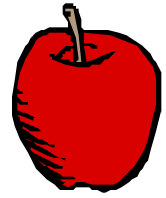


Newton's Challenge

Name _____ BL__



Materials:

beaker	pennies	1/2 file folder	masking tape
balloon	2 wooden rods	playing card	styrofoam cup
scotch tape	1 straw	4 wheels	scissors

1. The Coin Challenge

Set a playing card on top of a beaker. Set a coin on the card.

- Explain why the coin drops straight down when you flick the card horizontally?
- Which of Newton's Laws apply? Explain.

2. Huff - Puff - Slide Challenge

Put 3 pennies in the cup and blow air to push the cup across the table. Add 3 additional pennies to cup and blow air to push across table. Keep adding pennies until you get to 12 and then answer the questions below.

- What is the relationship between the force applied and the distance moved?
- What is the relationship between the mass of the cup and the force applied?
- To move the 3 penny cup and the 12 penny cup the same distance, what would you have to do?
- What is the relationship between the mass of cup, force applied, and distance moved?
- Which of Newton's Laws apply? Explain.

3. Jet Car Challenge

- a) Construct a 'jet-propelled car' that will move on its own using only the last 8 materials given on the material list. Winning car is the car that travels the farthest.
- b) Draw a picture of your group's design below. Labeling the parts.

- c) Explain why your jet car moves forward.

- d) Which of Newton's Laws apply?

- e) What are some ways you could improve your car? Why would each improve your car?

4. Conclusion

Write a paragraph about what you have learned about **each** of Newton's Laws today.