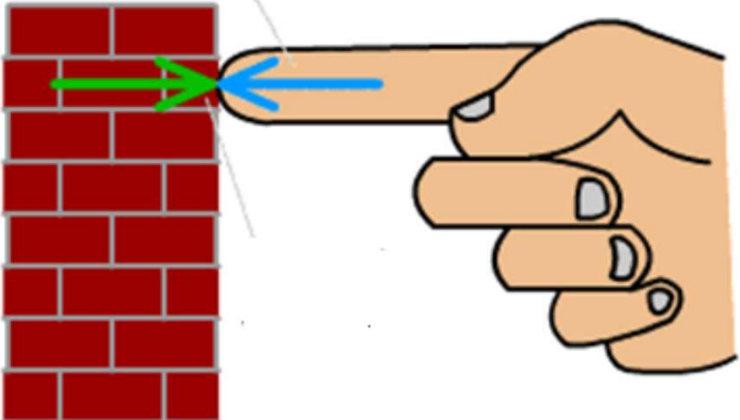


Newton's Laws Review

Learning Target: I can identify and explain Newton's three laws based on real world situations.

Newton's 3 Laws Activity

Match the situation to the appropriate Newton's Law. Explain how you identified which Law it was. If there is a calculation to be done then complete this in the box provided.

Situation	Newton's Law & explanation
	3 rd

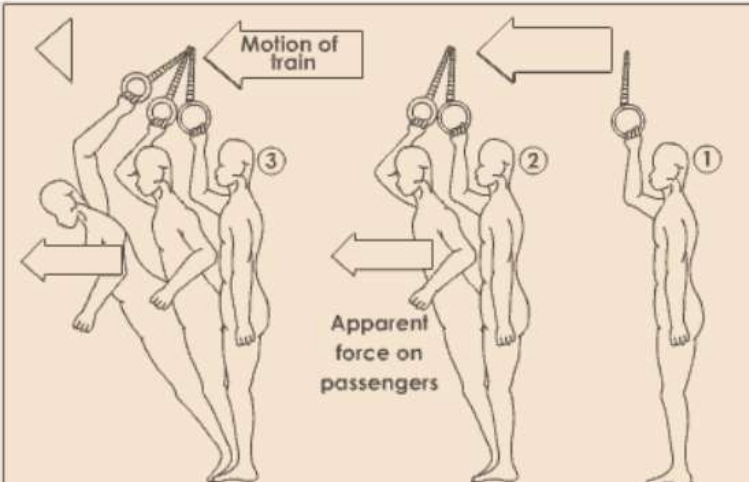
Math Problems

1. What acceleration will result when a 12 N net force applied to a 3 kg object? A 6 kg object?

2. A net force of 16 N causes a mass to accelerate at a rate of 5 m/s^2 . Determine the mass.

Newton's 3 Laws Activity

Match the situation to the appropriate Newton's Law. Explain how you identified which Law it was. If there is a calculation to be done then complete this in the box provided.

Situation	Newton's Law & explanation
 <p>The diagram shows three passengers on a train moving to the left, as indicated by a large arrow labeled "Motion of train".</p> <ul style="list-style-type: none">Passenger 1 (labeled 1) is holding a ball straight up. The ball is also held straight up.Passenger 2 (labeled 2) is holding a ball straight up. The ball is tilted to the right.Passenger 3 (labeled 3) is holding a ball straight up. The ball is tilted to the right. <p>An arrow labeled "Apparent force on passengers" points to the right, indicating the direction of the apparent force experienced by the passengers.</p>	<p>1st</p>

Newton's 3 Laws Activity

Match the situation to the appropriate Newton's Law. Explain how you identified which Law it was. If there is a calculation to be done then complete this in the box provided.

$$F = m \times a$$

Situation	Newton's Law & explanation
The force required to produce the acceleration of <u>5m/s²</u> in a <u>40kg</u> object is <u>200N</u>	2 nd

$$F = m \times a$$

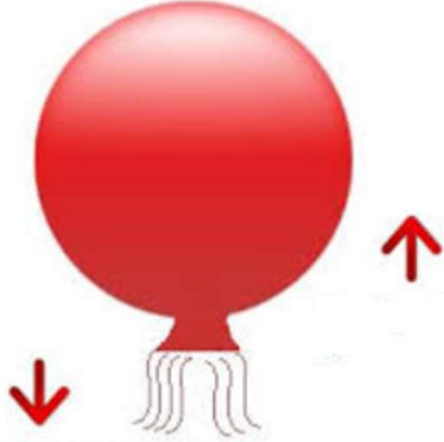
Math Problem

- A car is lifted from the ground onto a semi-truck for delivery to its new owner. The force used to lift the car is 678N. The car is lifted from rest to an upward speed of 6.4 m/s in less than 5.0 s. What is the mass of the car?

