FUEL FOR THOUGHT

# GRAVITY: A WEIGHTY PROBLEM

Weight is actually the result of gravity pulling on the mass of an object. (Everything–including you– is made of stuff, **mass** is the stuff.)

If you travel to another planet, your mass would stay the same, but your weight would change depending upon the planet's gravitational pull on you.

For example, if you weigh 100 pounds and visit a planet with twice the gravitational pull, you would weigh 200 pounds on that planet.

# BREAK FOR LUNCH?

There are no machines at the USGA Test Center that measure "Breaking on the Green." It takes practice and skill to determine the slope of the green and to decide how hard to hit a ball.

At their lunch hour, Test Center scientists head out to the USGA greens to experiment putting golf balls with different amounts of force and direction.

## STEM in Your Future?

STEM in Your Future? Look through the newspaper want ads to identify careers in science, technology, engineering or math. Count different careers. Graph results.

# Scientist's Notebook

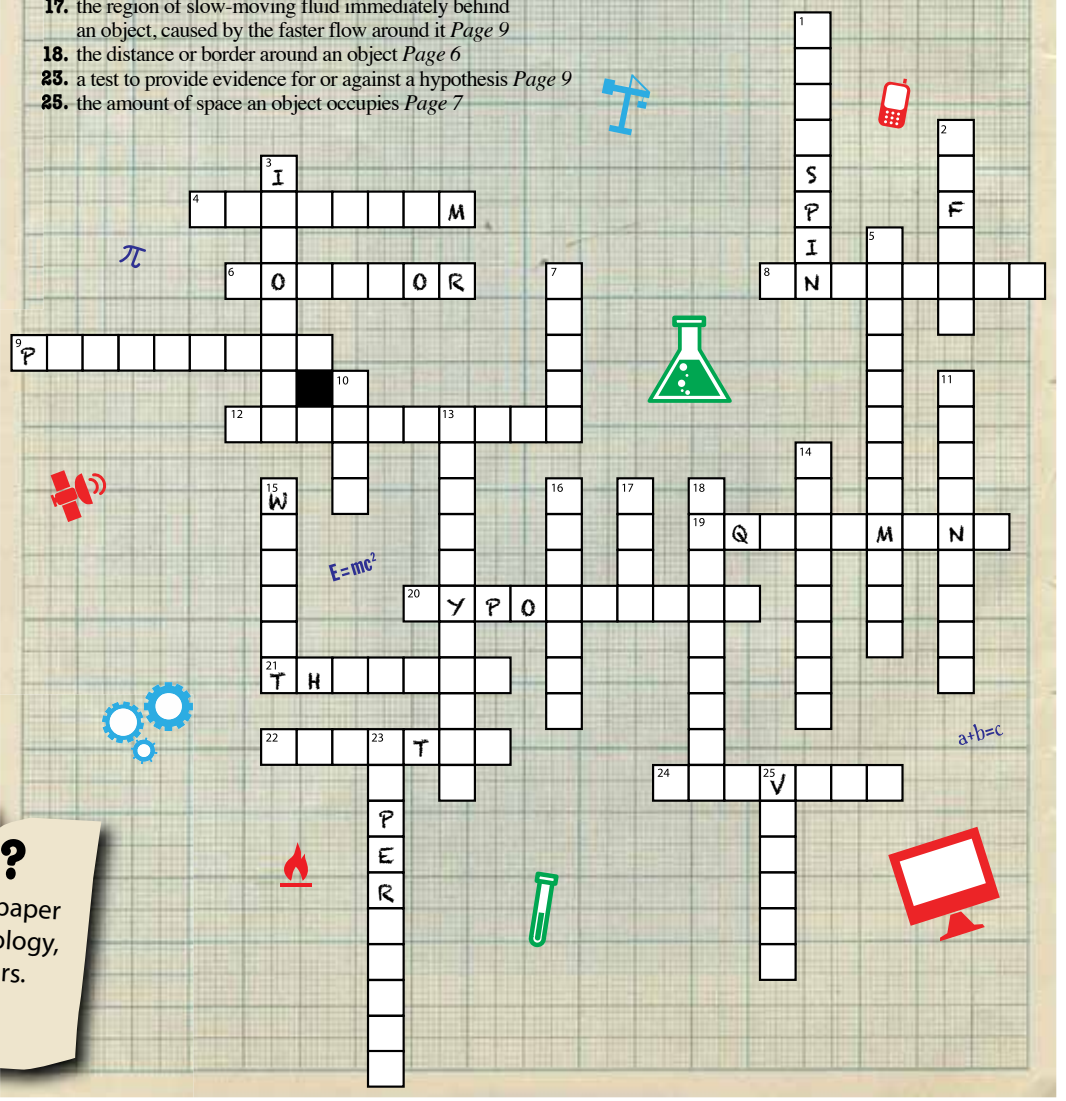
Complete the crossword puzzle below to review the STEM Zone™ terms and concepts you've read about in this special supplement.

**Down**

1. a slanted club, when hitting a ball accurately, will generate this *Page 10*
2. a slanted club will lift the ball upward *Page 10*
3. to introduce something new *Page 12*
5. the volume of liquid pushed out of the way by an object that takes its place *Page 7*
7. slant or curve *Page 11*
10. a force that raises *Page 13*
11. measurement in length, width and/or thickness *Page 7*
13. the way air moves around objects *Page 8*
14. surface resistance when one object moves against another *Page 10*
15. the result of gravity pulling on an object *Page 15*
16. relating to, or having the character of space *Page 14*
17. the region of slow-moving fluid immediately behind an object, caused by the faster flow around it *Page 9*
18. the distance or border around an object *Page 6*
23. a test to provide evidence for or against a hypothesis *Page 9*
25. the amount of space an object occupies *Page 7*

**Across**

4. a weight hung from a point so it can swing freely *Page 3*
6. oversee or regulate *Page 4*
8. a person who designs, constructs and uses engines *Page 4*
9. capable of being, energy stored *Page 12*
12. any force that slows motion or drags *Page 8*
19. a set of tools, devices or materials *Page 4*
20. a theory or idea to guide an investigation *Page 3*
21. relating to generating heat caused by raising temperature *Page 12*
22. related to motion or movement *Page 12*
24. the force by which objects fall toward the center of the earth *Page 15*




**STEM Connection:** Advances in technology and expert engineering have improved the equipment used by golfers. The USGA Equipment Standards Department uses math and science to evaluate new equipment to ensure that skill, not technology, determines success in golf.

NEWSPAPERS IN EDUCATION
THE OKLAHOMAN

USGA
Chevron