

Name: \_\_\_\_\_

## Invisible Forces Checkpoint

After watching the Mystery Science videos, how would you answer these questions?

**Multiple Choice** ~ circle the letter to show what you know about forces.

1. Why is it hard to win a tug-of-war against a group of teachers?
  - a. Teachers try really hard.
  - b. Teachers have more legs than students.
  - c. Teachers have a lot of friction.
  - d. Teachers can push really hard.
  
2. The last rubber band caused the watermelon to burst because \_\_\_\_\_.
  - a. it was stronger than the other rubber bands.
  - b. it was thicker than the other rubber bands.
  - c. it was the last rubber band in the bag.
  - d. it created a force that was greater than the force of the watermelon rind.
  
3. Why was a suspension bridge a good design for the Golden Gate Bridge in San Francisco?
  - a. Ships had to pass underneath the bridge.
  - b. It has a lot of pillars underneath to support it.
  - c. The distance the bridge had to cross wasn't very long.
  - d. The water under the bridge was very shallow.
  
4. Sandpaper sliders don't slide very fast because \_\_\_\_\_.
  - a. sand makes the slider too heavy.
  - b. sandpaper creates a lot of friction.
  - c. it didn't have enough pennies on it.
  - d. the slide isn't long enough.
  
5. Metal sliders slide fast because \_\_\_\_\_.
  - a. it had too many pennies on it.
  - b. metal creates a lot of friction.
  - c. it is smooth and doesn't rub much.
  - d. the slide was at a steep angle.

**Short Response**

1. Why do hoppers hop off the table?

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2. Why are pillar bridges and arch bridges stronger than single board bridges?



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3. Explain how tension and compression are used in bridge design.

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4. If you wanted to go down a slide faster, what are some things you could do? Why would those things help?

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