**Physical Science NCFE Guided Review/Questions 1.2**

**(Forces)**

**PSc.1.2.1 Explain how gravitational force affects the weight of an object and the velocity of an object in freefall.**

* Weight = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, measured in \_\_\_\_\_\_\_\_\_, dependent on \_\_\_\_\_\_\_\_\_\_\_
* Mass = \_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_, measured in \_\_\_\_\_\_\_\_\_
* Equation:

Example Problem: What is the weight of a 50 kg object on Earth?

Free-fall:

* Terminal velocity depends on \_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* Objects with negligible air resistance will fall at the same rate of acceleration (9.8 m/s2 on Earth).

**PSc.1.2.2 Classify frictional forces into one of four types: static, sliding, rolling, and fluid.**

* Friction =
* 4 Types:

|  |  |
| --- | --- |
| Type | Example |
|  | Box pushed across the floor |
|  | Boat moving through a river/object in free fall |
|  | Book resting on a table |
|  | Ball rolling down a hill |

**PSc.1.2.3 Explain forces using Newton’s three laws of motion.**

1st Law =

* Inertia =
* Example of Inertia =

2nd Law =

* Balanced Force = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, results in \_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_
* Unbalanced Force = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, results in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Equation:

3rd Law =

* Examples of 3rd Law:
* Why do the forces not cancel out? (Why is there still motion?)

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