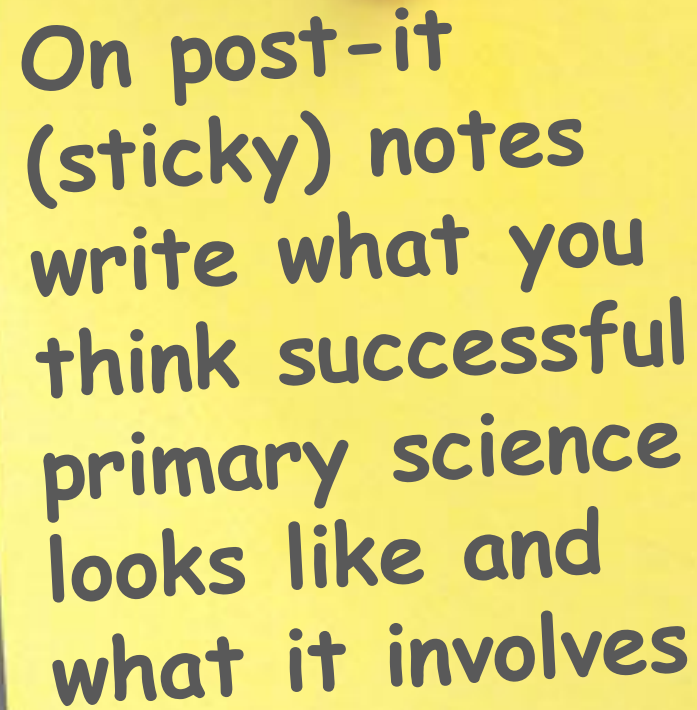


Successful Primary Science

Settling in task:



On post-it
(sticky) notes
write what you
think successful
primary science
looks like and
what it involves



Cambridge Assessment
International Education

Successful Primary Science

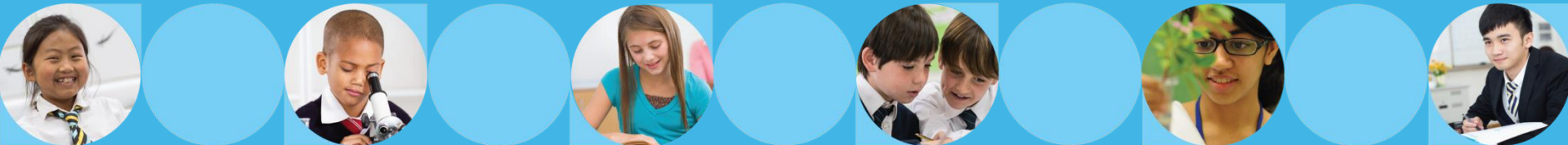
Cambridge Primary

Presenters

Marc Neesam, Development Manager

Curriculum Programmes

September 2018



Aims

- ▶ Explore ideas for successfully integrating practical activities in all parts of the Primary Science programme
- ▶ Consider how to build the scientific enquiry skills of our learners with limited resources
- ▶ Explore the importance of scientific enquiry and its role in the Cambridge Primary Science programme

The key to successful primary science...

Many factors which influence how successful primary science is and how scientific enquiry is embedded into lessons

The one to focus on today...

Planning

Planning successful primary science

Success needs to be planned for, it will not happen on its own

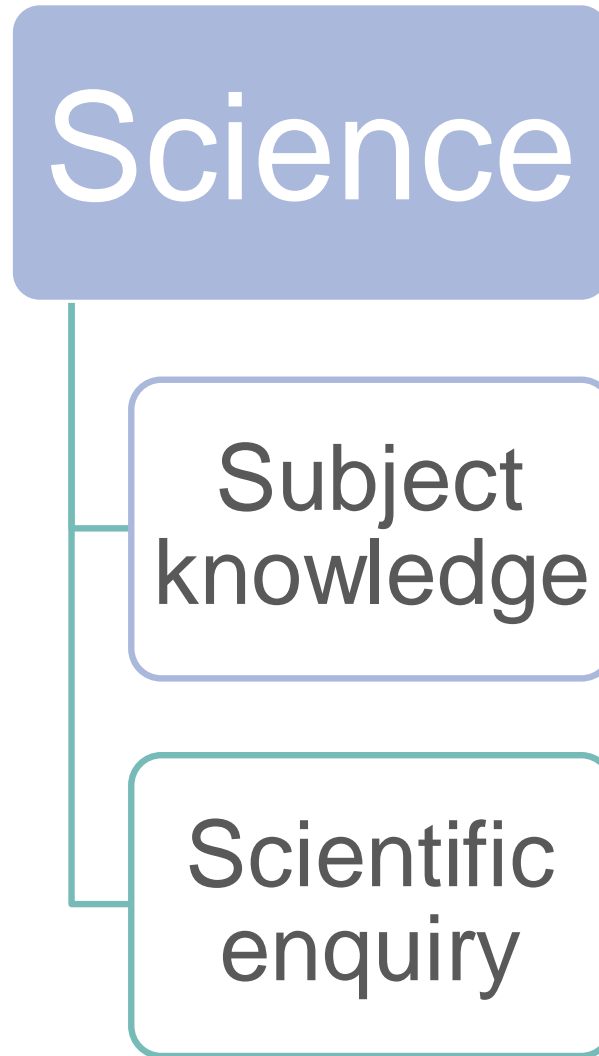
Planning successful primary science:

What do learners need to achieve? What learning is required?

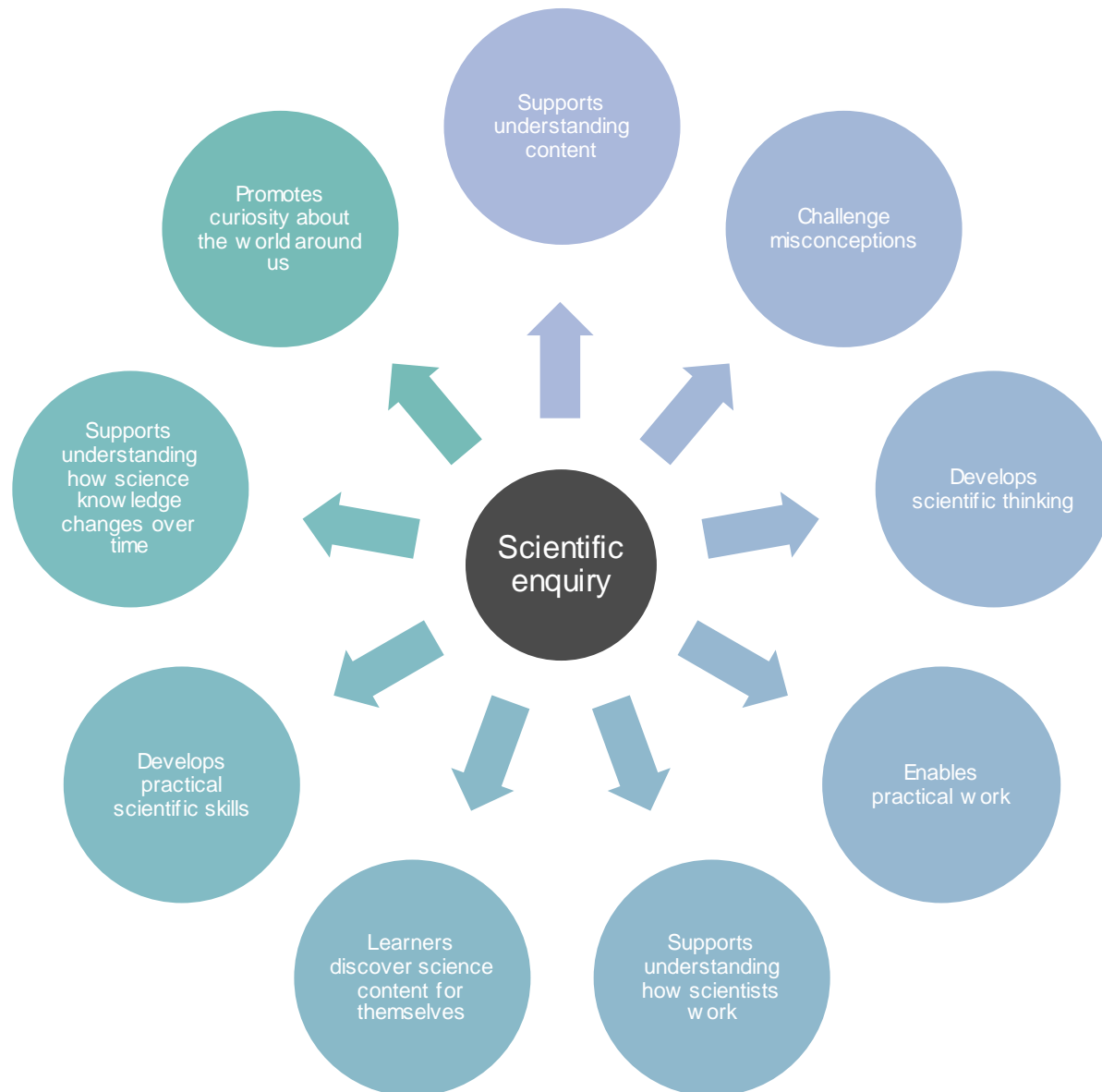
What scientific enquiry skills need to be developed?

