Experiment 2: Fruit Works? Date: _____

Objective: _____

_____

Hypothesis: _____

_____

Materials:

slinky
paper clips(2)
apple
lemon or lime
banana
ruler
balance or food scale

Experiment:

1. Try to decide, just by "weighing" each piece of fruit in your hands which piece will do the most work and which piece will do the least work on the spring.

2. Write down your prediction stated as the Hypothesis.

3. Now weigh each piece of fruit on the balance or food scale.

4. Record the weights on the chart following.

Fruit	Weight (oz. or g.)

5. Next, take the paper clip and stretch one side out to make a small hook.

6. Place the hook in one of the pieces of fruit.

7. Hold the slinky up to the level of your chest and allow 10 to 15 coils to exist below. You will have to hold most of the slinky in your hand.

8. Measure the distance from the floor to the bottom of the slinky with the tape measure. Record your result below.

Distance from floor to slinky

9. Now place the piece of fruit that has the hook in it on the slinky and allow the slinky to be pulled out by the fruit.

10. Measure from the end of the slinky to the floor with the tape measure and record your results below.

11. Repeat with each piece of fruit. Record your results below.

Fruit	Distance from floor to slinky	Distance extended

11. Subtract the distance you recorded in step 8 from each of the distances you measured and recorded above. This gives you the distance each piece of fruit has extended the slinky.

12. Calculate the work each piece of fruit has done. Record your answers in the chart below

Fruit	Work

13. What would happen if you put two pieces of fruit on the slinky? Test your prediction and record your answer below.

(2)Fruit	Work

14. Make some conclusions about your results and record them below.

Conclusions:

Review

Define the following terms:

force _____

work _____

energy _____

Circle the correct answer:

Which object has the greater gravitational force:

a banana or a bowling ball
a car or a bicycle
the moon or the earth
the earth or the sun

Answer the following questions:

Is a book sitting on a shelf doing work? _____
Is a bowling ball accelerating towards the pins doing work? _____
How much work is done if you lifted a 3 lb box 2 feet? _____
How much work is done if you lifted a 2 lb box 3 feet? _____

List some forms of energy:

_____ _____ _____

Challenge:

Do you think if we could get every person on the earth to jump all at once we could move the earth? Why or why not? Can you do a rough calculation?

NOTES: