

**McGraw-Hill Science © 2000, Texas Edition  
TAKS Practice Test**

**Grade 3, Chapter 4  
Work and Machines**

**Name** \_\_\_\_\_

**Date** \_\_\_\_\_

Use the illustration and your knowledge of science to answer Questions 1 to 3.

1 How does the pulley shown here make lifting easier?

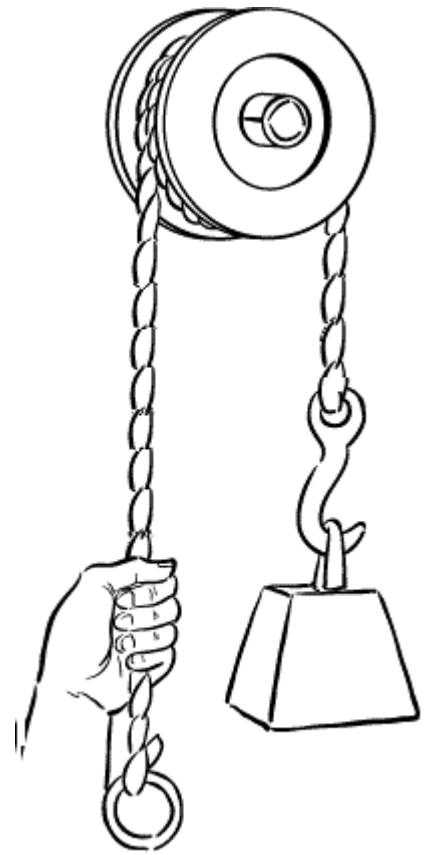
- The pulley lets you pull down to lift up.
- The pulley lessens the force needed to lift the weight.
- The pulley makes the weight lighter.
- The pulley makes the weight heavier.

2 When the weight is above the ground and not moving, what must the hand be doing?

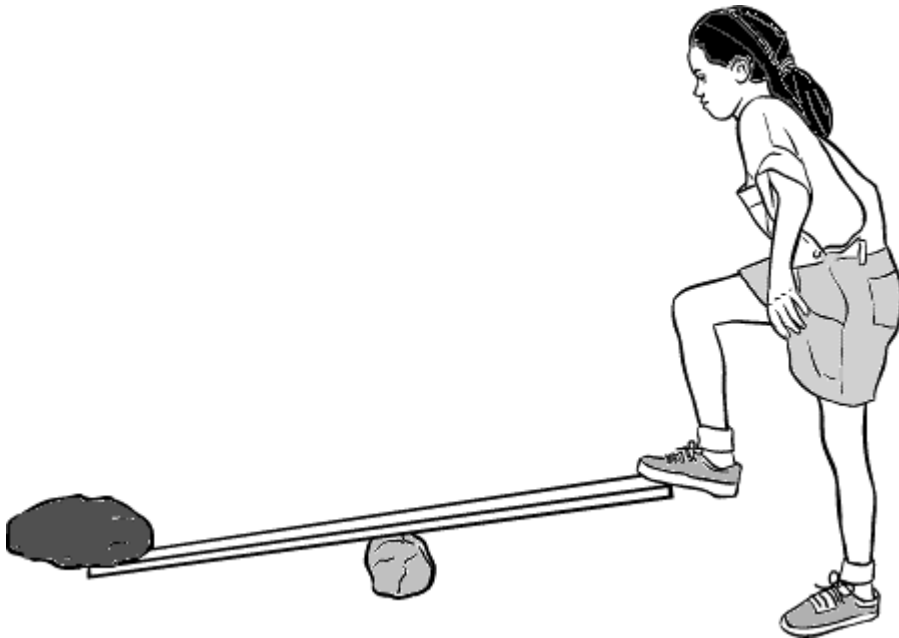
- The hand must be moving down the rope.
- The hand must be moving up the rope.
- The hand must be pulling on the rope with a force equal to the weight on the other side.
- The hand must be letting go of the rope.

3 Which of these products uses a pulley?

- See-saw or teeter-totter
- Dog leash
- Flagpole
- Skateboard



Use the illustration and your knowledge of science to answer Questions 4 and 5.



4 What simple machine is shown here?

- Inclined plane
- Wheel and axle
- Screw
- Lever

5 When the girl pushes down with her foot, what happens to the simple machine?

- The machine pushes down on the rock.
- The machine pushes up on the rock.
- The machine pulls up on the rock.
- The machine slides under the rock.

Use the text, illustration and your knowledge of science to answer Questions 6 to 8.

A student rubs sandpaper against a block of wood.  
As he rubs, he feels the block become warmer.

