TAPS Cymru Plan for Focused Assessment

Science and DT topic: Forces or Materials	Year 5 Age 9-10	Title: Marble run
Enquiry Focus evaluate and amend outcomes		**Concept context** ways in which forces can affect movement

Assessment Focus

- Can children refine their design in response to test data?
- Can children evaluate their outcomes in terms of forces?

Activity *Today we will be engineers.*

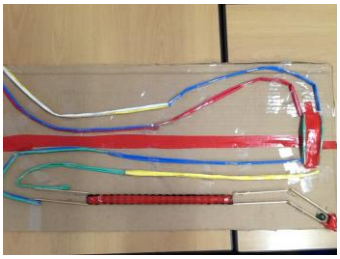
Group challenge: create a marble run where the marble is on the move for the longest amount of time.

Discuss: design options (e.g. flat surface or tubes); resources available (and whether there is a limit e.g. x lolly sticks, bendy straws, blutack, tape, card tubes per group); and time available.

Provide each group with a stop watch so that they can repeatedly test whilst making their marble run to see if it is improving (taking longer for the marble to complete the run).

P3

Focused recording: teacher observation notes or pupils annotate design/photo to label improvements and where the marble slows down/changes direction.



Adapting the activity

Support: Provide pictures for initial ideas, pause to magpie ideas.

Extension: Add additional criteria e.g. include a tunnel, include a bridge, avoid obstacles

Other ideas: Possible context: transporting mail tunnels.

Questions to support discussion

- What is slowing the marble down?
- Can you use friction to slow the marble down?
- Can you use turns to slow the marble down?
- How can you speed the marble so that it turns to corner?
- Have you timed your marble run?
- How have you changed your marble run?
- What effect did your changes have?

Assessment Indicators

Not yet met: Focuses on the making without evaluating e.g. does not test design or take tests into account to improve or suggest improvements.

Meeting: Tests and times marble run, uses test results to evaluate and amend design/model. Beginning to explain marble movement in terms of forces e.g. *this bit is really bumpy so friction slows it down, it's sticky here so it stops – there's too much friction.*

Possible ways of going further: Ongoing evaluation of design/model. Able to explain the impact of changes and recognises issues with the design e.g. *it really makes depends on the angle of the board so we had to keep the same book underneath - we should add that to the success criteria next time.*

P3 Pupil box 3 - assess own ideas. See TAPS pyramid for more examples.