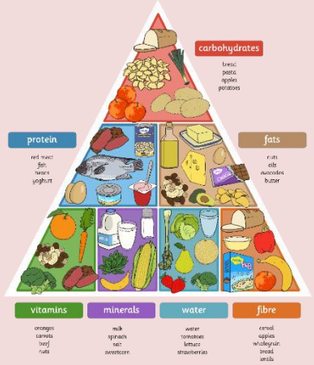
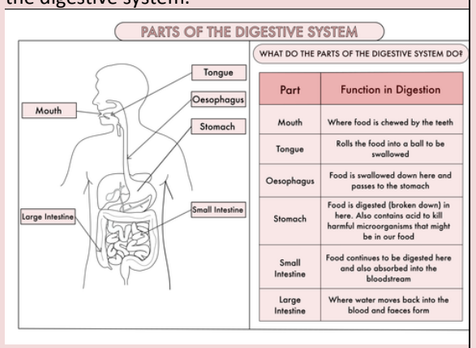
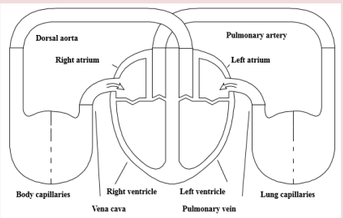
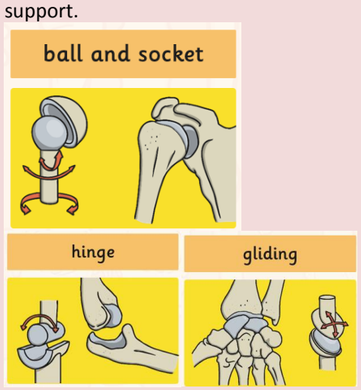
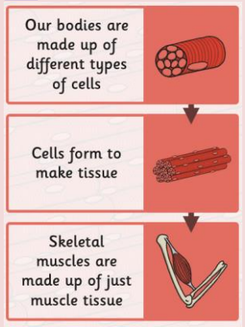
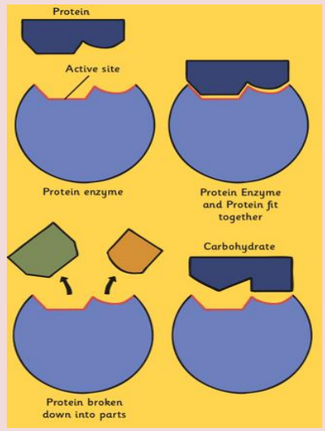
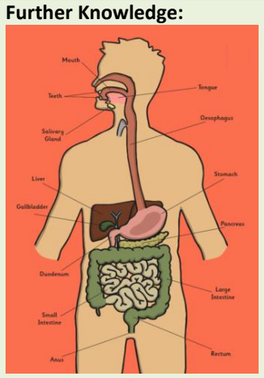
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Warning!		Yr 5 Living Things and Their Habitats	Yr 2 – Look at food and nutrition – check. Yr 3 Plants	Link Yr 2 Living Things and Habitats	Links with Yr 5 PoS on Living Things and Their Habitats	
Vocab	**Key Vocabulary:** Human, animal, mammal, reptile, bird, amphibian, fish, herbivore, omnivore, carnivore, sense, sight, sound, smell, touch, taste, meat, plants, environment, habitats, minibeasts.	**Key Vocabulary:** Mammals, birds, reptiles, amphibians, chick, egg, pregnancy, spawn, hatchling, tadpole, baby, toddler, elderly, adult, teenager, child, lungs, gills, hygiene, healthy, starch, pasta, fruit, vegetables, protein, dairy, fat, sugar.	**Key Vocabulary: Nutrients,** nutrition, carbohydrates, protein, fats, vitamins, minerals, water, fibre, skeleton, bones, joints, endoskeleton, exoskeleton, hydrostatic skeleton, vertebrates, invertebrates, muscles, contract, relax, nerve impulse.	**Key Vocabulary:** Digestive system, mouth, tongue, teeth, oesophagus, stomach, gallbladder, small intestine, pancreas, rectum and anus, large intestine, liver, duodenum, tooth, canine, incisor, molar, premolar, producer, consumer, predator, prey, primary consumer, secondary consumer, tertiary consumer, quaternary consumer.	**Key Vocabulary:** Puberty, life-cycle, gestation, growth, reproduce, foetus, embryo, baby, fertilisation, toddler, child, teenager, adult, old age, adolescence, childhood, adulthood, womb, death. Link to vocab from SRE agreed syllabus.	**Key Vocabulary:** **Circulation, circulatory system, air, oxygen, carbon dioxide, larynx, windpipe, lungs, veins, arteries, capillaries, oxygenated, deoxygenated, atrium, atria, ventricles, aorta,**
Knowledge	**Expand the knowledge: This links with living things and their habitats.** Children need to start by telling you what they already know about the parts of their body. Revise the work from Early Years. Children need to know the main body parts – head, neck, arms, elbows, legs, knees, face, ears, eyes, hair, mouth, teeth. The children should be able to show their knowledge by drawing a picture of their body and labelling it. Children must learn about the 5 senses – what sense would they use for certain things? After looking at themselves, the children move onto identifying common animals from the main groups listed in the vocabulary above. When the children have looked at the different animals and the groups they belong to they can ask questions about the animals. Does the animal have wings? Does the animal have fur? The children can ask a variety of questions that asks them to group animals in lots of different ways. This is their first introduction to keys and classification. (See living things and their habitats) Need to group at some point using carnivore, omnivore and herbivore. Children could ask which of the animals they could keep as a pet. This would be a fun comparison activity as well. A	**Expand the knowledge:** Watch KS1 Clip – BBC Growth and Change. Children notice patterns and similarities in the humans and animals featured. Consolidate learning about parts of the body, the senses, developmental milestones and the communication of emotions. Discuss human development - compared with a range of other animals focussing on similarities and differences. Compare the different offspring of different animals to humans. Know the names of some common baby mammals. Puppy, foal, kitten etc. Do a similar exercise with baby birds. Children look at how tadpoles can also grow into frogs, newts and toads. A basic understanding of how certain animals grow into an adult is needed. Egg-Chick-Chicken. Caterpillar-Pupa-Butterfly etc. Children need to understand the different life stages of a human. Baby, toddler, child, teenager, adult, elderly. Understand what they need to survive and what else they might need to be comfortable and happy. Understand that the things animals need for survival might be similar or different to humans, depending on the animal. (Water, air, food)	**Expand the Knowledge:** Revise the work completed on nutrition in Year 2. Compare how animals and plants obtain food. Children build on their work from year 2 by looking at the main food groups. Carbohydrates, fats, proteins, vitamins, minerals, water and fibre.  