Classifying Objects: How Scientists and Other People Classify Things
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Introduction:

Humans put objects into groups because it helps them better understand and describe the world around them: Shapes, plants, animals, cats, dogs—we have a picture in our mind!

Materials:

You will need twelve balls for each group of 4–5 people with a variety of shapes, colors, and textures. You can use sports balls or pet toys (or a combination). We have found that the activity works best if each group gets duplicate balls. It leads to more discussions when each group of participants sorts the balls differently.

- **Optional**: Two additional balls per group for categorizing into the original classification.

Activity:

I have given you 12 objects. Sort them by their properties. There may be more than one result!

Discuss your results with the whole group.

- **Optional:** Here are two more objects. Where do they fit in your existing classification scheme? Discuss.

Discussion—why we classify things

"Our ability to compare (same and different), find patterns, and categorize are just some of the thinking processes that help us bring order to the Universe and enable us to apply our understanding more widely." Bill Schmitt, science educator

People/scientists have been classifying and categorizing the objects in the sky for thousands of years—planets (including the Sun and Moon), stars, meteors, and comets.

But as our knowledge grew, so did the way that we classify these objects—planets (including the Earth), other moons (satellites), rings, asteroids, meteoroids and nebula—are examples of objects that have been reclassified over time as our knowledge grew.

When we classify and categorize Solar System objects, what are the things we are considering?

- What are their characteristics?
- Are these characteristics familiar to us?
- How are these objects similar or different?
- Are there obvious or logical groupings?
- Will all objects have all of the characteristics.

Do you know of any examples of objects that have been reclassified or that took on new characteristics as we learned more about them? Why is classifying objects important to scientists?