6 What energy change does the student observe?

- Energy of motion changing to electrical energy
- Energy of motion changing to light energy
- Energy of motion changing to heat energy
- Heat energy changing to stored energy



7 This energy change is most like the way energy changes when \_\_\_\_\_.

- a candle burns
- a lizard warms its body in the Sun
- a car's tires become warmer during a long trip
- milk keeps cold in a refrigerator

8 What is the source of the energy that warms the block of wood?

- Stored energy in the block of wood
- Stored energy in the sandpaper
- Stored energy in the block of wood and the sandpaper
- Stored energy in the student

9 Where are Earth's hottest rocks?

- In deserts
- Inside mountains
- At the bottom of the ocean
- Deep below Earth's surface

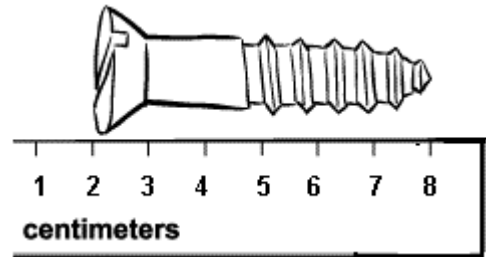
10 A family wants to build a house at the bottom of a mountain. The mountain is not a volcano. However, earthquakes have struck the area near the mountain.

Why might the mountain not be the best neighbor?

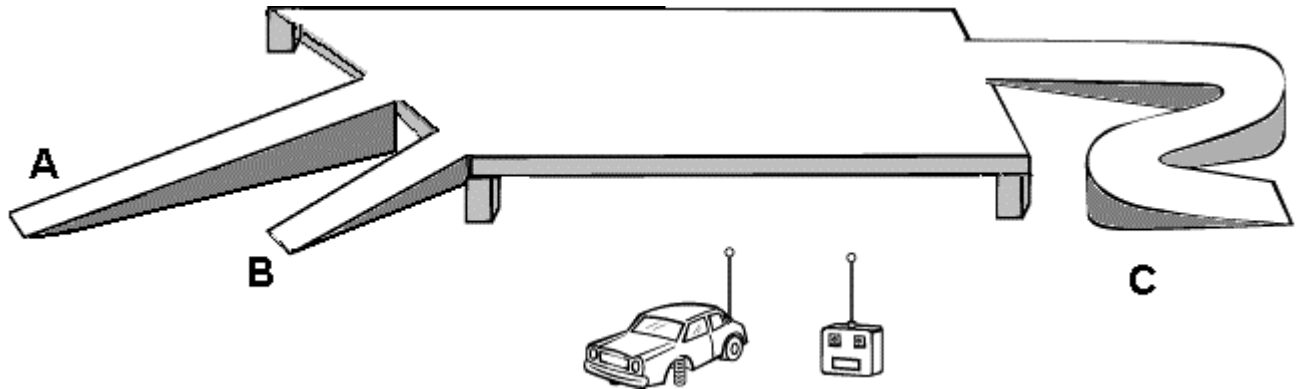
- The mountain could change into a volcano with no warning.
- An earthquake could cause a landslide.
- The mountain's rocks could melt in the Sun.
- Lava could flow out of the mountain.

11 What is the length of the screw in centimeters?  
Fill in the bubble that shows the correct number.

- 0
- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9



Use the information below and your knowledge of science to answer Questions 12 to 14.



A student makes the three ramps shown here. The height of each ramp is the same. The toy car runs on batteries, and its wheels can turn left and right.

12 What kind of simple machine is a ramp?

- Pulley
- Lever
- Inclined plane
- Inclined lever

13 When the toy car climbs a ramp, does it do work? Why or why not?

- Yes. The toy car used force to change its motion.
- Yes. The toy car used gravity to change its motion.
- No. The toy car cannot use force.
- No. Work is never done with simple machines.

14 If the toy car could travel the full length of each ramp, on which ramp would it climb the highest?

- Ramp A
- Ramp B
- Ramp C
- It would climb the same height on each ramp.

**ANSWER KEY and CORRELATIONS:**

<b>Question</b>	<b>Answer</b>	<b>TAKS</b>	<b>McGraw-Hill Science Grade 3 textbook</b>
1	The pulley lets you pull down to lift up.	3.6A, 5.5A	p. 112
2	The hand must be pulling on the rope with a force equal to the weight on the other side.	3.6A, 5.5B	p. 89
3	Flagpole	3.3B	p. 112
4	Lever	3.6A, 5.5A	p. 109
5	The machine pushes up on the rock.	3.6A, 5.5B	p. 109
6	Energy of motion changing to heat energy	5.8A, 5.2C	p. 101
7	A car's tires become warmer during a long trip.	5.8A	p. 101
8	Stored energy in the student	5.8A	p. 101
9	Deep below Earth's surface	5.12C	p. 105
10	An earthquake could cause a landslide.	5.12A, 5.12C	p. 105
11	6	5.4A	p. 121
12	Inclined plane	5.2B, 5.2C	p. 118
13	Yes. The toy car used force to change its motion.	3.6A	p. 100
14	It would climb the same height on each ramp.	5.2B, 3.6A	p. 110