Explorify Guide: Improving long-term memory with embedded assessment and retrieval practice
Teeth, digestion and food chains

There is a guide to how to use this outline below the table.

Learning focus	Possible activities from Explorify (you can use your existing plans which cover the learning focus)	Elicit and engage	Deepening learning
Review previous learning	Assessment for learning techniques to help determine your starting point, generate displays of questions and review progress. You could include: Mind maps, vertical relay using body outlines, Explore, engage, extend activities, KWL grids. **Key questions:** *What do you already know about the digestive system?* *How should we care for our teeth?* *Can you sort these animals into carnivores, omnivores and herbivores?* *Can you complete a food chain?* *What's your favourite animal, is it a predator or prey (or both)?*	It takes more than guts Pearly tips Hot-steppers Say cheese Hunter and hunted	
Functions of different teeth	Big question Why do we have different teeth? Use the **activities in the Take it further and watch the videos.**	Have you ever been to the dentist and had your teeth checked?	**Bite, rip, mash** We had no teeth? You had teeth like a snake? Hidden away
Understanding tooth decay by carrying out an investigation	Use the **CIEC resources** recommended in **Take it further** of: What's going on? Disappearing eggshells	Sparkling smiles This is a mystery bag activity where you add objects linked to teeth hygiene.	What if toothbrushes didn't exist?
Plan and carry out a comparative test	Testing the impact of different drinks on our teeth. Disappearing eggshells has the		Healthy drinks

investigation (tooth decay) Explain results and draw conclusions (tooth decay)	**Background science** information and a link to the **CIEC resource** for full details.	Delicious drinks Run the OOO out activity as normal and then ask questions to check children's knowledge of the drinks that are healthy for their teeth	
Introducing the functions of the different organs in the digestive system	Use ideas in **Take it further** of Our digestive organs including using tights to **model the processes** in the digestive system with your class, working in small groups.	Fuel up - this is an OOO of three foods. After completing the activity ask an additional question 'What happens to this food when you eat it?' Totally potty - ask the children do they know what happens to their food between it entering their mouths and them going to the toilet?	**How are these linked to digestion?** Our digestive organs What if we had four stomach parts like a cow It takes more than guts
Consolidating the functions of the different organs in the digestive system	How long is the gut? This activity includes a suggested activity for investigating the length of the gut. The children could research the digestive system and present their findings.		
Introduce and consolidate understanding of food chains and vocabulary.	What's for dinner? and the **Take it further** activities within are good starting points. Different homes could also be used as a starting point for creating food chains for a familiar UK habitat.	Flappy friends Wet and wild Savanna sidekicks Run the Odd one out activities as normal and then ask questions to check children's knowledge of the language of herbivore, carnivore, omnivore, predator and prey. HYE seen a bird searching for food.	If you have not used it within teaching, use **Different homes** to consolidate learning. **Food chain challenge** **Tasty web** **Lunchtime** Green producers Hunter and hunted What would they eat? – can the children use the type of teeth to identify what they eat?
Investigate and construct a variety of food chains and webs in different habitats	The children could research different habitats and create food chains for those habitats. They will soon start to make food webs as they see that animals do not feed on only one type of animal or plant.	Why do animals eat different foods?	

How to use this outline

The **learning focus** column gives one possible outline (and order) of how you could teach this unit using Explorify resources to support you, but you can easily use your current scheme of work and select the relevant Explorify activities to enhance your current planning.

The **Elicit and engage** column lists the Explorify activities you could use to find out what your children already know about the learning focus. It will enable you to assess what vocabulary and knowledge they have retained from previous science units. You can use these at the beginning of a lesson, in a spare 15 minutes before the lesson, or sometimes they might be appropriate at the end of a lesson.

The **Possible activities** column guides you to Explorify activities that will support your main teaching. Here you will want to look at the **Background science**, if you need to double check your own understanding, and the **Take it further** section of the Explorify activity for the ideas you can incorporate into your lesson.

The final column guides you to Explorify activities that will support your children in **Deepening their learning** and building those long-term memories that will help them remember and build connections between scientific ideas and concepts. **Retrieval practice** is 'bringing the information to mind from memory' (Weinstein et al 2019 p85[1]). Cognitive psychology research suggests that every time we draw on a memory, we increase its strength and longevity. Children should have to put some effort into retrieving that memory, this helps strengthen it, but at the same time it needs to be low stakes as too much anxiety interferes with memory function. We think Explorify Odd One Out activities are ideal for this, when enhanced with some additional questions after the initial activity, because it gets the children talking, making connections, comparing/contrasting and justifying their choices.

You could use the **Deepening Learning** Explorify activities at: the beginning of the lesson after you have taught a new concept; later in the week in a spare 15 minutes; further into the unit or even after the unit. We would encourage you to experiment and see what works for your class. As teachers, we have all experienced teaching children something and then, when you mention it a few weeks later, the children look at you blankly and don't remember. It is hardly surprising that children do not remember if they do not regularly revisit the ideas. As teachers, we have all experienced CPD sessions where we have quickly forgotten a lot of the content.

We are asking you to use 8 activities from the Deepening Learning column during the half term that are highlighted in yellow **and seven others of your choice from any column.**

[1] Weinstein, Y., Sumeracki, M. and Caviglioli, O. (2019) Understanding how we learn: A visual guide. Abingdon and New York: Routledge