

Name: \_\_\_\_\_  
Mr. Willis  
Conceptual Physics: \_\_\_\_\_  
Date: \_\_\_\_\_

Unit III  
Forces and Motion (Newton's Laws)  
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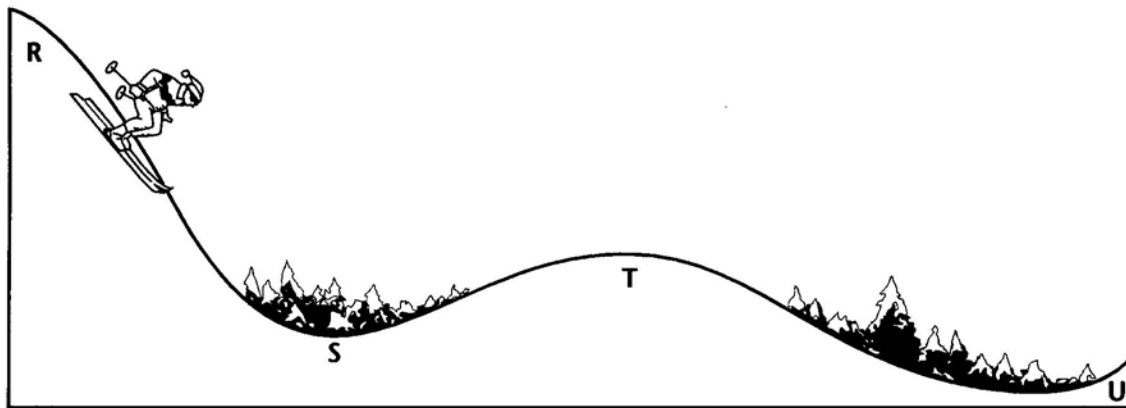


## Connecting Motion with Forces

Listed below are answers. Write a question for each answer. The first one has been done as an example.

1. **example:** push or pull What is a force? \_\_\_\_\_  
\_\_\_\_\_
2. net force \_\_\_\_\_  
\_\_\_\_\_
3. balanced forces \_\_\_\_\_  
\_\_\_\_\_
4. friction \_\_\_\_\_  
\_\_\_\_\_
5. inertia \_\_\_\_\_  
\_\_\_\_\_
6. Newton's first law of motion \_\_\_\_\_  
\_\_\_\_\_

Study the diagram below. Then answer the following questions by circling the letter that best answers each question.



7. A person skis downhill from point *R* to point *U*. The speed of the skier increases in going from point *R* to point *S* because
  - a. only balanced forces act on the skier.
  - b. an unbalanced force acts on the skier.
  - c. only inside forces act on the skier.
  - d. no forces act on the skier.
8. The skier is able to coast between points *S* and *T* even though it is uphill because of
  - a. gravity.
  - b. centripetal force.
  - c. cohesive force.
  - d. inertia.
9. The force that opposes motion between the skier's skis and the surface of the snow is
  - a. net.
  - b. balanced.
  - c. friction.
  - d. inertia.

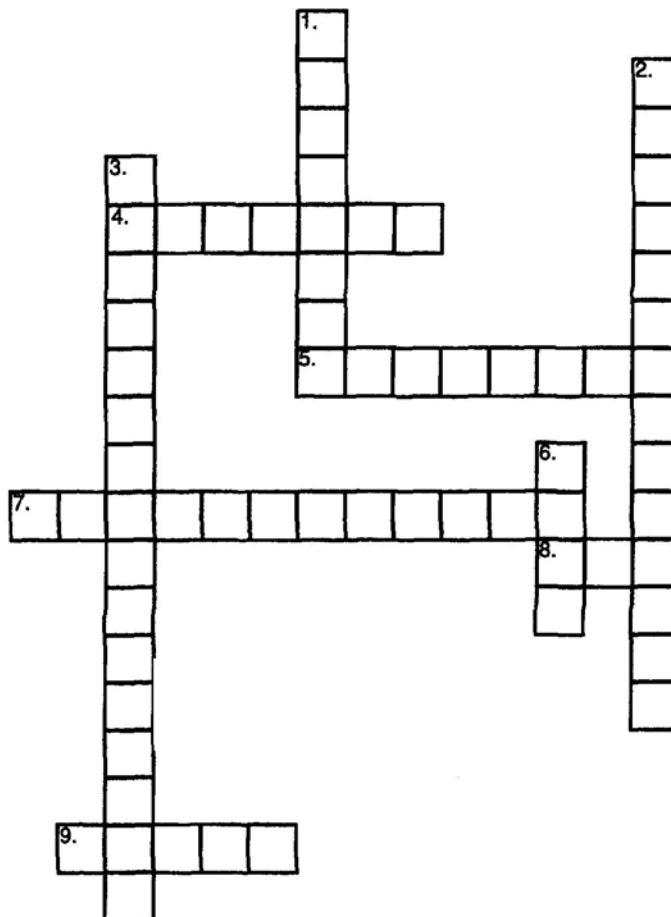
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## Connecting Motion with Forces

*Solve the following crossword puzzle using the clues provided*



### Across

4. the tendency of an object to resist any change in its motion
5. If this acts on an object, the object will change speed, change direction, or both. (2 words)
7. another name for Newton's first law of motion (3 words)
8. a title before Isaac Newton's name
9. a push or pull that one body exerts on another body

### Down

1. the force that opposes motion between two surfaces that are touching each other
2. forces that are equal in size and opposite in direction (2 words)
3. Newton's law that says, "an object at rest stays at rest unless a net force acts on it" and, "an object moving at constant velocity continues at that velocity unless a net force acts on it." (4 words)
6. The more of this an object has, the greater the object's inertia