 **Lab Report 8:**

**Testing Shoes**

***Question:***

How can you test and compare the effectiveness of the absorption of impact and grip in two different types of shoes?

***Hypothesis:*** [**1**]

***Materials:***

1 Running Shoe 1 Street Shoe or Boot

Small Plastic Bags Eggs

Newspaper Board, 15 cm x 30 cm

Metre Stick

***Procedure:*** [**10**]

1. Once you have read the two tests you will be conducting, write a detailed procedure considering the following:

* What are your independent and dependent variables for Test 1 and Test 2?
* What variables will you attempt to control in the two tests?
* Begin with an easy test that both shoes will pass. Then, make the test progressively harder until one shoe fails the test.

1. Create a table for recording your data.
2. Submit your written procedure and your table to your teacher for approval.
3. Carry out your investigation:

**Test 1: Comparing Shock Absorption**

* For testing ability to absorb impact, use the egg in your test to represent a person’s foot.
* Make sure that no components are loose when you carry out your tests.

**Test 2: Comparing Grip**

* Grip refers to a shoe’s ability to prevent slipping. In your experiment, use the board at different angles to create a slope that will test the shoes’ grip.

***Observations:***

1. Create a table for recording your data. **(10)**

***Analysis:***

1. Which shoe had the best shock absorption? The best grip? **(3)**
2. Do your results support your hypothesis? **(3)**
3. Do you think that the egg is a good model for a foot? Why or why not? **(5)**
4. Was your surface for measuring grip a good model for a typical running surface? Is this an important factor? Explain. **(5)**

***Conclusion:***

How can you test and compare the effectiveness of the absorption of impact and grip in two different types of shoes? **(3)**

***Evaluation:***

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| --- | --- | --- | --- | --- | --- |
| **Category** | **Level 4** | **Level 3** | **Level 2** | **Level 1** | **%** |
| **Observations** | The relationship between the procedure and what was observed is discussed in detail. All information is accurate. | The relationship between the procedure and what was observed is discussed. Most information is accurate. |  |  | 25 |
| **Diagrams** | Clear, accurate diagrams are included and make the experiment easier to understand. Diagrams are labeled neatly and accurately. | Diagrams are included and labeled neatly and accurately. |  |  | 25 |
| **Analysis** | The patterns in the observations are discussed and logically analyzed. Predictions are made about what might happen if part of the lab were changed or how the experimental design could be changed. | The patterns in the observations are discussed and logically analyzed. Some predictions are made. |  |  | 25 |
| **Conclusion** | Conclusion includes whether the findings supported the hypothesis, possible sources of error, and what was learned from the experiment. | Conclusion includes whether the findings supported the hypothesis and what was learned from the experiment. |  |  | 25 |