Bello Nock recently raced up a thin wire on a motorcycle. He drove the motorcycle high over thousands of spectators' heads. He's a clown with the Ringling Bros. and Barnum & Bailey circus.

To the spectators below, Bello's stunt looked dangerous - and it was. But Bello knew a secret. He was using science to help keep himself safe.

Circus Science

Bello began performing circus stunts when he was nine years old. He walked on a thin wire that was stretched nine feet off the ground.

To stay on a wire without falling, Bello needs to keep his center of gravity low. An object's center of gravity is usually located in the middle of the object. That is where the object's weight is centered.

By crouching and keeping low, Bello keeps his center of gravity low. The lower his center of gravity, the harder it is for Bello to fall.

Bello often carries a heavy metal stick when he performs. The stick bends downward, lowering his center of gravity.

Moving On

Bello also uses Newton's first law of motion when he performs. That law is named for Isaac Newton. He was a scientist who lived about 275 years ago.

Newton's first law of motion says that a moving object will keep moving unless an outside force acts on it. (The law also says that an object at rest will stay that way unless an outside force acts on it.) Bello uses that law when he rides his miniature, or tiny, bike.

As Bello speeds along on his tiny bike, he sometimes has to stop before slamming into a wall. To stop, Bello uses the bike's brakes. The brakes create friction between the bike's tires and the ground. The friction is an outside force that slows the bike.

Friction also changes the bike's motion into heat energy. You could say that Bello's act is really hot!

To see how friction works, rub your hands together as fast as you can. When you rub your hands together, they should start to feel warm. Friction between your hands changes into heat energy.

Bello always puts on a high-energy show. "I always want to capture the attention of children," he said. He captures their attention with science.
Reading Comprehension Questions

1. According to the passage, what does friction do with the motion of the bike?
   
   a) Friction changes the motion into heat energy.
   b) Friction helps keep the bike’s center of gravity low.
   c) Friction means that Bello can rub his hands together while he rides.
   d) Friction makes Bello less likely to fall off the bike.

2. Which of the following does the author describe first in the passage?

   a) The author describes Bello’s life as a clown in the circus.
   b) The author describes Bello’s decision to use Newton’s first law of motion.
   c) The author describes Bello’s high-energy show as a tightrope walker.
   d) The author describes Bello’s circus act of riding a motorcycle on a wire.

3. It can be inferred from the passage that

   a) Bello is a very inexperienced clown, and this inexperience shows in his act
   b) Bello only knows how to ride a motorcycle, not a bicycle
   c) the children in the audience at the circus may not understand the science behind Bello’s act
   d) Bello will probably stop performing as a circus clown soon because it is too dangerous

4. Read the following sentence: “To the spectators below, Bello’s stunt looked dangerous.”

   In this sentence stunt means

   a) trick
   b) motorcycle
   c) motion
   d) secret

5. This passage is mostly about

   a) how a clown enjoys his life performing in the circus
   b) how a clown got his start as a circus performer
   c) how a clown puts on a high-energy show
   d) how a clown uses science to stay safe as he does stunts
6. Why does Bello often carry a heavy metal stick when he performs?

____________________________________________________

7. What word would the author most likely use to describe Bello Nock?

____________________________________________________

8. The question below is an incomplete sentence. Choose the word that best completes the sentence.

Bello Nock keeps his center of gravity low, _______ he can stay on the high wire without falling.

A. so
B. but
C. although
D. however

9. Circle the item that would probably be more helpful to a spectator?

[ ] Binoculars
[ ] Sneakers

10. If you listen to the radio in the car, is that an example of being a spectator? Why or why not?

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