

August 18, 2014

6 Which of these must happen for the sea floor to spread apart?

- F** a flood
- G** a hurricane
- H** plate movement
- J** volcanic eruption

You must explain why your answer is correct.

Please write the page number in your book that supports your explanation.

Use the index of your book to help you.

Chapter 13

Day 6

Lesson 2

Distinguish between speed and velocity.

Identify and explain how Newton's laws of motion relate to the movement of objects.

What You Will Learn

- The effects of friction
- The difference between static and sliding friction
- What buoyancy is
- What air resistance causes

*Section 1 and 2 quiz is Wednesday.

What did we learn Friday?

- What is the difference between contact and non-contact forces?
- What is the difference between balanced and unbalanced forces?
- What is friction?
- Pick one of these questions and answer them on your white board.

Static Friction

- Static means “not moving.”
- Static friction is the force between two surfaces in contact that keeps them from sliding when a force is applied.
- When you stand on a ramp, you don't slide down because of the static friction between the ramp and your shoes.



Sliding Friction

- Sliding friction is the force that opposes the motion of two sliding surfaces in contact.
- If you push hard enough on the cardboard box filled with books, it will start sliding.
- If you stop pushing after the box starts sliding, it will slow down and stop.

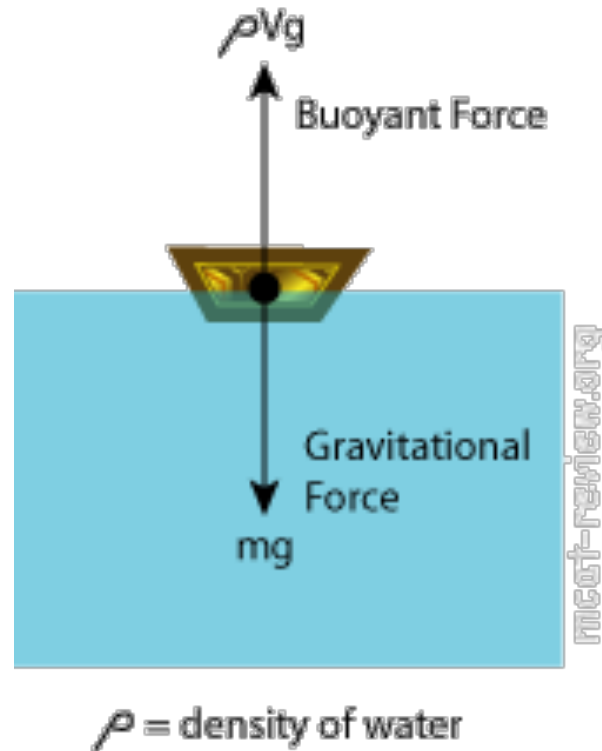


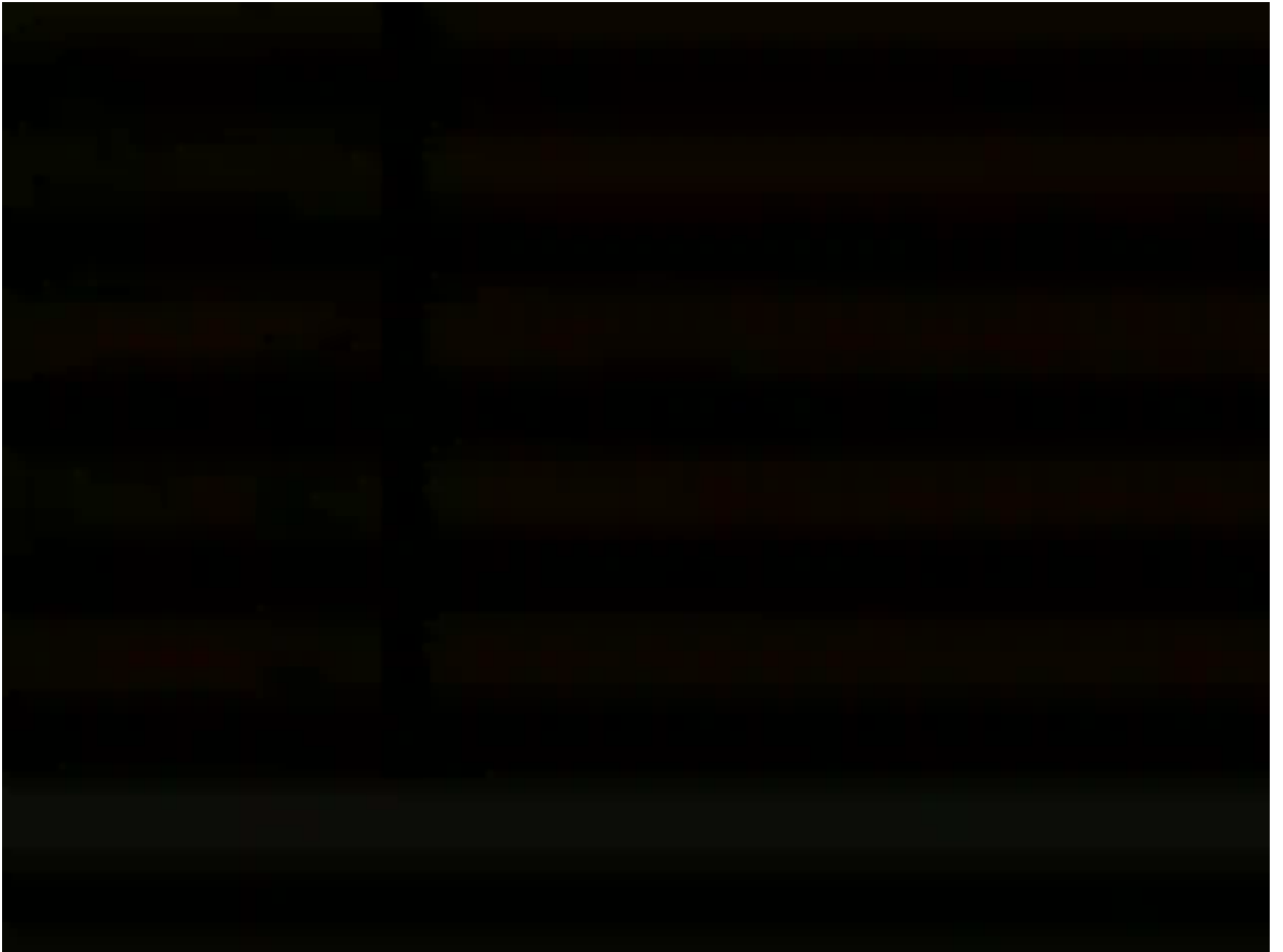
Friction

- What causes friction?
