****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)
2. Independent variable: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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1. Dependent variable: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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1. Look at your results to answer the following questions: (3 marks)
2. What was the furthest distance thrown without the dog ball thrower? \_\_\_\_\_\_\_\_\_\_\_\_
3. What was the shortest distance thrown with the dog ball thrower? \_\_\_\_\_\_\_\_\_\_\_\_
4. What is the difference in the average distance thrown with the dog ball thrower and without the dog ball thrower? \_\_\_\_\_\_\_\_\_\_\_\_
5. Using your results from your team average for both throwing methods, which method made the tennis ball travel further? (3 marks)

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1. 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)

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

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**Levers**

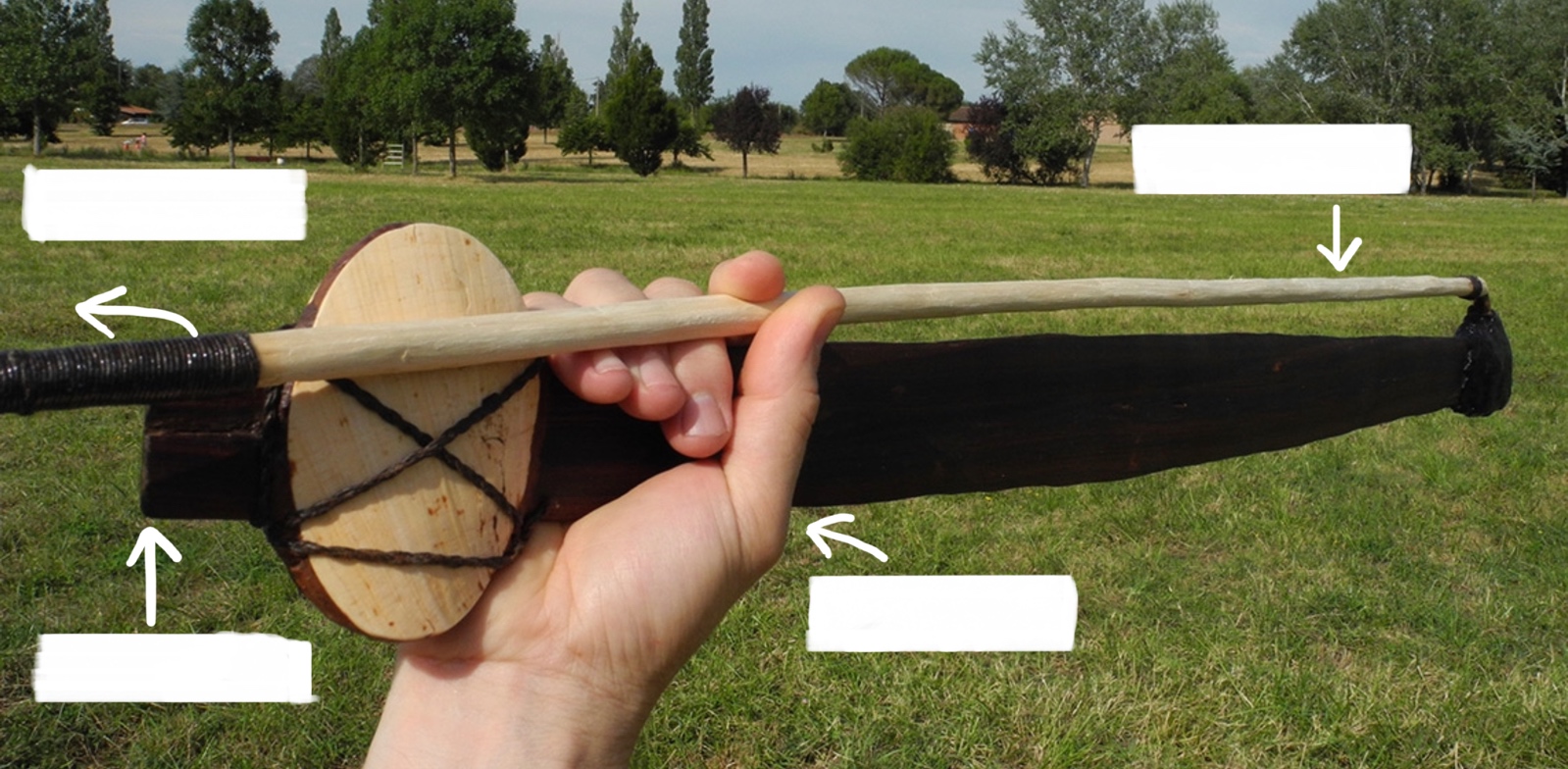
1. A dog ball thrower is a third class lever. What are the names of the other two types of levers. Give an example of each type. (4 marks)

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1. What is the pivot point on a lever called? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (1 mark)
2. Explain using words and a diagram why the dog ball thrower is a third class lever. (3 marks)

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



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

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