Introduce the nutrient pyramid. Understand which foods fit into which group and what those foods do to help our bodies. Minerals can be linked to the work that the children then complete on skeletons – some good video resources are available. https://www.bbc.com/bitesize/clips/ztfnvcw Different types of skeleton – Vertebrates have an endoskeleton. Invertebrates have either an exoskeleton or hydrostatic skeleton. Compare the different types of skeletons – which are the most protective? Children name the main bones of the body and then look at the scientific names for these bones. Understand the different functions of the skeleton. That the skeleton supports and protects the body. How the different types of joints in the	**Expand the knowledge:** Link to the work on food chains that the children will have completed in Year 2 in the Living Things and their Habitats PoS. Look at the digestive system and how it starts – with the teeth! https://www.bbc.com/teach/class-clips-video/teeth/zr8ygwx Watch the video clip of how your teeth work – this is a good introduction. You can follow the programme structure from the BBC https://www.bbc.com/bitesize/topics/z27kng8 Children need to understand that digestion is all about getting food in and out of the body and how that food is broken down into useful things our bodies can absorb. Need to know the basic parts of the digestive system.  It is worth noting that the children can explore more of the organs involved with digestion – see further knowledge. It is important for the children to have some knowledge of glands and enzymes. This will enable them to understand the purpose of digestion. Salivary glands in the mouth start the process of digestion by producing saliva. This contains a special enzyme which helps to break the food down. See if the children can think about how the tongue and teeth also help? Teeth – break up the	**Expand the knowledge:** **https://www.dkfindout.com/uk/human-body/life-cycle/growing-in-womb/** **https://www.bbc.com/teach/class-clips-video/growing/zd7rkmn** Learn about the human timeline and life cycle. Revise the two types of reproduction – sexual and asexual. Remind the children of the work that they would have completed in Year 2 and 4 on the life processes (MRS GREN) Understand that growth and development of a human is not just about size! Physical, emotional, social and psychological. Start by looking at the stages prior to birth Fertilisation – embryo to a baby ready to be born. Move onto the first few months and up to walking. Then to 10 years old and beginning of adolescence. Early adults, mid adult, late adult. The reproduction element of this PoS must fit in line with the school's agreed SRE syllabus. Compulsory from Sep 2020. Puberty needs to be explained at an age appropriate level for the class. Understand that in old age – other changes start to occur. Our diets change as we require different nutrients to stay healthy. Your adult teeth will remain healthy if you look after them. Exercise is still important to maintain muscle	**Expand the knowledge:** Refer back to the work that children would have undertaken in Year 3 looking at healthy lifestyles. https://www.bbc.com/bitesize/articles/zqv4cwx#z2g8k7h https://www.bbc.com/bitesize/articles/zs8f8mn https://www.bbc.com/bitesize/articles/zw8xb82 Watch videos showing the overview of the circulatory system. It is really important for the children to understand the whole system before focusing on the individual components.  The above diagram will help the children to understand the basic cycle within the circulatory system. Children need to understand the function of the Heart, lungs, blood vessels, arteries, veins and capillaries to understand how the system works. The heart pumps the blood around the body – it has four chambers. Two atria and two ventricles. The atria receive blood (right side deoxygenated and left side oxygenated) The ventricles receive blood from the atria. The right ventricle pumps it to the lungs to pick up o2 get rid of Co2. The left side

