Year 7 Physics

Investigating Levers: Validation test

Student name: _____

Test materials

- ☐ Pen or pencil
- ☐ Calculator
- ☐ Task 8 Levers Investigation worksheet with **no additional notes or fact sheets**

Investigation questions

1. Write the **definition** of the following terms: (2 marks)

A) Independent variable: The variable you change

B) Dependent variable: The variable that you measure.

2. Look at your results to answer the following questions: (3 marks)
   a) What was the furthest distance thrown without the dog ball thrower? Longest in group
   b) What was the shortest distance thrown with the dog ball thrower? Shortest in group
   c) What is the difference in the average distance thrown with the dog ball thrower and without the dog ball thrower? Diff. between two →

3. Using your results from your team average for both throwing methods, which method made the tennis ball travel further? (3 marks)

Statement of which average was further ✓
Stated the numerical average of both methods ✓✓

4. Using your knowledge of levers, explain why the dog ball thrower often throws further than just the arm. Your answer should be one paragraph. (4 marks)

The dog ball thrower is a lever ✓
Levers multiply force ✓
Levers can make loads travel further ✓ with the same effort applied ✓

5. Describe one thing you could do to make the experiment results more reliable if you were to do this experiment again (2 marks)

One method ✓
Why it would make the test more reliable ✓

Levers

1. A dog ball thrower is a third class lever. What are the names of the other two types of levers. Give an example of each type. (4 marks)

First class ✓ - See Saw ✓
Second class ✓ Wheelbarrow ✓

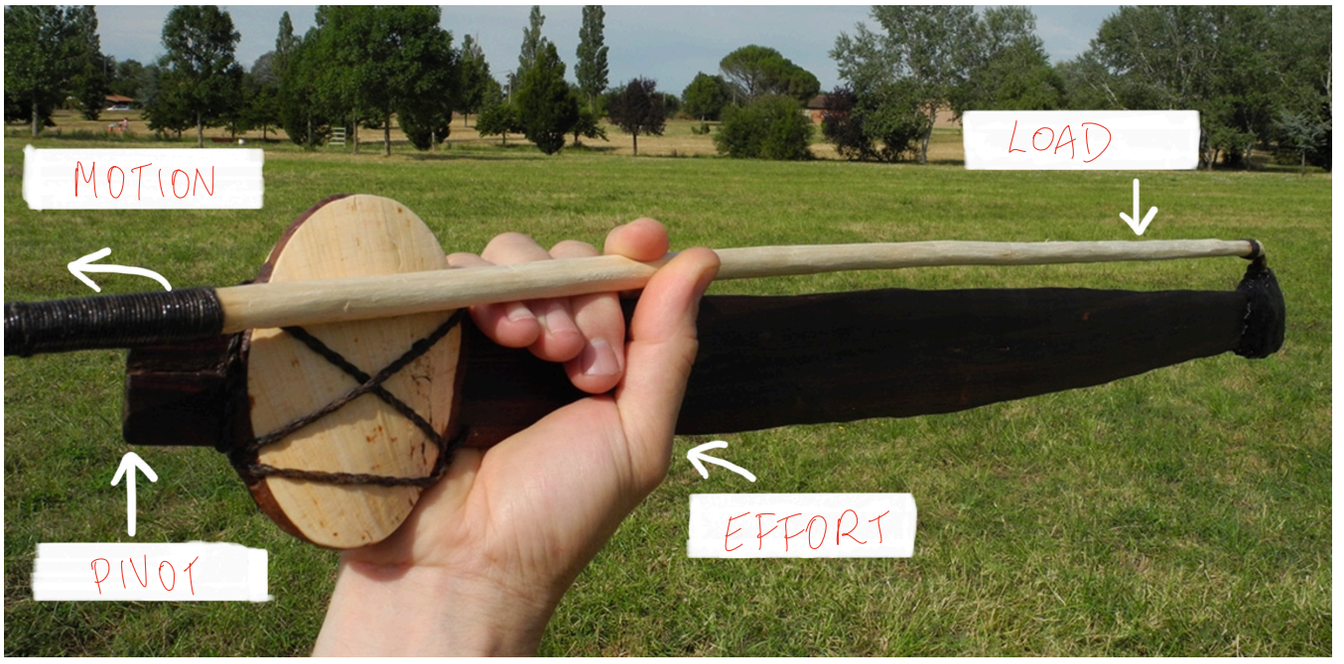
2. What is the pivot point on a lever called? Fulcrum (1 mark)

3. Explain using words and a diagram why the dog ball thrower is a third class lever. (3 marks)

The effort is between the pivot and the load ✓
The effort is applied at the hand, the load is the ball, and the pivot is the end of the thrower ✓

Diagram with 3 parts labelled ✓

4. Annotate the following image to show the effort, pivot, load, and motion (4 marks)



5. What are **two** mechanical advantages the miro gives the thrower? (2 marks)

Throw further ✓
or faster ✓
or with more force

Organisation: worksheet brought to class on test date completed and handed in with test (2 marks)