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

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| **Science and DT topic:** Forces or Materials | Year 5Age 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?
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| **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?
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| **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.