



Interactive Simulation

Name: _____ Date: _____

Force and Motion: Basics Mass and Acceleration

Did you know?

Mass is the amount of matter in an object. Acceleration is a change in motion. Speeding up, slowing down, and changing directions are all forms of acceleration.

Investigation Question

How does the mass of an object affect its acceleration?

Prediction

Procedure

1. Click on the acceleration simulator.
2. Set the friction to none.
3. At the top right, uncheck forces.
4. At the top right, check masses, values, speed, and acceleration.
5. Push the single crate with 100 N of force.
6. Observe and record its acceleration.
7. Place the items listed on the data table on the surface and push with 100 N.
8. Observe the acceleration of the item(s) and record your observations in the data table.

Data

Trial	Mass	Acceleration of Crate
One Crate	50 kg	
Two Crates	100 kg	
Refrigerator	200 kg	

Conclusion

How does the mass of an object affect its acceleration?