

NAME:

PERIOD:

DATE:

Newton's 2nd Law Practice #1

Remember these things: **Force = Mass x Acceleration**

1 Newton = 1 kg*m/sec/sec

1. Does it take more force to speed up an object?

2. Why?

3. If you were going to try to push an old car off railroad tracks, with a train coming, would you rather have three weightlifters or three wimps helping you push it?

4. Why?



5. Why do people who want to be able to jump higher, exercise with weights on their legs?

6. Explain your answer using Newton's 2nd Law.

7. Two trucks are coming at you. Would you rather be hit by the one that is slowing down or speeding up?

8. Why?



Do these problems.

9. An object that has a mass of 5 kg is moving at an acceleration of 5 m/sec/sec. How much force is being applied?

10. I want to get an object that has a mass of 10 kg to move with an acceleration of 2 m/sec². How much force do I need to apply?

11. I apply a force of 50 Newtons on a 10 kg object. How fast is the object going to accelerate?

12. Using his Accelerato Stopwatch Device, Ralph the Physics Dog measures an object accelerating at 10 m/sec/sec. Using his force measuring goggles, he finds that someone is applying 100 Newtons of force to the object. What is the object's mass?



13. I have an object that has a mass of 5 kg. On the moon its weight is only 2 kg. Does it take more or less force to move it at the same acceleration on the moon?

14. I am throwing a baseball. The baseball has just left my hand. How much force am I applying on the ball?

15. How much acceleration does the ball have based on your answer from #14.

16. Why?