How does science 'work'?

How does science 'work'?

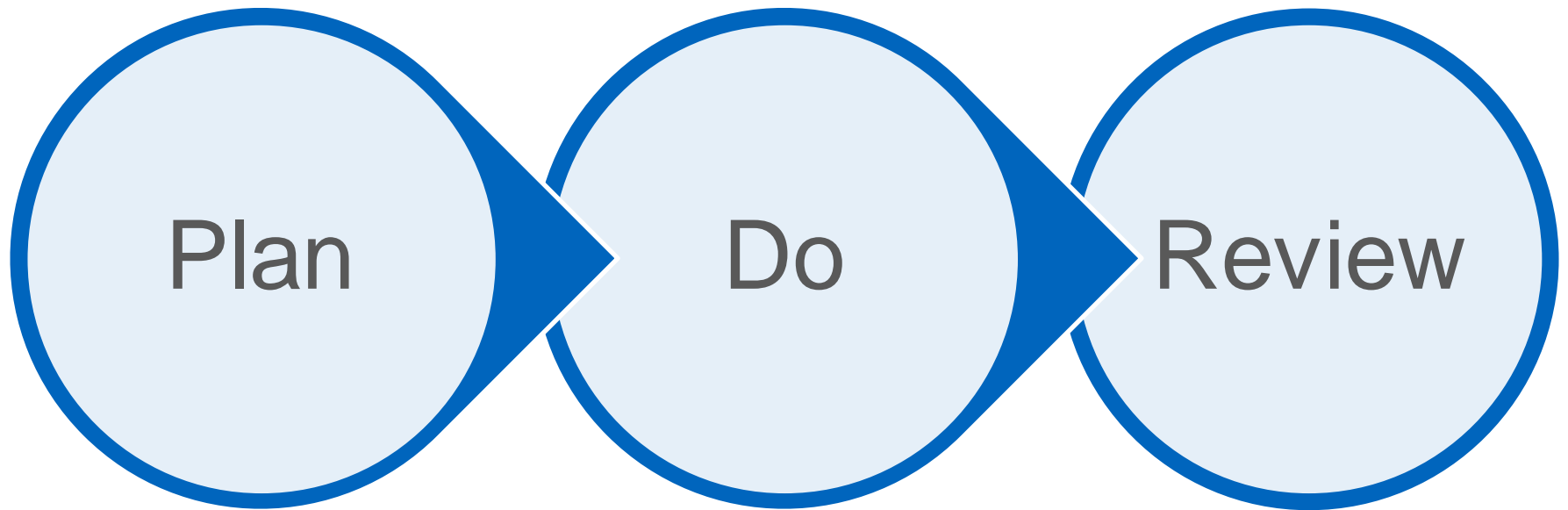


How does science 'work'?

