

# child-led enquiry



## Frameworks and practical ideas to support child-led enquiry



A summary guide by Alison Eley and Rufus Cooper based on their joint workshop presented at the ASE conference (January 2018)



## **Some suggested frameworks for starting children off with their own enquiry**

1. Give them a challenge or problem to solve
  2. Go on an observation walk
  3. Make the most of links to other curriculum areas
  4. Present them with a conflict
  5. Make the most of awe and wonder moments
  6. Encourage open-ended exploration at home
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# 1. Give them a challenge or problem to solve

Give the children a range of materials and objects in a bag, and then set a **specific challenge**, e.g.

**Use anything in the bag to make a musical instrument**

(bag could contain: plastic pots with lids, rice, straws, beads, string, small boxes, paper cups, elastic bands, pipe cleaners,

**Use anything in the bag to make the light bulb light**

(bag could contain: light bulb, wires, buttons, string, electric motor, paper cups, elastic bands, pipe cleaners, ruler, soft toy, cotton wool, paper clips, magnet, coins, cork, clothes pegs, dowel, pipettes .....

or an **open-ended challenge**, e.g.

**Use anything in the bag to be a scientific investigator**

(bag contents similar to above, ie a range of interesting objects – they could vary each time or from group to group)

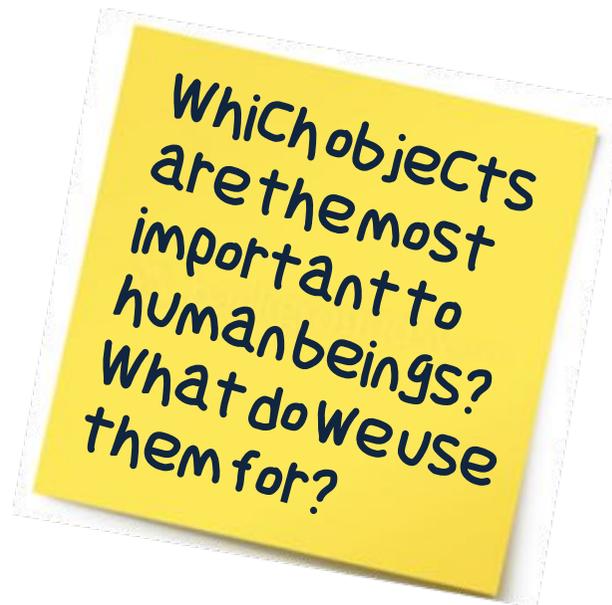
# Asking questions to support the enquiry

## General questions to help focus the activity

What have you done? What have you found out? How many different things have you done? What would you like to find out next? What would you need in order to do that?

## Specific questions to help the children's thinking

Try writing a question on a **post-it note** and dropping it on the table – then **go back later** to find out what they think, e.g.



## 2. Go on an observation walk

Take the children on a walk outside and ask them what they notice. Encourage them to wonder **What, Why** and **How**.

e.g. an observational walk around the school garden  
“I wonder why .....?”  
“I wonder what .....?”  
“I wonder how .....?”

Children choose one of their questions to investigate

Children do their investigation over a series of lessons - teacher can give regular feedback

Children with similar questions help each other plan and review

### Examples of possible investigations

How many different shaped leaves are there in the garden? (*identifying and classifying*)

Where in the garden do dandelions grow? (*pattern seeking*)

What happens if a plant has no leaves? (*exploration or fair test*)

What happens to leaves when they don't get any light? (*exploration or fair test*)

A study of the strawberry plant (*observation over time*)

### 3. Make the most of links to other curriculum areas

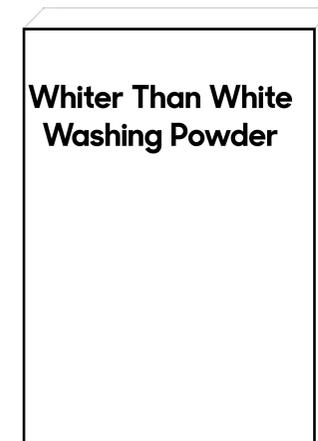
There are endless possibilities for using other curriculum subjects as contexts for prompting scientific enquiry. [Making links between English, maths and science](#) is a good place to start finding ideas.

An idea to start off with .... What about making links with literacy through challenging advertising claims? e.g.



“A teabag with more room to move”

“Washes whiter than white”



Encourage the children to challenge these slogans – What does it mean ‘more room to move’? Or ‘whiter than white’? – and to find their own slogans to challenge and plan an enquiry to test.

## 4. Present them with a conflict

“My friend said that snails like eating paper better than their normal food but I don’t believe her.”



The children are likely to have an opinion of their own on this which will give them a **purpose to investigate**.

Find some snails outside and put them into a tray. The children can observe what happens when they give the snails different things to eat, including paper. Food moves through a snail’s digestive tract fairly fast so if you observe them over a day or half day, you will be able to see evidence of what they have eaten – coloured paper is quite effective!

## 5. Make the most of awe and wonder moments

### Wonderful shadows

Instead of asking the children, ‘How can we make the biggest/ sharpest shadow?’ or ‘How can we change the shape of a shadow?’ watch Raymond Crowe’s ‘What A Wonderful World’ hand shadow show (link below) and the children come up with the same questions themselves ....



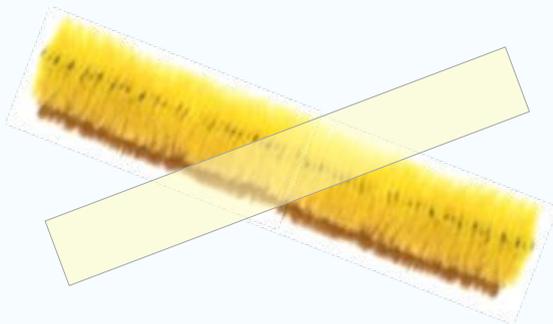
<https://www.youtube.com/watch?v=Uiyeq3xLJEw&list=RDUiyeq3xLJEw&t=81>

# 6. Encourage open-ended exploration at home

Do Science with me!

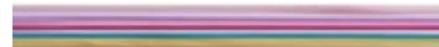


Do Science with me!



1. Print A5 cards with **“Do Science with me!”** across the top.
2. Tape an object to the card.
3. Give the children cards to take home for the weekend.
4. Ask them to write and draw on the card what they did/observed/found out

You could use .....



This could make an **instant display** – put the objects up and let the children write or draw around them



You might end with something like this – you could write **questions** to encourage further thinking .....

**Do Science with me!**  
What did you find out?

Shoelaces are a little bit stretchy

My teddy didn't like it for his blanket  
Why was that?  
It was all ruff and not soft

it floated in my bath

If you keep on bending it then it will snap but not the furry bit

A magnet didn't stick to it

# Links to other resources

[Bright Ideas in Primary Science](#) – increase engagement with enquiry and promote higher order thinking

[Explorify](#) – ready to go resources to support children with asking questions and thinking differently

[Using puppets, books and stories to promote engagement in science](#)

[Tinkering for Learning](#) - increase exploration and engagement through engineering activities

[Titanic Science](#) – science enquiry through the story of the Titanic