

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.

☐ 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.

- 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

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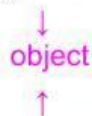
☐ a leaf falls to the ground

☐ a sponge changes shape

☒ fruit floats in punch

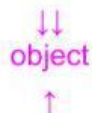
3. Draw, label then write.

- 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.



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.



Unbalanced forces. The weight of the _____ is greater than the upthrust.