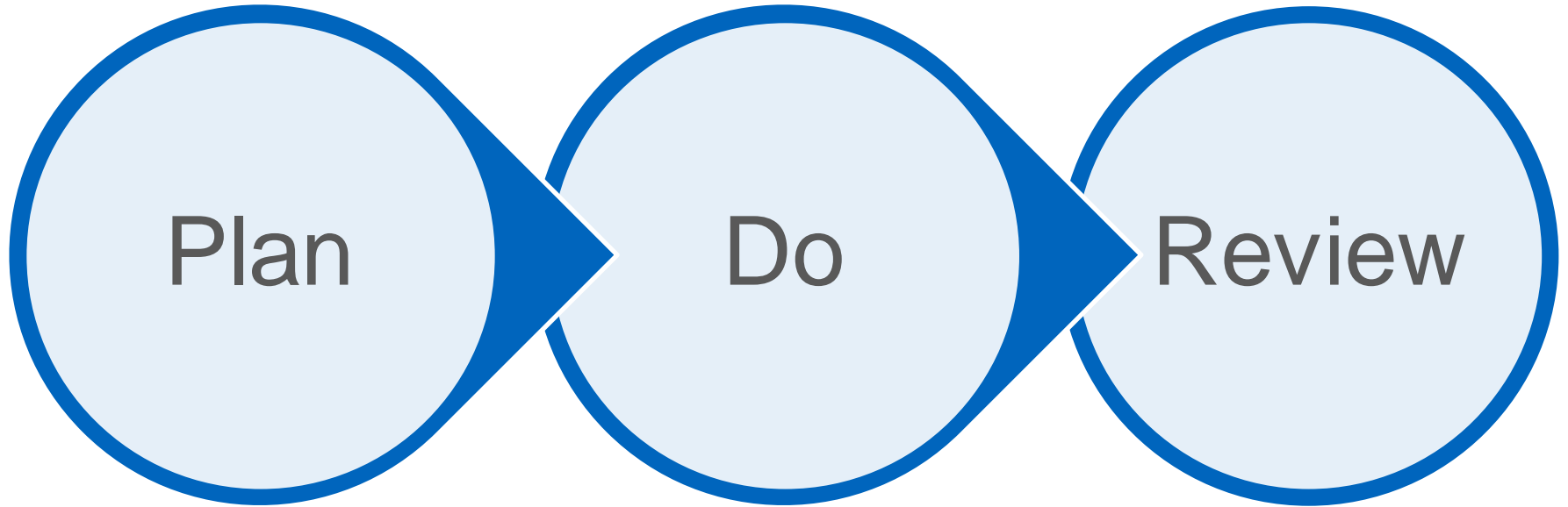


What is scientific enquiry?

Scientific enquiry can very simply be described as learners actively finding out about the world around them. They collect evidence to answer questions, explain experiences or test explanations.



What is scientific enquiry?



You do not need to do all three steps in a science lesson.

Learners need to develop the skills for each step.

Focus lessons on development of certain skills.

Practical work and scientific enquiry

Practical work is often a part of scientific enquiry

But not always

Practical work can be done independently of scientific enquiry

Practical work can be part of scientific enquiry but practical work does not equal scientific enquiry

Planning successful primary science

Success needs to be planned for, it will not happen on its own

Planning successful primary science:

What do learners need to achieve? What learning is required?

What scientific enquiry skills need to be developed?

To achieve it you consider...

Your environment, your resources, your learners and your own understanding

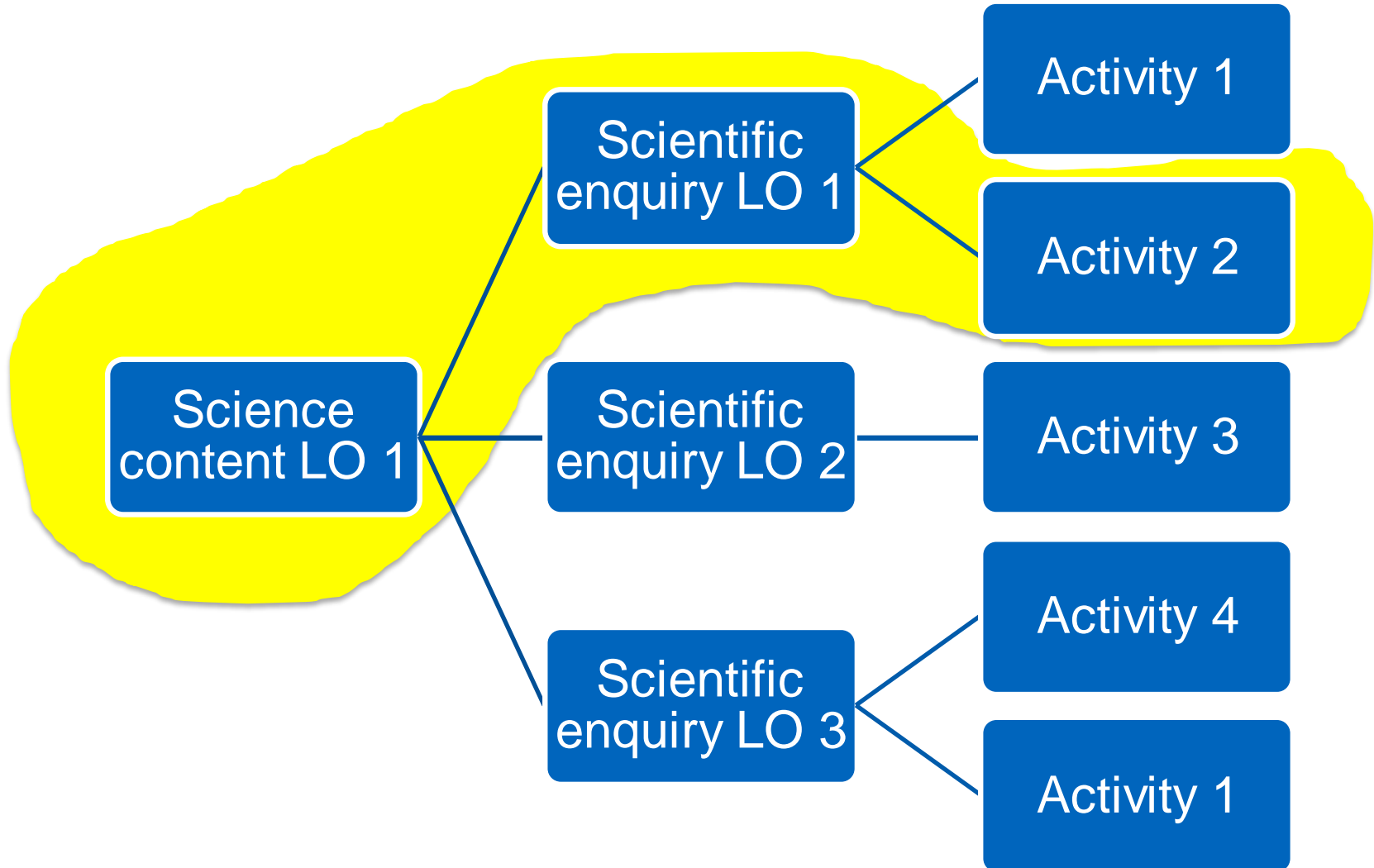
How does scientific enquiry fit in?

