Year 8 Science: Balanced and unbalanced forces, and free body diagrams

Name: _____ Date: _____

Try these without your notes first, then check the answer key.

Practice

1. A skateboarder rolls along at a steady speed in a straight line. Are the forces on her balanced or unbalanced?

2. A tug of war team pulls left with 500 N and the other pulls right with 450 N. What is the net force, and which way will the rope move?

3. A free body diagram of a falling apple shows weight 2 N down and air resistance 0.5 N up. What is the net force, and what happens to the apple's speed?

4. A car goes round a roundabout at a steady 30 km/h. Is there an unbalanced force on it?

5. Why should each trial in a fair test be repeated three times?

Fix the mistake

6. Correct this statement: "If something is moving, there must be an unbalanced force pushing it along."

7. Correct this statement: "Balanced forces means the object is not moving."

8. Correct this statement: "If the speed stays the same, the motion has not changed."

9. Correct this statement: "On a free body diagram, draw all the arrows the same length."