	cat and a tiger are very similar – in some respects! Develop the knowledge of the parts of the human body with the parts of some of the common animals they have discussed. Look at the difference in the heads – the legs – noses – eyes etc.  These animals all have feet – what makes them different? Why are they different? (Adaptation link)	• Understand that exercise makes the heart work harder and is an essential part of a healthy lifestyle. Discuss and understand the effects that exercise has on the human body. We will feel healthier. • Our heart will be stronger. • Our lungs will be more efficient as they will expand more when taking in air. • It will improve illnesses like asthma. • Our immune system will be stronger, therefore less illness. • We will maintain a desired weight. • We will be more alert and ready to work. • Our muscles will be stronger. Children look at hygiene and cleanliness as part of a healthy lifestyle. Discuss the things that children can do in order to keep themselves clean and the reasons why. (Germs, teeth – decay, illness, clothes need washing otherwise smell and look dirty, cut nails etc.) Children move onto the final part of a healthy lifestyle by looking at balanced diets. What do the children think they should eat: • Sots of? (Fruit, veg and starchy foods) • Some? (High protein foods and dairy) • Little? (Sugars and fats) What foods fall into the above groups? – Developed in Yr3.	skeleton help us with movement and support.  Understand about the muscles in the body and how they work in pairs. https://www.bbc.com/bitesize/clips/zpp6n39  Children have a basic understanding of the relationship between cells, tissues and organs. Compare the heart with a bicep. One of the muscles works because we tell it to, the others work on their own. Look into how muscles contract and relax – flexing and extending. You bend your arm because your bicep contracts – you can then straighten your arm because triceps contract. 	food more and the tongue shapes your food so you can swallow it!  In the above diagram the enzyme is breaking down a protein into two smaller parts which the body might absorb. They are very specialised so the final picture shows the carbohydrate not being able to bind with the enzyme. When the children are understanding the mouth you might want to look at teeth. They must understand the structure and function of molars, canines, incisors and premolars. They can compare this with other animals who might have different shaped teeth due to their diets. E.g the canines on some animals are longer and sharper for tearing raw meat. As part of a healthy lifestyle understand that looking after our teeth is important. Cleaning teeth twice a day. Use toothpaste containing fluoride. Drinking water with sticky/sugary foods. Floss between the teeth. Explain that plaque is a collection of food debris, saliva and bacteria. Bacteria break the food down – producing acid. Acid erodes and damages the enamel of the tooth. Enamel is like armour for the teeth, if it wears away then a cavity or hole can form. If the cavity grows too big then further damage can happen - some of the softer internal parts of the teeth are attacked by the acids. You can end up with very bad toothache or gum disease. There is no reason why an older person should lose their teeth – it is likely due to poor diet and poor dental hygiene. Visits to the dentists regularly is important! **(Link to human timeline in Year 5)**	strength and reduce the strain on joints. Your mental well-being is still developing so it's important to continue learning. Different people respond in different ways as they move to old age. Although some people require more help continue everyday tasks (walking, going to the toilet and getting dressed) other people in the old age bracket can continue to do these independently.	pumps it around the body. (This is why the left side has a thicker muscle – the journey around the body is much longer than the one to the lungs so it needs a big push!) Blood from the heart is pumped through arteries – blood returns to the heart through veins. Other nutrients and water are also transported in the body. Revise work from Year 3 and the healthy eating pyramid. Revise work from Year on how different foods are broken down as they travel through the body. Move onto the importance of the small intestine in the absorption of water. By the time waste material has reached the large intestine, 90% of the water has been absorbed. Healthy Bodies: https://www.bbc.co.uk/programmes/articles/1yV5MBkc2Y6pQSWyMgR21y2/what-should-i-be-eating-drinking Discuss the things that are good and bad for the body – why? Look at the effects of sugars, fats, proteins and salt and water on the body. How exercise is important for everyone. Young people should have at least 60 minutes of physical activity a day. (Aerobic) For 3 days a week these activities should encourage strong bones and muscles. (Hopping, skipping, gymnastics) Understand the impact of drugs and alcohol on the body. Understand what drugs are and that there are good and bad drugs. How would they know? Need to understand what a drug is and that it has an effect on the body – some are found in tea and coffee or headache pills. Look at the difference between prescribed drugs and illegal drugs. Only a medical professional (Dr. or Specialist) can prescribe drugs as they can have serious effects on the body if taken incorrectly or with other substances. Illegal drugs can be highly addictive – think they make you feel temporarily happy, however they are dangerous and can kill you.

