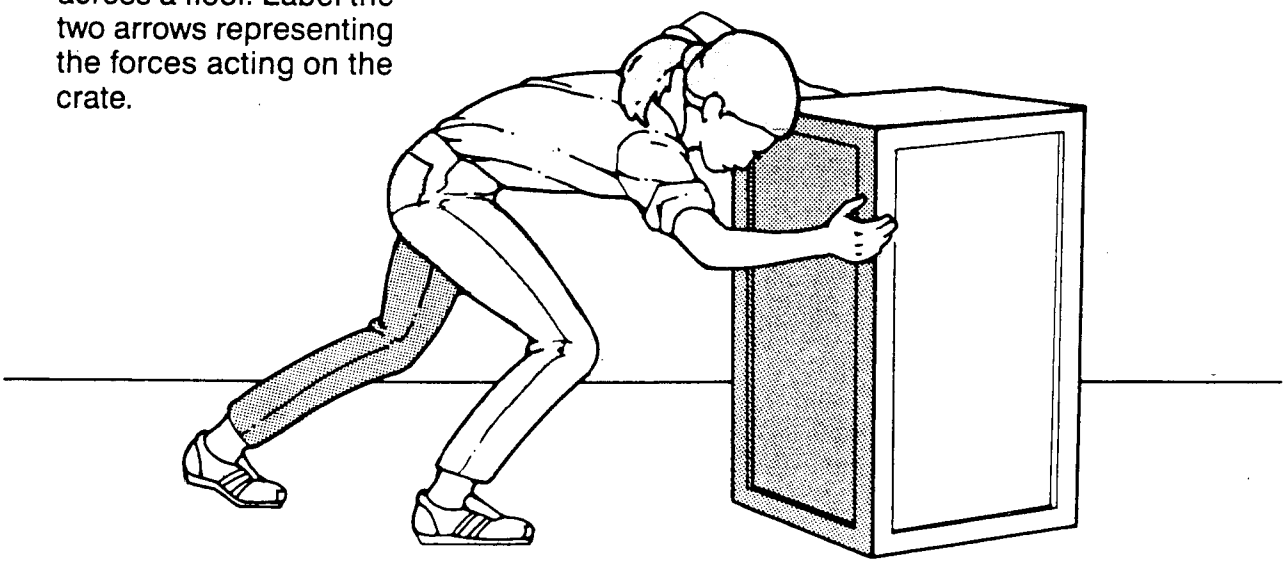
Name Date **STUDY AID 4C**

Use with Chapter 4, Section 3

BALANCED AND UNBALANCED FORCES

A. The sketch shows a student pushing a crate across a floor. Label the two arrows representing the forces acting on the crate.



1. Pushing Force

Frictional Force 2.

B. Each of the following statements describes what happens as the student applies a force on the crate. For each statement write either BALANCED or UNBALANCED in the space at the right to describe the forces acting on the crate at that point.

3. The student, at first, is unable to budge the crate from a resting position. 3. balanced

4. As the student pushes harder the crate finally begins to move. 4. unbalanced

5. The student keeps pushing the crate with increasing force and the crate moves faster and faster. 5. unbalanced

6. Finally the student uses just enough force to keep the crate moving at a steady pace. 6. balanced

C. Complete the following sentences:

7. When unbalanced forces act on an object that is moving, there is a change in speed or/and direction.

8. When unbalanced forces act on an object that is at rest, the object begins to move.