

Name \_\_\_\_\_ Date \_\_\_\_\_ Period \_\_\_\_\_

## Paper Rocket Lab

Students will construct paper rockets to be launched with an air pressure rocket launcher.

### Materials

Paper (copy paper size 11 X 17)  
Cellophane tape  
Scissors  
Rulers  
Pencils  
Rocket forms (short length of 1/2" PVC tubes)  
Colored markers (optional)  
Safety glasses for the launch

**Question:** How will rocket performance differ between rockets that fit tightly or loosely on the launcher?

Write your hypothesis: \_\_\_\_\_

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### Procedure

- Step 1: Using the Rocket form begin to wrap rocket paper around the tubing.  
Paper should be snug on the form but able to slide easily off the form.
- Step 2: With cellophane tape, tape your paper rocket form.
- Step 3: (a) Make a nose cone by drawing a 3" circle and cutting it out or you may use a pattern provided by your teacher.
- (b) From outside of circle cut to middle of circle and stop.
- (c) Curl B under A so that it becomes the point. Then tape closed from the under part of the curl. Set aside.
- Step 4: Cut out using rocket paper 3 fins that may then be taped to the lower part of paper rocket. Make sure you firmly attach fins!
- Step 5: Tape nose cone to top of paper rocket. Make sure you firmly attach the nose cone! Name and decorate if time allows.
- Step 6: (Optional) Name and decorate your rocket.

## Lab Questions

1. Did all the rockets perform the same when launched?
2. To stabilize the rocket, fins were applied. How many are needed to stabilize the rocket?
3. Do the sizes of fins matter?
4. Why does wind affect paper rocket performance?
5. How can weight affect the distance a rocket will fly? (Look at the various rockets made in your classroom, was specific materials used exactly the same.)
6. What would happen if you placed the fins near the nose-cone of the rocket?
7. Write a short lab report describing how your rocket flew. Then draw pictures of your rocket before launching, and after launching.

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## Rocket Report Using the Scientific Method

### **Building and Launching a Rocket**

Using the scientific method build a paper rocket then launch it outside under the direction of your science teacher.

1. Problem: (Question format)
2. Hypothesis: (Your educated guess, using prior knowledge on the subject from Radio, TV, Newspaper, Books, Internet, Class discussions.)
3. Experiment: (Carrying out your experiment using “Steps” to show the order in which you started and completed your experiment.)
4. Observations: (What you observed as following your steps. How the rocket was made and how it performed.)
5. Data: (Collecting information about your rocket from your observations. You may have quantitative and qualitative data here also.)
6. Conclusion: (What were your findings from building to launching your rocket? Did it answer the Problem? How did it follow your hypothesis?)