child has thoroughly washed their hands. Discuss the children's thoughts and allow them to make some predictions orally. What do they think will happen to the pieces of bread? Why? **Investigation 2** Provide the children with lab coats and goggles (if they are available), large piece of flip chart paper and a spray bottle filled with coloured water (each group should have a different coloured water spray botte) . Split the children into small groups and provide them with their resources reminding them of the importance of safety – wearing gloves, lab coats and goggles). Explain to the children that they are going to investigate how far a sneeze travels (this activity may be better done outdoors). Place measurement markings on the playground with chalk (10cm, 20cm, 30cm, 40cm, 50cm, 60cm, 70cm, 80cm, 90cm, 100cm) Ask one volunteer from each group to stand with a piece of sugar paper completely covering their face (goggles are essential). Ask 1 other member of the group to stand at 10cm with a spray bottle and to spray just once at the paper and mark on the paper 10cm. Continue to do this with different members of the groups swapping their bottles so that they are using a different colour each time (e.g 10cm blue, 20cm red, 30cm yellow etc) and marking on the paper with a pen the cm. pictures to be taken as evidence Discuss with the children what this investigation shows us and what this means for us. How can we prevent sneezes from travelling so far. What can happen if we don't cover our mouths/noses when we sneeze? Explain to the children that we had to use coloured spray bottles so that we could see where the sneeze travelled, but with actual germs, we can't see them.

	Lesson 6: describe the importance for humans of exercise, eating the right amounts of different types of foods and hygiene. LO: To explain how I stay healthy	Take the first part of the lesson to look closely at the bread experiment from last week if this was the one that was chosen. What has happened to the bread? Ask the children to carefully document this on their drawings from last week. (The sealed bag with the brad that was touched before washing hands should have the most mould on it. Discuss with the children why this happened - The breads that were very clearly exposed to different germs grew mould quicker. Children should now have a well rounded idea of what it means to be healthy. As an assessment activity (not TAPs), provide the children with an outline of a body and ask the children to turn the blank outline into a picture of themselves. Ask the children to think about the last few weeks and everything that they have learned. We began the topic by asking, 'What makes Mo Farrah a successful athlete?' Today we are asking the children to think about themselves. Once the children have created their pictures, ask them to write all of the things that show that they are healthy. Excellent

Uses of Everyday Materials

1. identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses

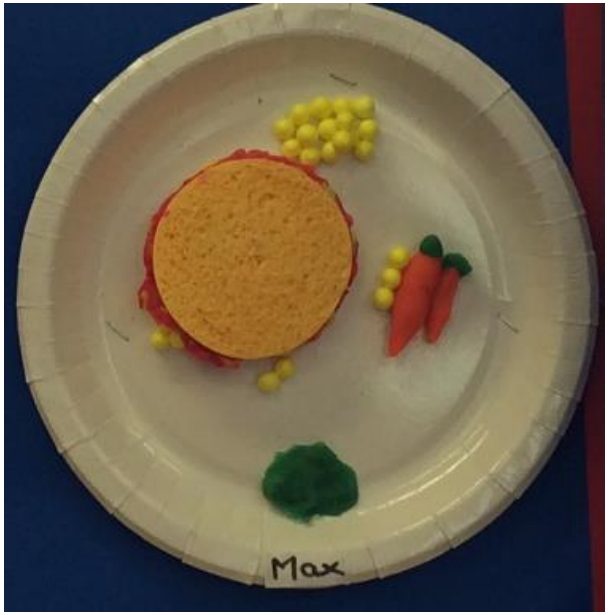
find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching

