

What Makes Objects Float and Sink?

Do heavy objects always sink when placed in water? Consider a dime and a large cruise ship. When placed in water the dime quickly sinks, while the cruise ship floats.

1. Which object is heavier, the cruise ship or the dime?
2. What evidence do you have that weight is not the only factor that determines whether an object floats or sinks?
3. Knowing that weight acts downward, what can you infer about other forces acting on a floating object?

ANSWERS

1. The cruise ship is much heavier than the dime.
2. The fact that the lightweight dime sinks in water and the heavy cruise ships floats indicates that weight alone does not determine whether an object sinks or floats.

3. An upward-directed force must exist that counters the downward force of weight.