



Venn There, Done That

The Big Idea

Use Venn diagrams to help sort your favorite toys, household items and your family! You'll also learn about common human traits!

You Will Need:

- ★ About 12-16 feet of yarn, string, ribbon, or painter's tape
- ★ Access to groups of toys and other items, like
 - Stuffed animals, dolls and action figures;
 - Cars, trucks, airplanes/helicopters and trains
 - Shoes, boots and sneakers
- ★ Several pieces of paper
- ★ Pencil or pen
- ★ **Print** 1 copy of Venn Diagram and Trait Chart (last page)
OR draw your own on a piece of paper

The Math Behind the Scenes:

- ★ Sets and Venn diagrams
- ★ Counting
- ★ Frequency
- ★ Operations: addition, subtraction

Going in Circles

A Venn diagram uses circles to separate items into groups, with overlaps to show items that sit in both groups.

Look at the Venn diagram:

- ★ Can you name all the furry animals shown? (6 animals.)
- ★ Can you name all the animals that are great pets? (6 animals, if you agree they're great!)
- ★ Why are some animals in the overlap of the blue and yellow circles? (They are furry AND make great pets.)
- ★ Why are some animals not in either circle? (They are not furry NOR do they make great pets!)



Now make a giant Venn diagram to sort items around the house!

1. Cut your yarn or string in half to make a two-ring Venn diagram on the floor or table.
2. Use a scrap piece of paper, sticky note or piece of painter's tape to label each ring as described below. You can change the label for each new set:
 - ★ Set 1 - Stuffed animals, dolls and action figures:
 - Label one ring *Found in Real Life* and the other *Fuzzy*.
 - Sort the toys according to their traits. For example, a teacher doll would be in the *Found in Real Life* circle, a Harry Potter mini-figurine would be outside both circles, a



furry stuffed cat would be in the center, and a stuffed Super Mario would be in *Fuzzy*.

- ★ Set 2 - Vehicles and airplanes/helicopters:
 - Label one ring *Holds Few People* and the other *Runs on a Roadway*.
 - Sort the vehicles according to their traits. For example, a train and an airplane would be outside both rings, a helicopter would be in *Holds Few People*, a truck and a car would be in the center, and buses would be in *Runs on a Roadway*.
- ★ Set 3 - Shoes, boots and sneakers:
 - Label one ring *Great for Play* and the other *Has Laces*. Sort accordingly!
- ★ Set 4 – Get creative and make your own Venn diagram with items in your home!

Tally Up the Traits

Ever wondered why we all have different traits like hair color or eye color? Some traits that show up in most people are called **dominant** traits; less-common traits are called **recessive**. For example, brown eyes are dominant: they're more common than the other eye colors. See what traits are more common for your family or friends!* And remember, dominant doesn't mean "better," just more common.

**While at home, you may choose to email, text or call a friend to ask about their traits!*

For each trait listed below, tally the numbers on the Trait Chart:

1. Are you left-handed? That's recessive - more people are right-handed.
2. Does your hairline dip down in a V-shape instead of going straight across your forehead? Look in a mirror if needed! A widow's peak is dominant.

3. When you clasp your hands together and interlace your fingers, which thumb is on top? Left thumb on top is dominant. Guess what: it has nothing to do with being right-handed or left-handed!
 4. If your earlobes are detached at the bottom, that's dominant.
 5. And do you have dimples on your cheeks? Interestingly, dimples are dominant!
- ★ Based on the chart, on which trait is the group most recessive?
 - ★ For each trait, did the group have more people with the dominant or recessive version?

Now let's use a Venn diagram to map our traits.

1. Draw 3 rings on a piece of paper as shown in the picture.
 2. Label each circle with a trait from the Trait Chart.
 3. List each group member's name in the correct section. Those who have all 3 traits go right in the middle!
- ★ Which sections are most crowded?



Bet You Didn't Know...

Each person has a unique set of traits! But there are some things that are the same for everyone. Let's check them out:

1. Hold up one foot up against the opposite forearm between the wrist and elbow. Your foot is about the same length as your forearm!
2. Stand sideways against a wall, making sure your inside shoulder AND foot are touching the wall. Then try lifting your outside foot without falling over. No one can do it! Why is that? When you lift your outside foot, there's no way to center your weight over your standing foot.

Venn Diagram



Trait Chart

Trait	Number of Dominant	Number of Recessive
Writing Hand		
V-Shaped Hairline		
Thumb Folding		
Earlobes		
Dimples		