

Can Your Notebook Hold a Cup of Water?

Teacher Page

Students must be able to follow directions while on a mission. The following activity stresses direction following skills. When they complete the process, they will have produced a small origami cup which will hold water for a short period of time.

Purpose: To follow directions and to problem solve.

Materials: Instructions for each student
2 blank sheets of white paper for each student

Procedure:

1. Do not give the instructions out right away.
2. Tell the students that a world famous company, KalValMu, has offered a gazillion dollars to the first team that can design a container from a piece of notebook paper which will hold water while staying in shape. (It is important for the container to stay in the same shape, otherwise they will produce a crumpled ball of paper.)
3. Tell the students that they are all trying to get the money as independent researchers and they must not share information.
4. Have the students work independently using only one sheet of paper.
5. Give the class 5 minutes to attempt to complete the first portion of the project.
6. When you are ready, tell them that time is up and a Slobovian team from the Upper Slobovian Empire has beaten them to the contract. However, since they are dedicated scientists it is their duty to attempt to re-create the experiment using the research paper prepared by the Slobovian team.
7. Give them the directions and a new sheet of paper.

Time required: 10-15 minutes

Student stumbling blocks:

1. They are given a RECTANGULAR paper and told to make a square. Hint: fold a corner to the opposite edge making a right triangle. The extra flap of paper can be removed leaving a square.
2. When they label triangles D, E, and F they tend to label clockwise. Hint: Follow the directions and label left to right as though the triangle were all in the same row. E will be on the down-facing point.

Student Name _____

Team Name _____

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The answer to each question is yes. If you cannot answer yes, go back and repeat the previous step or steps.

1. Make a square from the paper given to you. Are all the sides the same length?
2. Fold the paper diagonally. Is the paper a triangle?
3. Position the triangle on the desk with the long side facing you. Does it point away from you?
4. Label the corners from left to right A, B, and C. Is A on the left?
5. Fold the point C to the opposite edge half way between A and B so that the top edge of the fold is parallel to the base of the original triangle. Do you see three triangles?
6. Label the new triangle D, E, and F from left to right. Can you still see the letters A and B?
7. Fold point A to point F. Do you see four triangles?
8. Fold a single layer of B down as far as it will go. Do you still see E?
9. Turn the side showing E face down and fold the flap down as far as it will go. Can you tell what this is?
10. Can your notebook hold a cup of water?