

task card 2

Shake Detector

Earthquakes can be a warning that a volcano is getting ready to erupt. But scientists can't stand around a volcano waiting for an earthquake to happen. Instead, they use equipment that can detect earthquakes. Invent your own Shake Detector!

Materials

- ★ box
- ★ inventor's materials: markers, paper, string, tape, rice, bowls, marbles, what else?
- ★ "Shake Detector" data sheet

1. Put a box on a desk. Give the box a little push with your hand. **Think:** What could you put in or on the box that could detect the push? Think of at least five ideas. (**Hint:** It can be anything that will react when you push the box. It can be loose inside the box. It can be attached to a side. Or it can hang from the lid. What else?)
2. Scientists need their equipment to record how hard an earthquake shakes. Look at your list. Can you change one of your ideas so it leaves a record of a shake? (Want some hints? See the Brainstorming Tips below.) Think of at least two ideas.
3. Test one of your ideas. Does it work?
  - If yes, how can you make it work even better?
  - If no, what can you change so it does work?
4. Keep testing and improving your Shake Detector. When you are done, draw a picture of it on your data sheet. Explain how it works.

Brainstorming Tips

- A Shake Detector might move. The harder the shake, the farther it moves.
- A Shake Detector might spill something. The harder the shake, the more it spills.
- A Shake Detector might leave a mark. The harder the shake, the bigger the mark.
- A Shake Detector might make a sound that could be recorded. The harder the shake, the louder the sound.

Name: \_\_\_\_\_ Date: \_\_\_\_\_

Shake Detector

1. Do Step 1 of the Task Card. **Think:** What could you put in or on the box that could detect the push? List at least five ideas.

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

2. Look at your list. Can you change one of your ideas so it leaves a record of a shake? Think of at least two ideas.

- \_\_\_\_\_
- \_\_\_\_\_

3. Test one of your ideas. Does it work? How can you make it work even better?

\_\_\_\_\_

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4. Keep testing and improving your Shake Detector. When you are done, draw a picture of it here and label it. Explain how it works on the back of this sheet.

