

HOMEWORK - NORMAL FORCES - DAY #2

Name: _____

Period: _____ Date: _____

1.) Write a paragraph in which you explain how two springs of *different* stiffness could push with equal force on each other when pressed together.

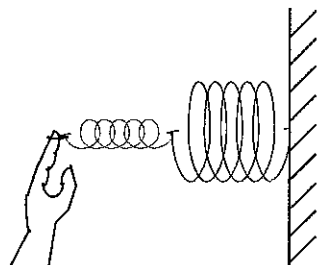


Figure 1.20

2.) How are rubber bands similar to springs and how are they different from springs? Be sure to consider tension and compression situations.

3.) Consider the forces shown in the figure below:

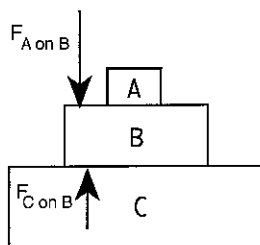


Figure 1.21

a.) How do the 2 forces compare? *Explain your answer carefully.*

b.) The force of C on B should be equal and opposite to some other normal force. Name that equal and opposite normal force.

4.)

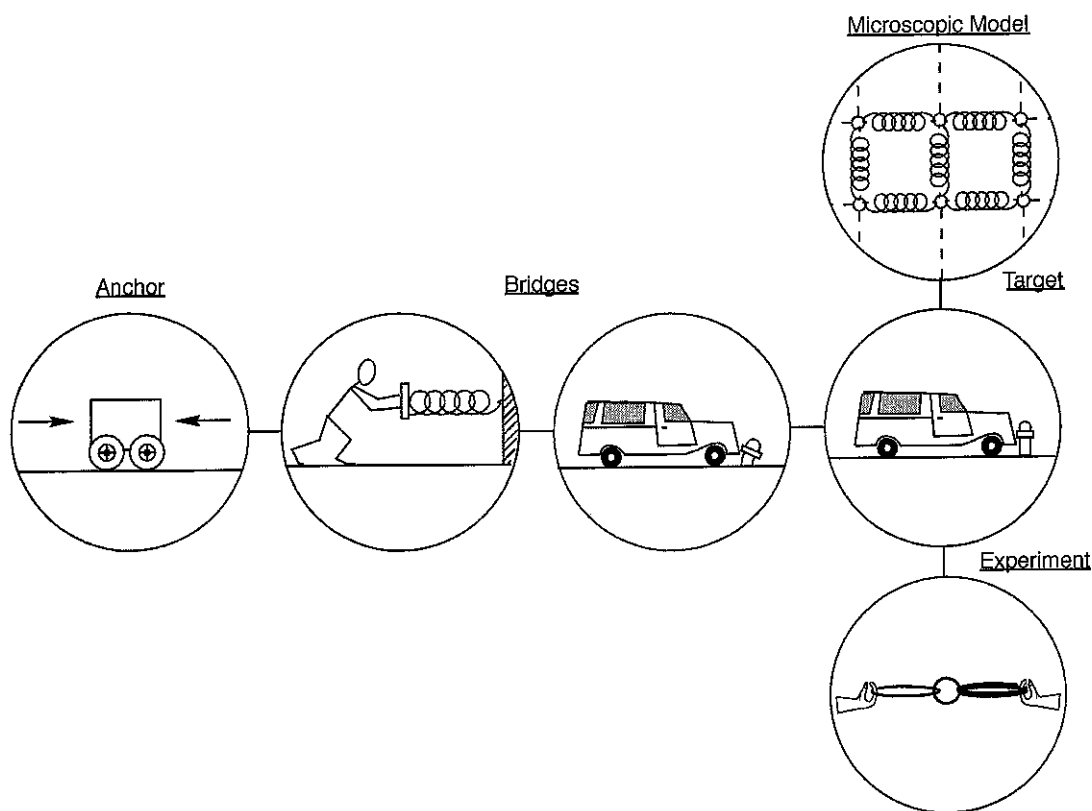


Figure 1.22

Which diagram above represents the idea that was most helpful to you? Explain how it helped.

5.) Consider the pile of cement blocks.

- a.) How does the force of block B on block A compare to the force of block A on block B?
- b.) How would these forces compare if block C were removed?
- c.) Does block C exert a force on block A when it is added to the pile? Explain your answer.
- d.) Do you imagine that block B changes shape when block C is added to the pile? Explain your answer.

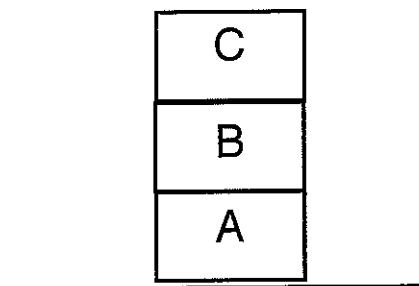


Figure 1.23

6.) Describe three examples of two stationary objects pushing on each other in which it is hard for you to believe that the forces are equal and opposite.

a.)

b.)

c.)

7.) How would you convince a skeptical friend that a spring is an "automatic adjustable force equalizer"?

8.) Consider a pile of 3 bricks stacked neatly on a table. If you add a 4th brick on top of the stack, explain what changes take place within each brick as the added weight of the 4th brick is supported by the table.

9.) Write a paragraph in which you explain how it could be possible for a strong magnet and a weak magnet to push or pull on each other with equal forces.