Enhancing Children's Biology Questions and Investigations through the Great Science Share for Schools

This podcast focuses on developing children's questions about biology and will consider *How models and exploring the unknown can inspire children's questions about life and living things.*

Here's the link to the Great Science Share Question Makers that are referred to throughout the podcast. These can be used to support children to raise and refine their own questions: https://www.greatscienceshare.org/question-makers

1. How can children's thinking and questioning skills can be developed by giving opportunities for them to apply their knowledge and understanding to the unfamiliar?

MudSkippers Clip: 'This Fish that Walk on Land'
https://www.youtube.com/watch?v=CAQuoH_fOWM
Can children classify these creatures from identifying features in the video? How are they similar or different to other fish?
More information about Mudskippers and how they attract a mate can be found here: https://www.bbc.co.uk/programmes/articles/3TR342j69c9QBypF4s0xwdm/great-blue-spotted-mudskipper

Sea Beans/ Drift Seeds
Watch the You Tube video of The Sea Bean
https://www.youtube.com/watch?v=7UTWMhFhMFc
Pause at the start of the seed's journey. What do the children want or need to know about this seed's journey now?

Investigating skeletons

Head to the St Mary's University science padlet and see if children can ask questions about bird skeletons and then sketch the skeletons of these familiar birds:
https://padlet.com/StMarysresources/year3animals

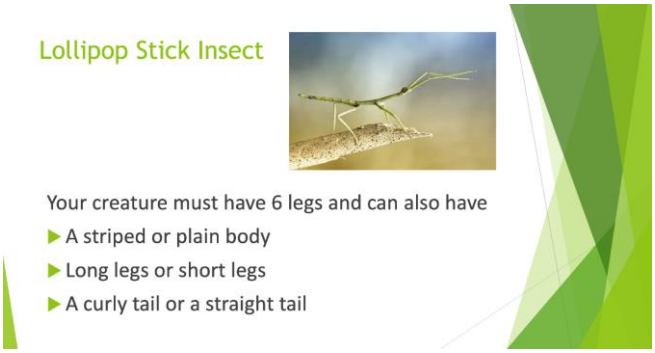
2. Using the sentence/ question stems, 'I notice…' or 'I wonder…?' to inspire children to raise their own questions.

Education Endowment Fund: Metacognition and self-regulated learning

https://educationendowmentfoundation.org.uk/public/files/Publications/Metacognition/EEF_Metacognition_and_self-regulated_learning.pdf

Explorify Zoom in, Zoom Out activities (e.g. Confusing camouflage, Furry friend):
https://explorify.wellcome.ac.uk

3. How can models or real-life experiences help to inspire children's questions and research about living things and the environment?



Lollipop stick insects

- Lollipop stick insect features can be controlled in order to support children to be able to ask Yes/ No questions so that children can physically sort their insects as a whole class or in groups. Children can also explore inheritance using these simple models: If two stick insects mated, what features COULD their offspring have?

Blood model

Note: Percentages in this recipe have been slightly adjusted so that children can calculate amounts and grams are used as this is easier to measure on scales than measuring the solids in ml.

Iron from breakfast cereal

It is possible to get real iron out of breakfast cereal using cereal, water and a strong magnet. If you haven't got the equipment in school (please adhere to CLEAPSS guidance when using strong magnets), the following links show the investigation in videos:

https://www.sciencefocus.com/science/how-to-extract-iron-from-cereal/
https://www.stevespanglerscience.com/lab/experiments/eating-nails-for-breakfast/

What questions do the children have about iron in cereal after watching the videos?

Head to www.greatscienceshare.org to find a wealth of resources and to register to get involved with the Great Science Share.

We look forward to seeing your children's amazing questions and investigations!