PS Physics Unit 2-Newton's Laws of Motion

Name:

Summary of Unit

Each law of motion (three in total) that Newton developed has significant mathematical and physical interpretations that are needed to understand the motion of objects in our universe. The applications of these laws of motion are truly limitless. Essentially, these laws define the means by which motion changes, specifically the way in which those changes in motion are related to force and mass.

The charts below and the essential facts on the back of this sheet will guide students through this unit and will aid students to the level of instruction that they choose to attain. In order to gain a level of instruction, students must demonstrate their knowledge to the teacher. This demonstration might come in several different forms (checkpoints, labs, tests). All students must complete all of the requirements of Level 3 and below as well as having all essential facts completed to satisfactorily complete this unit.

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|--|--|---|---|-------|---|---|--|--------------------------------------|
| No relevant examples | Little or no understand- ing of concepts | | Generally Understands concepts | | Some Mastery of Concepts | | Mastery of Concepts | |
| ing of content | Identify Newton's 1st Law Dadi Found on WS 2.1 Identify Newton's 2nd Law Dagg Found on WS 2.1 Identify action-reaction force pairs for any physical situation (Newton's 3rd Law) Dagg Found on WS 2.1 Identify Balanced and Unbalanced Forces Dagg Found on WS 2.2 Distinguish difference between mass and weight Dagg Found on WS 2.3 | • | Explain how Law of Inertia is demonstrated in physics phenomena $\begin{array}{c} \hline & & \\ \hline \hline & & \\ \hline & & \\ \hline & & \\ \hline \hline & & \\ \hline \hline & & \\ \hline \hline \\ \hline & & \\ \hline \hline & & \\ \hline \hline \\ \hline & & \\ \hline \hline \\ \hline \hline & & \\ \hline \hline \\ \hline \hline \\ \hline \hline \\ \hline \hline \hline \\ \hline \hline \hline \\ \hline \hline \hline \\ \hline \hline \hline \hline \hline \hline \\ \hline \hline$ | • • • | on an object B_2 Found on WS 2.2 Calculate act | ely on mass ce diagram forces acting celeration of ven net force ass of an given net celeration celeration celeration e causes of ocity e effect of | Analyze a physic scenario and a mine the relating upon an acting upon an Found on WS 2.2 Calculate the frictional force on an object Calculate the frictional force or n an alteration i net force or n an object upon acceleration o object Calculate the acceleration of falling object resistance Calculate the acceleration of alling object | f a |
| Ready for Test You may not take the test until all "C" and below assessments as well as the essential facts are completed | | | effecting the amount of air resistance Found on WS 2.4 | | | | _ | |
| Self Assessment | Teacher Assessment | • | Describe effect of air resistance upon a falling object C ₀ Found on WS 2.4 Identify common | | Neatness- Legible Work 5/50 | Organization- Contents in Order 10/50 Points | Content- Completeness of Worksheets 35/50 Points | Total Points Achieved 50/50 |
| | | | characteristics of free-falling objects | | | | | |

Unit 2 Essential Facts Vocabulary

| | • |
|--|----------|
| Word/Term: Force | Drawing: |
| Describe in own words: | |
| Textbook Definition: a push or pull upon an object resulting from the ob- | • |
| ject's <i>interaction</i> with another object. | |
| Word/Term: Inertia | Drawing: |
| Describe in own words: | |
| Textbook Definition: the resistance of any physical object to any change in its state of motion | |
| Word/Term: Weight | Drawing: |
| Describe in own words: | |
| Textbook Definition: the force exerted on a body by gravity | |
| Word/Term: Friction | Drawing: |
| Describe in own words: | |
| Textbook Definition: | |
| A force that resists the relative motion or tendency to such motion of two bodies in contact. | |
| Word/Term: Gravity | Drawing: |
| Describe in own words: | |
| Textbook Definition: The natural attraction between physical bodies | |
| Types of Forces Identify the Five Types of Forces Below | |

Formulas

| Force | Variable | Unit | Weight | Variable | Unit |
|-------|----------|------|-----------|----------|------|
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