

Sort It Out

The delivery robot for the Matter Factory dropped our most recent shipment of materials and we need your help sorting out the materials to keep our production schedule. Use the properties of these materials to sort the items back into groups.

What you need:

Materials to create mix up

4 balls of rolled 2x2 inch aluminum foil
15 safety pins
1 Tablespoon of rice
1 Tablespoon of lima beans

Tools to help sort mix up

1 magnet (a refrigerator magnet works)
Paper plate
Pasta strainer
1 small bowl
Small tongs

What to do

1. Put all of your ingredients from the list on the left into a small bowl.
2. Figure out how you can separate all of the items from the bowl using only the tools listed above on the right.

What to ask

- What unique characteristic does each material have that can be used to help separate it from the other items?
- What is the best tool for each job?

Did you know?

The characteristics that you used to sort out the materials are called properties. The properties of a material can be used to describe what it looks like and how it behaves. One possible solution to this challenge is to remove the aluminum foil balls by shaking the bowl and bringing them to the top then pulling them out with the tongs. They rise to the top quickly because aluminum foil is less dense than the other items in the bowl. Then use a magnet to attract the safety pins. The rice could be easily separated from the beans by shaking the mixture through a pasta strainer. The rice will fall through because it is much smaller than the beans.

What's next?

- What is another item that you could add to the mixture?
- How would it be removed from the mix of ingredients?



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Created by the Children's Museum of Houston for The Matter Factory exhibit.
Sponsored by the Institute of Museum and Library Services.