

Name \_\_\_\_\_ Date \_\_\_\_\_

Unit \_\_\_\_\_ Lesson \_\_\_\_\_

**1. Write True or False and correct the false statements.**

- a) Upthrust is a non-contact, push force which pushes objects in the air and water up.
- b) Upthrust is the opposite of gravity, gravity pulls an object down and upthrust pushes it up.
- c) The mass and weight of an object influences the amount of upthrust.
- d) Archimedes, an Ancient Greek scientist, discovered upthrust in his bath over 2000 years ago.
- e) Archimedes discovered that the water an object uses has an upwards force.

**2. Write a 'X' on the examples that occur because of upthrust.**

<input type="checkbox"/> we can swim	<input type="checkbox"/> a hot air balloon rises
<input type="checkbox"/> a footballer kicks the ball	<input type="checkbox"/> a parachute rises and slows the fall
<input type="checkbox"/> boats don't sink	<input type="checkbox"/> a bottle floats
<input type="checkbox"/> a ball is thrown into a basket	<input type="checkbox"/> a leaf falls to the ground
<input type="checkbox"/> a sponge changes shape	<input type="checkbox"/> fruit floats in punch

**3. Draw, label then write.**

- a) Draw a diagram of an object that floats on water. Label with force arrows  $\uparrow$ = upthrust,  $\downarrow$ = weight (the more arrows the more force). Explain why it floats.

- b) Draw a diagram of an object that sinks. Label with force arrows  $\uparrow$ = upthrust,  $\downarrow$ = weight (the more arrows the more force). Explain why it sinks.

**1. Write True or False and correct the false statements.**

a) Upthrust is a **non-contact**, push force which pushes objects in the air and water up.

**Upthrust is a contact, push force which pushes objects in the air and water up.**

b) Upthrust is the opposite of gravity, gravity pulls an object down and upthrust pushes it up. **True**

c) The mass and **weight** of an object influences the amount of upthrust. **False**.

**The mass and volume of an object influences the amount of upthrust.**

d) Archimedes, an Ancient Greek scientist, discovered upthrust in his bath over 2000 years ago. **True**.

e) Archimedes discovered that the water an object **uses** has an upwards force. **False**.

**Archimedes discovered that the water an object displaces has an upwards force.**

**2. Write a 'X' on the examples that occur because of upthrust.**

we can swim

a hot air balloon rises

a footballer kicks the ball

a parachute rises and slows the fall

boats don't sink

a bottle floats

a ball is thrown into a basket

a leaf falls to the ground

a sponge changes shape

fruit floats in punch

**3. Draw, label then write.**

a) Draw a diagram of an object that floats on water. Label with force arrows  $\uparrow$ = upthrust,  $\downarrow$ = weight (the more arrows the more force). Explain why it floats.

↓  
object

↑

Balanced forces. The weight of the \_\_\_\_\_ is equal to the upthrust.

b) Draw a diagram of an object that sinks. Label with force arrows  $\uparrow$ = upthrust,  $\downarrow$ = weight (the more arrows the more force). Explain why it sinks.

↓↓  
object

↑

Unbalanced forces. The weight of the \_\_\_\_\_ is greater than the upthrust.