**** **TAPS Cymru Plan for Focused Assessment**

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| **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).  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](https://www.postalmuseum.org/visit/for-schools/learning-resources/mailrail-crest-activities/).  **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.* | | | |



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