

Bottle Balance Beam Worksheet

Discussion Questions

1. When the empty bottle is placed in the hole in the balance beam, where is the center of gravity? Why does the bottle fall in the direction it does?
2. When the bottle is one-half full with water and placed back in the Balance Beam hole, where is the location of the center of gravity relative to the base? Explain why the apparatus still falls over.
3. When the apparatus balances where is the center of gravity? Explain why the bottle and beam stay balanced.
4. What happens to the bottle when a force is exerted on the cap? What happens when a force is exerted on the bottom of the bottle? Explain what happens in terms of the center of gravity shift.
5. When a person is standing on two feet, where is his or her center of gravity? Where is the center of gravity when standing on one foot? What happens if the person's weight shifts and his or her center of gravity shifts outside of the base?
6. Why do football players in the line try to "stay low to the ground"?

