MIND TREKKERS
Boxing Beans Lesson Plan

Amount of time Demo takes: 3 min
Materials:
1. Container of dried beans
2. Laminated shape boxes
3. Dixie Cup
4. Plastic Tray

Set up instructions:
1. Place the plastic tray on the table with the shape boxes and container of beans on it.
2. Put a Dixie cup in the container of beans.

SAFETY!
1. Safe demo.

Lesson’s big idea:
- Different boxes with different shapes can hold the same amount of product. Sometimes container design is based on looks more than the amount of product it can hold.

Instructional Procedure:
1. Have the students predict which container will hold the most amount of beans.
2. Let them use the cup to put beans into the container that they picked.
3. Use the same beans and dump them from one cup to another making sure that you put the beans in each cup. You will find that all of the containers hold the same amount of beans.

Assessment
Sample questions you can ask:
1. Why have different containers if they all hold the same amount? What is practical? You wouldn’t want milk to be stored in a square box or jello to be stored in bags.
2. Talk about storing items. Some containers stack better than others. Why is peanut butter in a round container? Because you wouldn’t be able to easily get the peanut butter from the corners if it was in a square container.

Conclusion
Designing a container for a product has a lot of thought put into it. Which materials to use, how much the package costs, is it attractive, is it logical?

Clean Up
1. Put the beans back into the container and put the lid on them.
2. Arrange the boxes in the tote so that they won’t be damaged.
Clean up between demonstrations if needed. When completely finished gather all materials listed for this demonstration and make sure everything is accounted for. If something was used up, broken or damaged. Let someone know so it can get replaced or fixed.

References:

National Standards:
K-4 Content Standard B: Physical Science, Light, heat, electricity and magnetism
5-8 Content Standard B: Physical Science, Transfer of energy, Motions and forces
9-12 Content Standard B: Physical Science, Motions and forces, Interactions of energy and matter
K-12 Content Standard A: Science as inquiry