

Review of Newton's Second Law: $F=ma$

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Understanding Force, Mass, and Acceleration

Name: _____

Date: _____

Answer the following questions based on what you learned about Newton's Second Law.

1. What does $F=ma$ stand for?

- A. Force equals mass times acceleration
- B. Force is mass added to acceleration
- C. Force equals mass divided by acceleration

2. How does increasing the mass of an object affect the force needed to move it?

3. More force is required to move an object with greater mass.

- True False

4. Acceleration changes based on the applied ____.

5. Can you give an example of a situation where more force is needed to move a heavier object?

6. According to Colossians 1:17, who holds all things together?

- A. Newton
- B. God
- C. The universe

7. Newton's laws reveal unpredictable physical relationships.

- True False

8. Force makes things speed up or ____.

9. In your own words, explain why understanding $F=ma$ is important in science.

10. What is the relationship between force, mass, and acceleration?

- A. They are all equal
- B. They are related through $F=ma$
- C. They do not affect each other

Answer Key

1. Force equals mass times acceleration 2. Increasing the mass means you need more force to move the object. 3. True 4. force 5. Pushing a car requires more force than pushing a bicycle. 6. God 7. False 8. slow down 9. Understanding $F=ma$ helps us predict how objects will move when forces are applied. 10. They are related through $F=ma$