Name_____ Date_____ Class_____

Teacher _____

Lab: When Does Something Accelerate?

Conditions, Observations and Conclusions: Be very specific when answering the following.

1. What did you do to the accelerometer? _____
   What did you observe the water do in the accelerometer?_____
   Conclusions: acceleration yes, no? Which direction?
   _____
   Was there a net force or balanced forces? _____
   If there was a net force in what direction was the force acting?_____

2. What did you do to the accelerometer? _____
   What did you observe the water do in the accelerometer?_____
   Conclusions: acceleration yes, no? Which direction?
   _____
   Was there a net force or balanced forces? _____
   If there was a net force in what direction was the force acting?_____

3. What did you do to the accelerometer? _____
   What did you observe the water do in the accelerometer?_____
   Conclusions: acceleration yes, no? Which direction?
   _____
   Was there a net force or balanced forces? _____
   If there was a net force in what direction was the force acting?_____

4. What did you do to the accelerometer? _____
   What did you observe the water do in the accelerometer?_____
   Conclusions: acceleration yes, no? Which direction?
   _____
   Was there a net force or balanced forces? _____
   If there was a net force in what direction was the force acting?_____

5. What did you do to the accelerometer? _____
   What did you observe the water do in the accelerometer?_____
   Conclusions: acceleration yes, no? Which direction?
   _____
   Was there a net force or balanced forces? _____
   If there was a net force in what direction was the force acting?_____

6. What did you do to the accelerometer? _____
   What did you observe the water do in the accelerometer?_____
   Conclusions: acceleration yes, no? Which direction?
   _____
   Was there a net force or balanced forces? _____
   If there was a net force in what direction was the force acting?_____

7. What did you do to the accelerometer? _____
   What did you observe the water do in the accelerometer?_____

Conclusions: acceleration yes, no? Which direction?
_____
Was there a net force or balanced forces? _____
If there was a net force in what direction was the force acting?_____

8. What did you do to the accelerometer? _____
What did you observe the water do in the accelerometer?_____
Conclusions: acceleration yes, no? Which direction?
_____
Was there a net force or balanced forces? _____
If there was a net force in what direction was the force acting?_____

Based on the above results:

9. How did you know when acceleration occurred and in what direction? _____
_____

10. In general terms, what are the three possible situations under which an object would undergo acceleration?
_____
_____

11. What are the two possible situations under which an object does <u>not</u> undergo acceleration?
_____

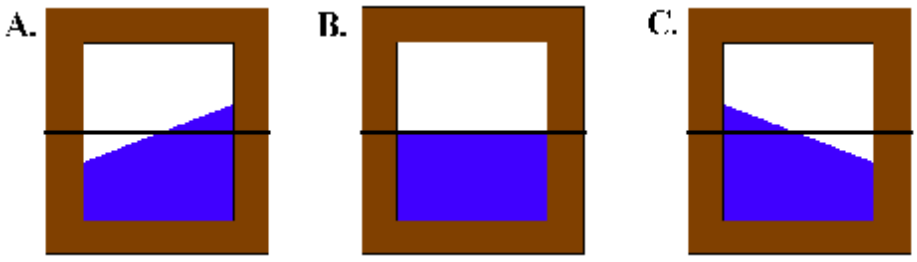
12. Why didn't the water move with the cardboard frame and plastic bag? _____
_____

13. Is a net force always required to cause an object with mass to accelerate? _____

14. Can a balanced force ever cause an object to accelerate? _____

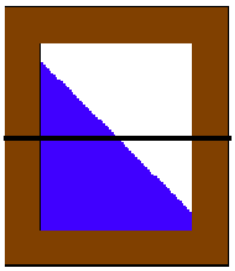
15. How did you know a net force was acting on the accelerometer? _____
_____

16. Indicate the direction of acceleration and net force acting on each accelerometer below.

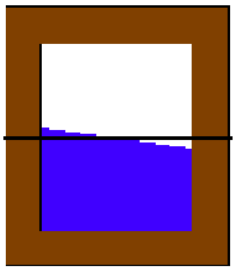


17. Examine each situation below. Indicate if it is a possible or not and, if possible, the relative size and direction of the net force acting on the accelerometer and its resulting acceleration.

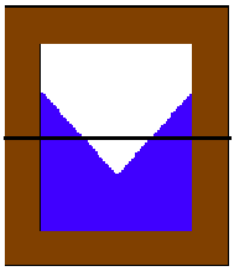
A.



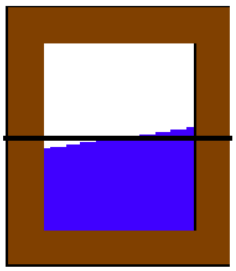
B.



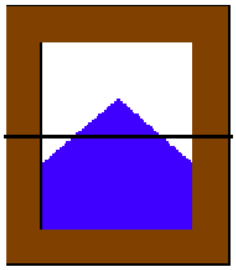
C.



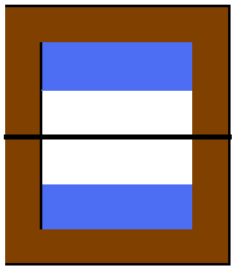
D.



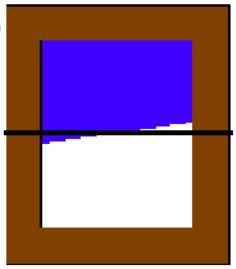
E.



F.



G.



H.