	Assessment guidance	**Key learning**	**Possible Evidence**

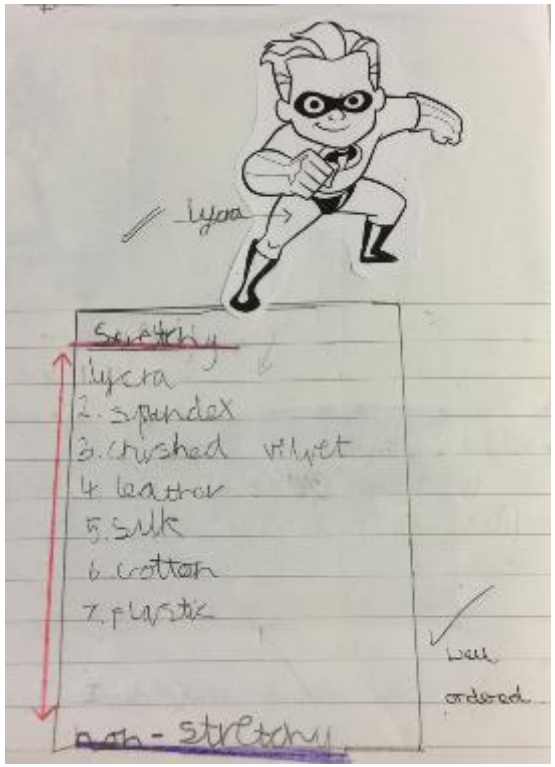
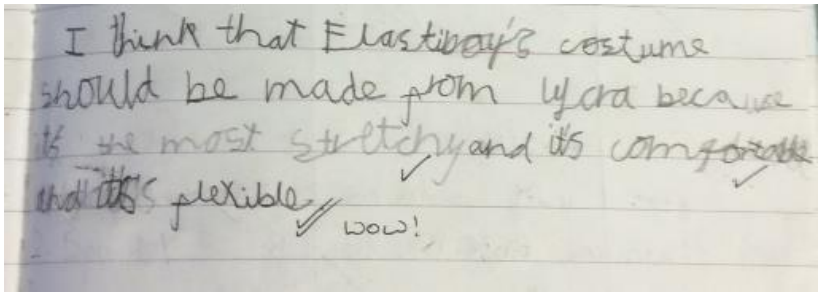
SECURE	Shows understanding of a concept using scientific vocabulary correctly	All objects are made of one or more materials that are chosen specifically because they have suitable properties for the task. For example, a water bottle is made of plastic because it is transparent allowing you to see the drink inside and waterproof so that it holds the water. When choosing what to make an object from, the properties needed are compared with the properties of the possible materials, identified through simple tests and classifying activities. A material can be suitable for different purposes and an object can be made of different materials. Objects made of some materials can be changed in shape by bending, stretching, squashing and twisting. For example, clay can be shaped by squashing, stretching, rolling, pressing etc. This can be a property of the material or depend on how the material has been processed e.g. thickness. **Key vocabulary** Names of materials – increased range from year 1 Properties of materials - as for year 1 plus opaque, transparent and translucent, reflective, non-reflective, flexible, rigid Shape, push/pushing, pull/puling, twist/twisting, squash/squashing. Bend/bending, stretch/stretching	Can name an object, say what material it is made from, identify its properties and make a link between the properties and a particular use Can label a picture or diagram of an object made from different materials For a given object can identify what properties a suitable material needs to have Whilst changing the shape of an object can describe the action used Can use the words flexible and/or stretchy to describe materials that can be changed in shape and stiff and/or rigid for those that cannot Can recognise that a material may come in different forms which have different properties
	Applying knowledge in familiar related contexts, including a range of enquiries	Classify materials Make suggestions about alternative materials for a purpose that are both suitable and unsuitable Test the properties of materials for particular uses e.g. compare the stretchiness of fabrics to select the most appropriate for Elastigirl's costume, test materials for waterproofness to select the most appropriate for a rain hat	Can sort materials using a range of properties Can explain using the key properties why a material is suitable or not suitable for a purpose Can begin to choose an appropriate method for testing a material for a particular property Can use their test evidence to select appropriate material for a purpose e.g. Which material is the best for a rain hat?

