TAPS Plan for Focused Assessment of Science

Topic: Forces and magnets	Year 3 Age 7-8	Title: Testing the strength of magnets

Working Scientifically

Plan: Set up simple practical enquiries, comparative and fair tests

Concept Context

Notice that some forces need contact between two objects, but magnetic objects can act at a distance.

Assessment Focus

- Can children decide on an approach to compare magnet strength?
- Can children recognise and control variables where necessary?

Activity *Today we are going to be physicists*

Provide the children with a collection of magnets and other materials (e.g. card, fabric, tissue, thin wood, aluminium foil, paperclips) to explore. Ask them to find out ways to test whether the magnets are all equally strong *e.g. through paper/card or layers of each, how close magnet needs to be before it attracts a paper clip etc.*

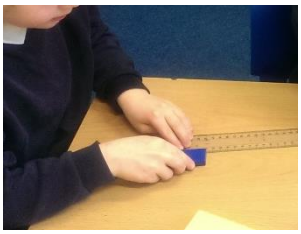
Ask the children to report their findings verbally, e.g. explaining how they carried out their investigation to their peers. P4

As a class, discuss the different ways of testing magnet strength and talk about the advantages and disadvantages of each approach. Discuss why it is a good idea to try different ways of answering a question (to get a more reliable answer).

Adapting the activity

Support: Ask which magnet is the strongest. Ask, 'How do you know?' and use the response to help the children plan to systematically test each magnet.

Extension: Challenge children to order the magnets from strongest to weakest. Challenge the children to find several different ways of comparing the strength of magnets and see if these result with the magnets in the same order of strength.



Questions to support discussion

- How can we find out which magnet is the strongest?
- What will you measure?
- Which materials will you use?
- Do the magnets need to be touching the objects to find out?
- Can you now put the magnets in order from strongest to weakest?
- Can you think of any other ways to test which is the strongest?
- Which magnet was the strongest? Did you get the same results with every way you tested it?

Assessment Indicators

Not yet met: With support, can make suggestions about how to find which magnet is the strongest, *e.g. see how many paperclips the magnet will pick up.*

Meeting: Can decide on an approach to answer the question, and what observations/measurements need to be made, *e.g. hold each magnet above the paperclips and measure the greatest distance each magnet can still attract them from.*

Possible ways of going further: Can compare different ways of answering the question and whether they lead to the same sequence of strength of magnets, e.g. *The order was different when you measure the distance the paperclips jump because it is not very easy to know when this happened.*

P4 Pupil box 4 - assess peers. See TAPS pyramid for more examples.