

5. Once your directions have been completed, swap instructions with another team.
6. Read the directions from the other team and try to build their structure using your spare set of building materials.
7. When both teams have finished building, remove the screens. Compare the original structure to the replicated structure.

Analysis Questions:

1. Were your instructions written clearly enough for the other team to follow? _____

2. How close was the other team in replicating your structure? _____

3. Which part of your instructions were the most unclear or misleading? _____

4. Identify the step of your instructions that you feel was the most unclear and rewrite that step.

5. Why is it important that scientists write procedures that can be reproduced or replicated?

Tips and Strategies:

1. The sets of building materials can be almost anything that can be connected or stacked into unique structures. Here are some possible ideas:
 - Blocks from a Jenga game.
 - Legos
 - Tinker toys
 - Lincoln Logs
 - A molecular model set
 - You can make a set of building materials by choosing from a variety of household items: toothpicks, pieces of cardboard, gum drops, marshmallows, Styrofoam cut into various shapes, etc.
2. Put the building materials into a zip lock bag. The number of items in the bag should be determined by the age level and ability level of the student completing the activity. For younger students, place fewer items in the bag. Make the activity more challenging for older students by placing more items of greater variety in the zip lock bag.
3. A screen or shield must be set up to prevent one team from seeing the structure built by another team. I have used legal size manila folders and sheets of cardboard for this.
4. Student answers will vary on questions 1 – 4.

The answer to question 5: Writing procedures that are clear and accurate will allow other scientists to repeat the experiment and to verify the results.

5. This activity can be repeated several times throughout the year. I find that after completing several labs in my class, students begin to recognize how to write the steps of a procedure more accurately and more clearly. If I have the time to repeat the activity, I try to assemble bags of building materials that are more challenging.
6. If your students participate in science fairs, this activity is wonderful at helping the students learn how to write out the steps of their experiment.

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