ST LAWRENCE C.E. PRIMARY SCHOOL LEARNING JOURNEY

SUBJECT: Science UNIT: Digestion and teeth TERM: Aut 2 YEAR GROUP: 4

THE BIG QUESTION	
How do humans digest food?	
END OF UNIT OUTCOME	Write an explanation about 'How do humans digest food?' Children to include facts they have learnt about digestion in their instructions.
OBJECTIVES	• Describe the simple functions of the basic parts of the digestive system in humans • Identify the different types of teeth in humans and their simple functions
Working Scientifically	• asking relevant questions and using different types of scientific enquiries to answer them • setting up simple practical enquiries, comparative and fair tests • making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers • gathering, recording, classifying and presenting data in a variety of ways to help in answering questions • recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables • reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions • using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions • identifying differences, similarities or changes related to simple scientific ideas and processes using straightforward scientific evidence to answer questions or to support their findings.
Safety in Science	CLEAPPS
CONCEPT: Diversity	
LESSON 1 QUESTION	**What parts of the body are used for digestion?**
KEY KNOWLEDGE	**Know that the digestive system breaks down food and turns it into energy.** • various parts of the body are involved in digestion of food including: mouth, salivary glands, tongue, teeth, oesophagus, stomach, liver, pancreas, gallbladder, duodenum, small intestine, large intestine, rectum and anus.
RICH TASK	Introduce The Big Question – what do they already know? Explore KO – copy in book after title page and paper copy home. Children discuss with talk partner about their ideas on digestion. How do humans digest food? Children list as many parts of the body they can think of that link to digestion. Show illustration and/or model of digestive system. Children tick the body parts that they guessed. Children then label parts of the digestive system on their diagram.

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SUPPORT AND CHALLENGE	S – Labelling sheet with first letter given for each label C – quiz yourself – how many can you remember without looking?		
KEY VOCABULARY	mouth, salivary glands, tongue, teeth, oesophagus, stomach, liver, pancreas, gallbladder, duodenum, small intestine, large intestine, rectum and anus	**RESOURCES**	Watch this clip: http://www.bbc.co.uk/programmes/p00grfls
LESSON 2 QUESTION	**What route does food take through the body?**		
KEY KNOWLEDGE	**Know the functions of different parts of the digestive system.** • the mouth is where food enters the digestive system. The salivary glands produce saliva when food is smelt. Saliva breaks down starch which is a type of carbohydrate, this helps to soften the food. The tongue mixes the food with the saliva. The teeth tear, cut and grind food in the mouth so that it can be transported through the body more easily. • After swallowing the food then travels down the oesophagus (a long muscular tube) to the stomach. • the stomach enzymes and acids are produced to break food down. The stomach contains powerful muscles that churn and mix food into smaller and smaller pieces. • the liver, pancreas and gallbladder are vital to the digestive process even though food does not pass through them. The pancreas produces enzymes to break down fats, carbohydrates and proteins which are released in the duodenum. The liver produces bile which is an important fluid that breaks down fats. This is sent to the gallbladder to store, which releases it into the duodenum when it is needed. • the duodenum is the first part of the small intestine and is where food is broken down by enzymes and bile. The other two parts of the small intestine absorb the nutrients they need and the remaining part of the food travels to the large intestine. • The large intestine absorbs water from the remaining food and the rest forms into stools. Stools are the waste product. The large intestine moves the stools to the rectum. • the rectum stores the stools until they are ready to be released and then sends signals to the brain that there are stools that need releasing. The final process in the digestive process is when stools move from the rectum are released from the anus. **Know that in order to be healthy the body needs to take both nutrients from the food and also get rid of the parts of the food it does not need.**		

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<table>
<tr><td>RICH TASK

(1 – 2 lessons)</td><td colspan="3">Retrieval practice activity – children label the parts of the digestive system from the previous lesson. Time on their own then change colour and borrow answers from people on their table.
Revise KO

Discuss the functions of the different parts of the digestive system.
Put the stages of digestion into the correct order.

Demonstrate the digestive system with tights etc!