- <https://www.youtube.com/watch?v=IOAlvTwPsZQ>
- 0:00 – 5:30
- All surfaces are covered with microscopic dips and bumps. Friction is caused by sticking of the two surfaces at these bumps and dips.

The Buoyant Force

- The buoyant force is a force exerted by a fluid on an object that is in the fluid. The buoyant force is always upward.





Air Resistance

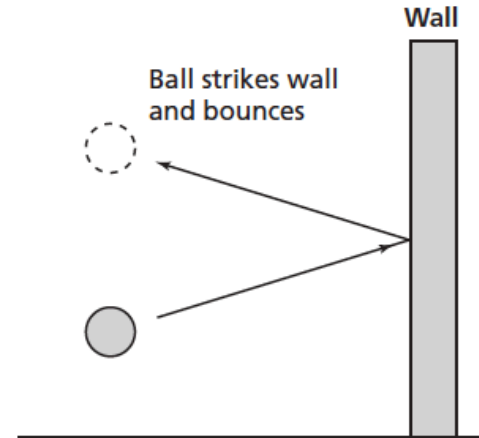


- A sheet of crumpled paper falls faster than an identical flat, horizontal sheet of paper. This is thanks to air resistance.
- Air resistance is a contact force that opposes the motion of objects moving in air.



What Mastery Might Look Like

16 A student throws a ball against a wall as shown in the picture below.



Which statement best explains what is happening in the picture?

- F** The energy of the ball is destroyed as it strikes the wall.
- G** The energy of the ball becomes negative as it strikes the wall.
- H** The force from the wall on the ball is equal and opposite to the force from the ball on the wall.
- J** The force exerted by the wall on the ball is greater than the force exerted by the ball on the wall.

44 Object X has twice the mass of Object Y. Both objects are accelerating at the same rate. Which statement best describes the motions of Object X and Object Y?

- F** Object X is traveling at twice the speed as Object Y.
- G** Object X is traveling at half the speed as Object Y.
- H** Object X requires twice the force to accelerate at the same rate as Object Y.
- J** Object X requires half the force to accelerate at the same rate as Object Y.