

Materials Needed

- A work area, such as a table or countertop
- Refrigerator
- Paper, pen and/or pencil
- Optional: color pencils

Grade Range

K-2

Topics/Skills

Properties of Matter
Investigations
Classification
Measurement & Data

Learning Standards

NGSS: [Matter and Its Interactions](#)

Math: [Represent and Interpret Data](#)

Duration

20-30 minutes

Prep Time

5-10 minutes

Fridge Dive

Clean-Up and Do Science



This activity is a great way to investigate what's inside the refrigerator and to reorganize and wipe down a few shelves. Students identify refrigerated items and use their classification skills to categorize them based on their characteristics.

Activity Challenge

Categorize refrigerated items and graph them on a chart. In the process, clean and organize the refrigerator shelves.

Preparation

1. Discuss the best way to collect items from the refrigerator.
2. Select items that have both similar and different characteristics.
3. Consider working shelf by shelf. Be prepared to clear off a shelf, classify the items, then wipe down the shelf and replace the items.
4. Pick the area where items will be sorted such as a table or countertop.

To Do

1. Search for, and collect, a variety of items from the refrigerator.
2. Sort these items into groups of similar characteristics (color, shape, product type). Aim for 3 groups with 1 to 4 items per group. See the table below.
3. Say, and/or write, the name of each item and grouping category. For example, if you select a carton of milk you could say shape, rectangle and/ or box. Be sure to record the item in a data table. (See sample table below).
4. At the end of the activity, count items that have a similar characteristic(s). Draw conclusions from the data.
5. Draw a picture graph using the data.

Observation

Draw at least one item from each group. Provide examples of what could be cooked with each item or with a combination of the items.

Extensions

Choose one, or more, from the following challenges to extend the activity.

Creativity Challenge

- Imagine a way to change one item so that it could be classified with other groups.
- Imagine a way to reorganize the items into different groupings. (Examples: type of matter – solid, liquid, gas, textures, etc.)

Math Challenge

- Count to 20 using the items found (e.g., using cans or bottle caps as counters).
- Pick an item to measure length, width, perimeter, weight, and/or volume.
- Create math problems using the collected items. For example, if 10 items are on a refrigerator shelf then remove 6 and ask students how many are left.

Language Challenge

- Alphabetize the list of material names.
- Focus on a specific item and describe the it in increasing detail. Example, “I spy with my little eye something that is small (and red).”

Science Challenge

- Research why certain foods need to be refrigerated. Why are refrigerators important? How do they work?

Content behind the Activity

Scientists classify objects based on physical attributes, or properties. For example, rocks have unique properties that are ideal for putting them in specific categories or groups. Granite has lots of shiny quartz-like crystals in it that can easily be observed. This is very different than a piece of gravel. Biologists classify animals and plants using a variety of physical characteristics to distinguish between species. They even count the number of different species in an area. How this data is displayed and shared varies, but one common representation is a bar graph. In this activity, items in the refrigerator are grouped together based on shared characteristics and counted. This data easily translates into a bar graph with categories along one axis and the number, or frequency, of items per category along the other axis.

Sample Data Table - Use this table or create your own.

Characteristics			
Matter	Shape	Color	Type
Solid	Circle	Green	Fruit
Liquid	Square	Red	Vegetable
Gas	Rectangle	Blue	Meat
		Yellow	Dairy
		Brown	