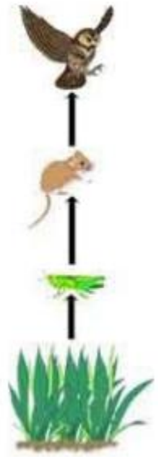
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
FURTHER THE KNOWLEDGE	**Further Knowledge:** Children can undertake a number of visits to their local environments (St.Leonards Forest would be an excellent example) Here they can further their knowledge of many different common plants and animals within the woodland environment. The woodland trust (see link below) has excellent resources to allow children to become woodland spotters! Children must understand that any animals taken from their habitat for study must be returned safely.	**Further Knowledge:** Introduction to basic understanding of reproduction and growth needed in Year 2 and fits in well with the work that children complete on life cycles. Ch. Do not need to know how reproduction occurs. **See SRE education.** The work around healthy diets can be deepened by looking at how certain foods are used within the bodies. Dairy containing certain foods which are good for bones and teeth. Protein rich foods which are good for muscle development. Explain to the children about the importance of exercise in maintaining healthy muscles to support the joints. Year 6 will develop this.	**Further Knowledge:** You can mention the process of photosynthesis in the first sessions, however the children do not need to know it in any detail. It's a good opportunity to deepen and stretch G&T. You will also cover this in the plants unit. Children will look in Year 4 at vertebrates and invertebrates in more detail.	**Further Knowledge:**  Children can have their knowledge furthered by learning about the whole system and some of the functions. You can really stretch the children's knowledge with digestion and expand their vocabulary. Food Chains – Children already know the terms predator, prey, producer and consumer. Revise these. Further the children's knowledge of food chains by introducing Primary consumer, secondary consumer, tertiary consumer and quaternary consumer. Explore the predator/prey relationship – something in a food chain can be both. Compare the difference between a food chain and a food web. When would it be better to use a food web rather than a food chain? See below.	**Further Knowledge:** Children's knowledge from Year 4 where the children will have looked at different sexual reproduction models in mammals. The children's understanding of life processes (Mrs GREN) is furthered within this unit.	**Further Knowledge:** Develop the knowledge about the main organs from Year 3 and 4. Relate to the work in Year 3 on muscles. Some muscles work because we tell them too (Lifting an arm) others work on their own (The Heart (triggered by electrical impulses). Develop the children's understanding of the transport of water and nutrients by giving them a simple understanding of diffusion and osmosis. https://www.majordifferences.com/2013/11/difference-between-diffusion-and-osmosis.html#.XH93K1X7RhF https://kitchenpantryscientist.com/diffusion-and-osmosis-experiments/ Look at the specific dangers of taking ecstasy, cannabis, cocaine and heroin.
LINKS	Link: http://www.woodlandtrust.org.uk/visiting-woods/trees-woods-and-wildlife/	Link:)	LINK:	LINK:	LINK:	LINK:
ENQUIRY	**Key Investigations for scientific Enquiry:**	**Key Investigations for scientific Enquiry:** Design a healthy menu for a child's lunch.	**Key Investigations for scientific Enquiry:**	**Key Investigations for scientific Enquiry:**	**Key Investigations for scientific Enquiry**: It would be great to start a growth chart at the beginning of Year 5!	**Key Investigations for scientific Enquiry:**

