



Name _____

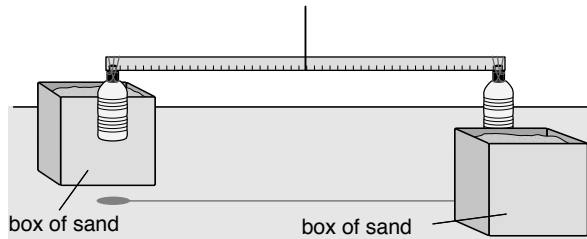
Date _____

Class _____

(Unit 3 Chapter 2, Activities 2–6)

General Description of the Gravitational Interaction

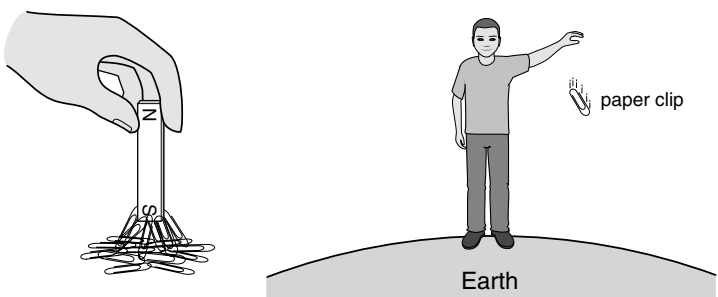
1. In a gravitational interaction, the masses of two objects are attracted to each other. There are gravitational interactions between all objects in the universe. (Activity 3)



What evidence supports this idea?

2. Gravitational interactions can happen between objects that are not touching. (Unit 3 Chapter 2, Activity 3)

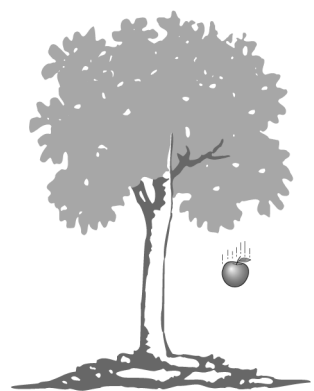
3. Gravitational interactions are very difficult to observe unless one of the objects is very massive, such as the Earth. Compared to other interactions, the gravitational interaction is very weak. For example, a small magnet can attract many paper clips. But it takes something really massive like the Earth to attract even one paper clip in a gravitational interaction. (Activity 3)



What evidence supports this idea?

4. Gravitational interactions can be described using forces. For example, in a gravitational interaction between the Earth and a falling apple, the Earth exerts a force on the apple, and the apple increases its speed as it falls. (Activity 4)

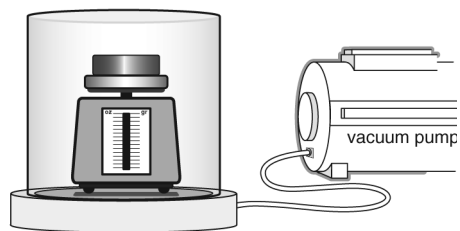
What evidence supports this idea?



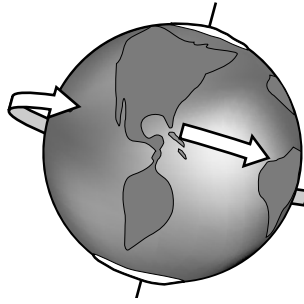
5. Weight is related to gravitational interactions. Scientists call the force exerted by a planet on an object the object's weight, which depends on the masses of the object and the planet, and on their distance apart. (Activity 4)

6. Air pressure is not the cause of gravity. (Activity 2)

What evidence supports this idea?

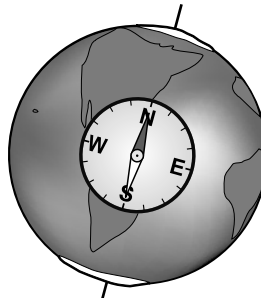


7. The Earth's rotation is *not* the cause of gravity. (Activity 2)



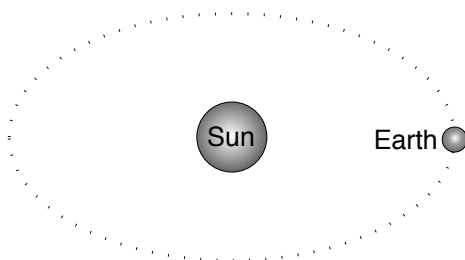
What evidence supports this idea?

8. The Earth's magnetism is *not* the cause of gravity. (Activity 2)



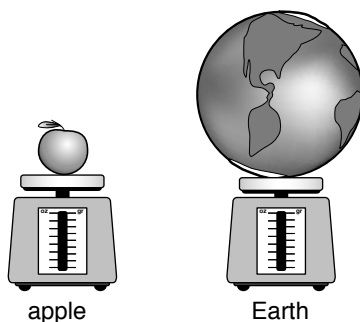
What evidence supports this idea?

9. Gravitational interactions between the Sun and planets in our Solar System keep the planets orbiting around the Sun. The force exerted by the Sun on the planets points toward the center of the orbits. (This will be discussed in Activity 6.)



Variables That Influence the Gravitational Interaction

10. Mass is a variable in gravitational interactions. The more massive the objects, the greater the gravitational interaction. (Activity 3)



11. Distance between objects is a variable in gravitational interactions. The closer the objects are to each other, the greater the gravitational interaction. (Activity 3)