Science content LO	Scientific enquiry	Activity
4Bh1 Know that humans (and some animals) have bony skeletons inside their bodies	4Eo1 Make relevant observations and comparisons in a variety of contexts	The teachers presents learners with x-rays of animals, and (clean) skeletons if possible e.g. chicken skeleton, which they can review and discuss. What are the x-rays of? Where are bones? How do the x-rays and skeletons differ?
		Learners can then observe the features of themselves and others e.g. feel their fingers for bones, feel their hip bones. Does this represent what you've seen in the other evidence?
	4Ep1 Collect evidence in a variety of contexts	Learners read about skeletons in a range of sources (books, internet) and from the evidence collected discuss what was found about skeletons. What has a skeleton? What is it like?

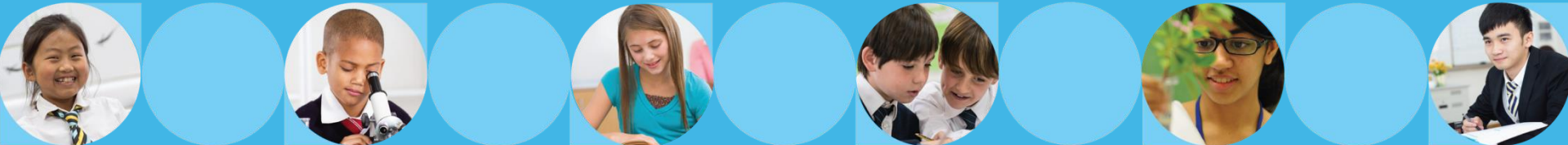
How does scientific enquiry fit in?

Science content LO	Scientific enquiry	Activity
6Cc3 Observe, describe, record and begin to explain changes that occur when some solids are added to water	6Ep4 Make predictions using scientific knowledge and understanding	Present a range of solids to the learners (e.g. sand, salt, baking powder, sugar, soil) Discuss what each one looks like and what they know about each solid. Discuss what they predict will happen when they are added to water? Learners share predictions.
	6Eo9 Say if and how evidence supports any predictions made	Teacher then demonstrates adding the solids to the water and supporting the description of what happened. Learners can say if the evidence supported their prediction.
	6Ep7 Choose which equipment to use	Learners are presented with the investigation question of 'what happens when solids A-F are added to water?' They have no equipment, instead a range of equipment is presented and they have to choose their equipment, clearly explaining their choices. This then leads into the next activity/lesson (doing the investigation)

How does scientific enquiry 'fit in'?



How would fit scientific enquiry in?



Successful primary science

Top tips:

- ▶ Start with the content learning objectives
- ▶ Think what scientific enquiry learning objectives you want to develop (if relevant)
- ▶ Plan activities that enable coverage of both content and scientific enquiry (where relevant), taking into account your context
- ▶ Make sure all learning objectives are covered over the year
- ▶ For scientific enquiry, cover the learning objectives as many times as benefits your learners

Aims: How did we do?

- ▶ Explore ideas for successfully integrating practical activities in all parts of the Primary Science programme
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Thank you
Any questions?

