Plan for Focused Assessment of Science

Topic: Space (or Forces)	Year 5 Age 9-10	Title: Craters

Working Scientifically **Do:** Gather and record data using tables and graphs.	**Conceptual Knowledge Context** Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object.

Assessment Focus

- Can children design simple tables to record results?
- Can children present results as a bar chart or line graph?

Activity

Today we are going to be geologists.

This activity invites children to investigate the formation of 'craters' by dropping meteors (e.g. marbles or balls) into a tray of sand and observing the craters produced. Introduce by looking at photos/websites of impact craters. As a class drop a variety of different spherical objects into the sand and measure the diameter of the craters, creating a class graph. As a class, consider what could be changed and measured (could use a sticky note planning board) and allocate different variables to different groups of children (height of drop, size of meteor, type of sand). Ask each group to make measurements and record them in a table/graph of their own design.

Adapting the activity

Support: categorical variable, e.g. tennis ball/Ping-Pong ball/rubber ball, support with making measurements of crater to nearest cm, use pre-prepared table/graph.
Extension: Choose own variables, measure to nearest mm, talk about accuracy of results and repeat readings.

Key Questions

- Where on the table will you write down the things you have changed/measured?
- What would be a good heading for this column?
- Where on the bar chart will you show what you changed?
- Where on the bar chart will you show your measurements?
- Can you explain how you have recorded your results?

Assessment Indicators

Not yet met: Records measurements in a simple table/graph (support provided for scale as necessary).

Meeting: Can make decisions about what to record and where to put information in a simple table/graph. With support, can calculate/plot mean or median if repeat measurements have been taken.

Exceeding: Can design and use a suitable table/graph and aims to collect repeated measurements. Will notice and discuss anomalous results or discount them from the data.

This investigation can be for any age and can have a different Working Scientifically focus e.g. do across the school and look for progression.