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Newton's 3 Laws Activity

Match the situation to the appropriate Newton's Law. Explain how you identified which Law it was. If there is a calculation to be done then complete this in the box provided.

Situation	Newton's Law & explanation
 A red balloon is shown with a string. A red arrow points downwards from the bottom left of the balloon, and another red arrow points upwards from the bottom right of the balloon.	3rd

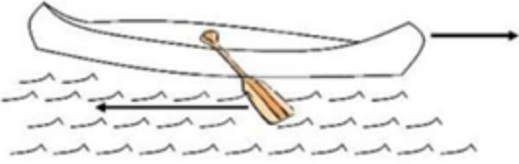
Newton's 3 Laws Activity

Match the situation to the appropriate Newton's Law. Explain how you identified which Law it was. If there is a calculation to be done then complete this in the box provided.

Situation	Newton's Law & explanation
A fish swimming in water uses its fins to push the water backwards and hence propel itself forward.	3rd


Newton's 3 Laws Activity

Match the situation to the appropriate Newton's Law. Explain how you identified which Law it was. If there is a calculation to be done then complete this in the box provided.

Situation	Newton's Law & explanation
	3rd

Newton's 3 Laws Activity

Match the situation to the appropriate Newton's Law. Explain how you identified which Law it was. If there is a calculation to be done then complete this in the box provided.

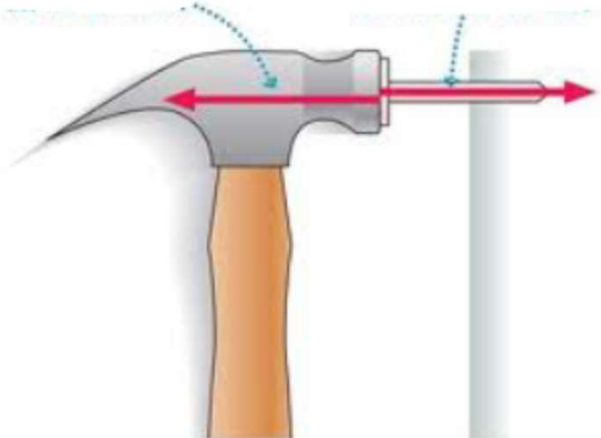
Situation	Newton's Law & explanation
	<p>1st</p>

Math Problems

1. How much force is needed to accelerate a 66 kg skier 1 m/s^2 ?
2. What is the force on a 1000 kg elevator that is falling freely at 9.8 m/s^2 ?

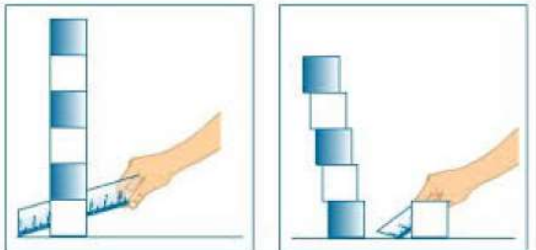
Newton's 3 Laws Activity

Match the situation to the appropriate Newton's Law. Explain how you identified which Law it was. If there is a calculation to be done then complete this in the box provided.

Situation	Newton's Law & explanation
	3rd

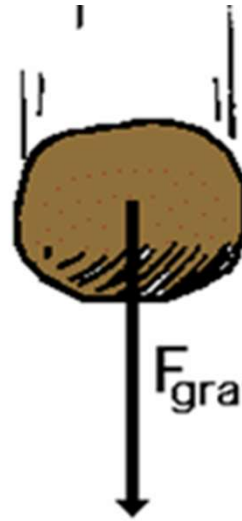
Newton's 3 Laws Activity

Match the situation to the appropriate Newton's Law. Explain how you identified which Law it was. If there is a calculation to be done then complete this in the box provided.