Create a comic strip that shows the journey of a piece of food.</td></tr>
<tr><td>SUPPORT AND CHALLENGE</td><td colspan="3">S – simplified text given to add to boxes in correct order
C – reasoning card – read the explanation – what improvements could they make? Are they using the correct scientific vocabulary?</td></tr>
<tr><td>KEY VOCABULARY</td><td>mouth, salivary glands, tongue, teeth, oesophagus, stomach, liver, pancreas, gallbladder, duodenum, small intestine, large intestine, rectum and anus
stool
nutrients</td><td>RESOURCES</td><td>- tea towel
- water
- orange juice
- banana
- bowl
- biscuits
- sealable plastic bag
- tights
stages of digestion cut up
comic strip template
challenge reasoning card</td></tr>
<tr><td colspan="4"></td></tr>
<tr><td>LESSON 3 QUESTION</td><td colspan="3">Why do humans have different types of teeth?</td></tr>
<tr><td>KEY KNOWLEDGE</td><td colspan="3">Know that there are four types of teeth: molar, canine, incisor and premolar and each has a different function.
• humans have 8 incisors altogether; 4 in the upper jaw and 4 in the lower jaw. Incisors are used for cutting and biting food.
• humans have 4 canine teeth, one in each quarter of the mouth, on either side of the incisors. Canines are used for tearing and ripping food.
• humans have 8 premolars altogether, they are between the canine tooth and the molars. Premolars are used for holding and crushing food.
• humans have 8 molars, two in each quarter of the mouth. They are at the back of the mouth behind the premolars. Molars are used to grind food.
• some humans have wisdom teeth (up to 4). Wisdom teeth are molars and may also be used for grinding.</td></tr>
<tr><td>RICH TASK</td><td colspan="3">Retrieval practice activity – walk about bingo
Revise KO

Discuss why we have different types of teeth and what is their purpose. Provide children with mirrors to look at the different types of teeth in their mouth.</td></tr>
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	Provide children with a mouldable material such as play dough. Lead them in creating a model of each type of tooth. Focus on the features of each tooth, for example, incisors are flat. During modelling, discuss the function of each type of tooth. Complete colour coded key for teeth to describe the shape and function.		
SUPPORT AND CHALLENGE	S – partly completed sheet, chn to fill in missing gaps C – reasoning card – explain how Grace's teeth work to help her eat her dinner		
KEY VOCABULARY	molar canine incisor premolar wisdom	**RESOURCES**	Mirrors Play dough Teeth sheet Reasoning card
LESSON 4 QUESTION	**How do food and drink affect teeth?**		
KEY KNOWLEDGE	**Know that you need to look after your teeth and brush them twice a day for two minutes.** **Know that tooth decay is the destruction of your tooth enamel.**		
RICH TASK 1-2 lessons (record results)	Retrieval practice activity - fix the errors grid Revise KO Discuss tooth decay. Carry out a class experiment with what happens to teeth with coke, apple juice, squash and water. Predict and complete observations. Record results and conclusions. Create a class poster on how to keep our teeth healthy.		
SUPPORT AND CHALLENGE	S – word bank and scaffolded template C – reasoning card – 'It's important to look after your baby teeth even though you lose them.' Can you think of reasons to justify this.		
KEY VOCABULARY	decay tooth enamel plaque	**RESOURCES**	- 4 boiled eggs - 4 clear plastic cups - Coke, apple juice, squash and water Eggy teeth experiment - CBBC Paper for posters Word bank Scaffolded sheet
LESSON 5 QUESTION	**How do humans digest food?**		
KEY KNOWLEDGE	Revision of key knowledge		
END OF UNIT OUTCOME	KO quiz Share model of explanation - 'How do humans digest food?' Write an explanation about 'How do humans digest food?'		

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	Children to include facts they have learnt about digestion in their instructions.		
SUPPORT AND CHALLENGE	S – provide scaffolds for writing and word bank C – how do you think the digestive system of a human differs from a cow?		
KEY VOCABULARY	mouth, salivary glands, tongue, teeth, oesophagus, stomach, liver, pancreas, gallbladder, duodenum, small intestine, large intestine, rectum and anus stool nutrients	**RESOURCES**	Model text Scaffolds Word bank