Year 4 – Food chains and food webs – differences.

FOOD CHAINS FOLLOW A SINGLE PATH AS ANIMALS EAT EACH OTHER.

EXAMPLE:

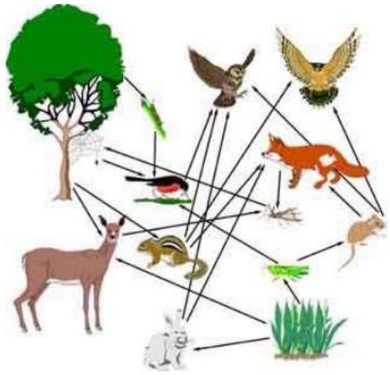
- **THE SUN provides food for GRASS**
- **The GRASS is eaten by a GRASSHOPPER**
- **The GRASSHOPPER is eaten by a FROG**
- **The FROG is eaten by a SNAKE**
- **The SNAKE is eaten by a HAWK.**



FOOD WEBS SHOW HOW PLANTS & ANIMALS ARE INTERCONNECTED BY DIFFERENT PATHS.

EXAMPLE:

- **TREES produce ACORNS which act as food for many MICE and INSECTS.**
- **Because there are many MICE, WEASELS and SNAKES have food.**
- **The insects and the acorns also attract BIRDS, SKUNKS, and OPOSSUMS.**
- **With the SKUNKS, OPOSSUMS, WEASELS and MICE around, HAWKS, FOXES, and OWLS can find food.**



They are all connected! Like a spiders web, if one part is removed, it can affect the whole web.

FOOD WEBS show how plants and animals are connected in many ways to help them all survive.

FOOD CHAINS follow just one path of energy as animals find food.

PUBERTY OVERVIEW

Changes	Boy	Girl	Both
Grow taller			X
Skin becomes oily			X
Spots appear on skin			X
Hair grows on face			X
Hair grows under arms			X
Hair grows on arms and face			X
Hair grows on genitals (pubic hair)			X
Breasts develop*		X	
Hips get bigger		X	
Testicles produce sperm	X		
Penis grows longer and wider	X		
Testicles grow larger and fuller	X		
Body produces sex hormones			X
Ovaries start releasing eggs		X	
Periods start		X	
Produce vaginal discharge		X	
Body shape changes			X
Weight gain			X
Face shape changes			X
Spontaneous erections and wet dreams	X		
Voice becomes deeper			X
Body sweats more			X
Start having sexual thoughts and feelings			X
May be physically attracted to other people			X
Sometimes feel lonely and confused			X
Mood swings (including irritability, tearfulness, overwhelming happiness and confusion)			X
May become argumentative and bad tempered			X
Want more independence			X
Start to think about the future			X
Start to think more about appearance			X