	LOs	**Activities**

Planning	Lesson 1: find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching LO: **Explore the range of materials in the environment**	Pre assessment activity (10-15 minutes) – Look at the earlier statements for y1. You could provide children with a number of images of objects and ask them to name the object and the material to check for any misconceptions. If you would rather not use a worksheet, you could show the children images on the IWB and ask the children to draw and label. There are 3 other potential pre assessment activities to choose from in the exemplification booklet. Provide the children with a range of solid objects. Explain to the children that we are able to change the shape of some materials by pushing, puling, twisting, squashing, bending ands stretching them. To ensure children have an understand of these words, you could play Simon Says without allowing the children to touch the objects. E.g Simon says, pretend to push open a door etc. Provide the children with a table that has 4 columns with the following headings: object, material, does the object change shape and how? Does the object return back to its original shape? Allow the children to investigate the materials and to fill in the table. To end the lesson, introduce the children to the inventor– John Dunlop and explain to the children who he was and what he is known for. To support this, you could download https://www.tes.com/teaching-resource/john-dunlop-11254723 or https://www.twinkl.co.uk/resource/t-sc-159-john-boyd-dunlop-information-powerpoint
	Lesson 2 find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching	**This lesson provides the teacher with a chance to recap a previous topic while also hitting the national curriculum aims for 'Everyday Materials'** **Provide the children with a range of materials that can be used to represent food e.g playdough, plastecine, felt, paper, sponge etc and ask the children to create a healthy plate of food using these materials.**

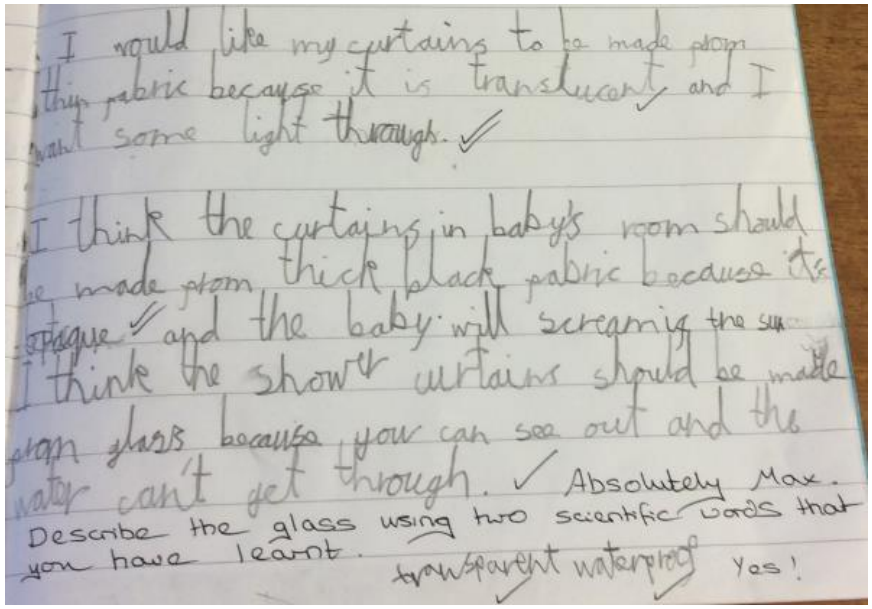
	LO: to represent a healthy plate of food using different materials	 The most important part of this lesson is to ensure that the children can use the correct vocabulary to explain the process of making this meal, so provide them with the vocabulary that they can use. An example from the exemplification*: I pulled off little bits, so I could get the right shape. I flattened and curved them. To make the carrot and I rolled it into a sausage shape. I pushed them on hard so they didn't fall off. If I bent the roll (sponge) it would just open up.*

	Lesson 3: identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses LO: to identify the suitability of different materials Group and classify	Explain that people choose to make things out of materials for a reason and because they are suitable – discuss the word 'suitable' Provide the children with a number of what if statements for them to discuss in pairs or groups Run the activity https://explorify.wellcome.ac.uk/en/activities/what-if/all-your-clothes-were-shiny and discuss with your children. You could provide the children with further what if..? statements for the children to discuss in pairs or groups liked to materials. These could be questions such as: What if we had to blow our noses on tin foil? What if we had to wear shoes made from cotton wool? Provide the children with a table with 3 columns and 3 headings- material, object, suitability. Ask the children to fill the table in with objects that they can see or they know well. E.g chair plastic seat and metal legs - rigid so they will not break when we sit on them, easy to clean incase we spill something on them. Encourage the children to use key vocabulary from concept map.

