

Task: He Poi Piupiu — Swinging Marbles

Approach: Station

Focus: Motion

Resources: Swinging ball set

Kupu:

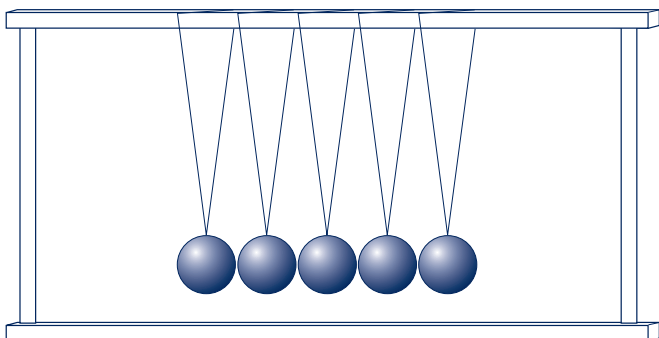
Questions / instructions:

Tirohia mēnā he ōrite tō taputapu poi piupiu ki te mea i roto i te pikitia.

Āta kumea te poi i tētahi o ngā **pito**, ka tuku ai.

Check that your marble set looks like the picture.

Gently pull back one of the end marbles and let it go.



1. Ka ahatia ngā poi i ngā pito e rua?

% responses

What happened to the marbles at the ends?

marbles at ends swing out alternately

25

they go backwards and forwards

57

2. Whakamāramatia he aha i pēnā ai ngā poi i ngā pito e rua?

Try to explain why that happened.

clear explanation

29

vague idea

55

Explanation: *When one end ball hits, it transfers its energy to the next ball, which passes it on to the next ball, etc. The ball at the other end has none to pass it on to, so it swings out (until all the energy has been converted to potential energy). When it swings back in, the flow goes the other way through the balls.*

3. I ahatia ngā poi i waenganui?

What happened to the marbles in the middle?

stayed the same – didn't move

76

(passed energy on)

Total score:

5

8

4

21

3

44

2

15

0–1

12

Commentary:

A majority of students correctly identified what happened but only about 30 percent could explain it well.