**Year 8 Physical Science**

**Elastic Potential Energy Investigation**

**Aim**: To investigate energy stored in a stretched elastic band.

**Equipment**:

* Elastic bands
* A chair
* Brass weights
* An empty container with a lid
* A meter ruler or tape measure
* Safety glasses

**Method**:

1. Choose what your group will change from the options below:
2. The length you pull the elastic band
3. The number of weights in the container
4. The number of elastic bands you tie together
5. You will measure the distance the container slides along the floor.

Independent variable \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Dependant variable \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Controlled variables (≥ 4) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Write a hypothesis for your experiment

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1. Decide how many times you will change your independent variable and at what intervals. *For example if you are changing the length the elastic is pulled, you might change it 3 times at 20cm, 30cm and 40cm.*
2. Add headings and extend the table below to enter your experiment results.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | | | Average |
|  | Trial 1 | Trial 2 | Trial 3 |  |

1. Set up and conduct your experiment as per the diagram above.

**Questions**:

1. What type of energy was used in your experiment?

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1. Where did this energy go after the elastic band was released?

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1. Circle the type of data you used in your experiment?

Independent variable: continuous/discrete

Dependent variable: continuous/discrete

What type of graph would you use to show your data? Scatter/Column

1. Draw an appropriate graph for your data.

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1. Using your data explain what happened as you changed your independent variable?

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1. Why do you think this happened?

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1. How could you improve this investigation if you were to do it again?

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