	Lesson 4: identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses LO: To select the most suitable material Group and classify	Show the children this video clip of Elestagirl and discuss her costume with the class. Why does she need such a stretchy costume? https://www.youtube.com/watch?v=DR-6NxmGtxg Provide the children with a range of materials including some lycra and 1 or 2 other stretchy materials and ask the children to choose which material would be the most suitable for Elastagirl's costume by testing each one to see which one is the most stretchy. You could provide the children with table so that they can document their findings, they could classify them into stretchy and not stretchy or they could simply stick a piece of the material chosen into their science books and write an explanation justifying their choices underneath it. To aid this, provide the children with a list of vocabulary that you want them to include.  

	Lesson 5 identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses LO: To select the most suitable materials for a waterproof outfit Fair test/comparative test	Run the zoom out activity with the class to encourage discussion and debate. https://explorify.wellcome.ac.uk/en/activities/zoom-in-zoom-out/give-it-a-try Remind the children that they have been looking at materials that are the most suitable for their purpose. Remind the children of last lesson and the material that they had chosen for Elastagirl. Write the word 'Waterproof' on the board and ask the children to discuss what this means. Take feedback. The children should have read the story Jack and the Flumflum Tree during their English lessons. Explain to the children that they are going to create an outfit for Jack or one of his crew members to so that they can sail to the Isle of Blowyernose. Depending on the length of time you have, the children will need to test out these materials before they create their outfit, therefore this lesson may need to be done over 2. Once the children are familiar with the word 'waterproof'. The children will need to be provided with a jug of water, a pipette and a range of materials (waterproof and non waterproof) e.g bin bag, platstic bag, cotton wool, kitchen roll, tin foil, felt etc) to test and table with space of the name of the material, waterproof and non-waterproof which the children can tick or cross. Explain to the children what a fair test is. Discuss with the children how they can ensure their test is fair (2 drops of water each time) Allow the children to test the materials to see if they are waterproof or which are the most waterproof and decide how you might want to ask the children to record this. A suggestion is given above. **TAPs assessment edited by class teacher (this should be on the teacher drive in Kiran's folder)** If this lesson allows, you will also need to provide the children with a template of a tshirt/coat and pants. Ask the children to cut around the template and place the template onto which ever materials they have chosen. They will need to cut around the material so they have an outfit, which they can then stick into their books and write a simple description outlining why they have chosen the materials.

	Lesson 6: identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses LO: To select the most suitable material for curtains	Present the children with the three words OPAQUE, TRANSLUCENT and TRANSPARENT. Discuss these words with the children. Provide the children with the following scenario and arrange of materials: Tell them that you have been sleeping terribly recently because as the mornings are becoming brighter, the early morning sunshine is waking you up. Ask the children to discuss some solutions to the problem. The children should that you need better curtains in your bedroom that would not let the light through. Set them the challenge of choosing the curtains. In pairs the children should test various materials using a torch with card around it and record their results.  Ask the children to use their results to suggest suitable materials for a window, encouraging them to think about durability too (tin foil wouldn't be a good choice because it would rip far too easily).

		Children can provide a brief explanation about their choice. 

Enquiry types checklist for planning

Topic	Observation over time	Pattern seeking	Identifying, classifying and grouping	Comparative and fair testing	Research
Living Things			✓		✓
Plants	✓	✓			
Animals incl. Humans	✓		✓		
Everyday materials			✓	✓	