Situation	Newton's Law & explanation
	<p>1st</p>

Math Problem

$$m = 25 \text{ kg}$$



$$F_{\text{grav}} = 98 \text{ N}$$

Newton's 3 Laws Activity

Match the situation to the appropriate Newton's Law. Explain how you identified which Law it was. If there is a calculation to be done then complete this in the box provided.

Situation	Newton's Law & explanation
If you are riding a skateboard and you suddenly hit a branch lying across the path, the skateboard will stop but you will keep moving forward!	1 st

Newton's 3 Laws Activity

Match the situation to the appropriate Newton's Law. Explain how you identified which Law it was. If there is a calculation to be done then complete this in the box provided.

Situation	Newton's Law & explanation
If you use the same amount of force to push a car and a truck then the car will move with more acceleration than the truck.	2 nd

Newton's 3 Laws Activity

Match the situation to the appropriate Newton's Law. Explain how you identified which Law it was. If there is a calculation to be done then complete this in the box provided.

Situation	Newton's Law & explanation
Sliding a hockey puck on ice will eventually stop due to friction or if it is hit by a hockey stick.	1 st

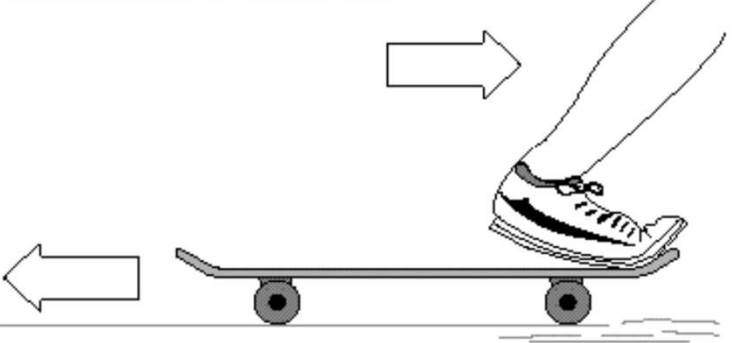
Newton's 3 Laws Activity

Match the situation to the appropriate Newton's Law. Explain how you identified which Law it was. If there is a calculation to be done then complete this in the box provided.

Situation	Newton's Law & explanation
It is easier to push an empty shopping trolley than a full one because more force is required to move more mass.	2 nd

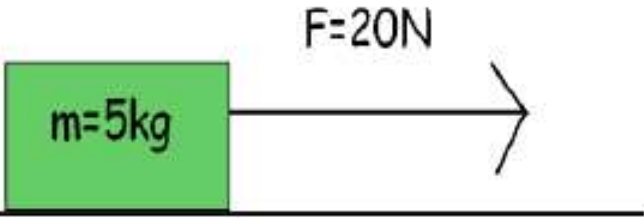
Newton's 3 Laws Activity

Match the situation to the appropriate Newton's Law. Explain how you identified which Law it was. If there is a calculation to be done then complete this in the box provided.

Situation	Newton's Law & explanation
	3rd

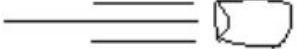
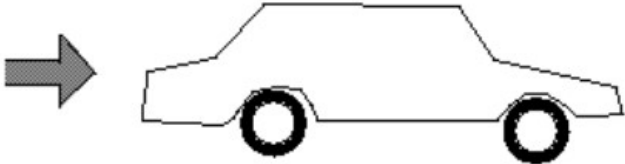
Newton's 3 Laws Activity

Match the situation to the appropriate Newton's Law. Explain how you identified which Law it was. If there is a calculation to be done then complete this in the box provided.

Situation	Newton's Law & explanation
 <p>A diagram showing a green rectangular block on a horizontal surface. The block is labeled with the mass $m=5\text{kg}$. A horizontal arrow points to the right from the center of the block, labeled with the force $F=20\text{N}$.</p>	<p>2nd</p>

Newton's 3 Laws Activity

Match the situation to the appropriate Newton's Law. Explain how you identified which Law it was. If there is a calculation to be done then complete this in the box provided.

Situation	Newton's Law & explanation
<p>Same force</p> <p>→</p> <p>small mass: large acceleration</p>  <p>large mass: small acceleration</p> 	<p>2nd</p>

