



THE BIG IDEA

A **category** is two or more things that belong together because they are alike in some way — and **sorting** things into categories is the very first tool of every scientist.

A jumbled pile hides everything inside it. But the grocery store keeps apples with apples and milk with milk, the library shelves each book with its family, and your shirt drawer holds only shirts — so anything can be found in a moment. The whole grown-up world is already sorted; today you learn to see it.

MANY RIGHT WAYS

The same pile can be sorted by **color**, by **size**, by **what it's made of**, or by **what it's used for**. The things never change — only the **attribute** you notice. Every way that suits your purpose is right.

And groups hold groups: fruits live inside *fresh produce*, and produce lives inside *food*. A group inside a group is a **subcategory**.

WATCH FOR THIS IN EVERYDAY LIFE

- At the grocery store, look up and down the aisle — “how did the store sort all of this?”
- Open the silverware drawer — “what attribute is this drawer sorted by?”
- Find one thing at home that could be sorted a **second** way — “what else could these be sorted by?”
- At bedtime, remember the day in categories — fun things, food things, learning things — “does the finger trick work on a whole day?”

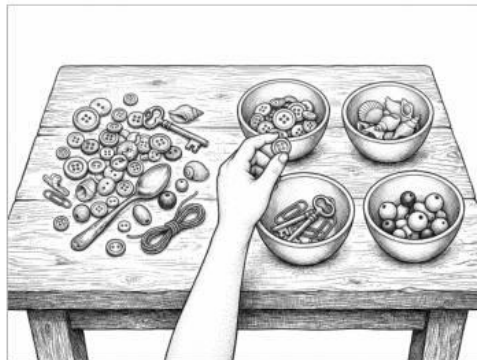


Fig. 1 — sorting: the same jumble, one bowl per category — buttons with buttons, shells with shells.

WORDS TO KNOW

sort

group

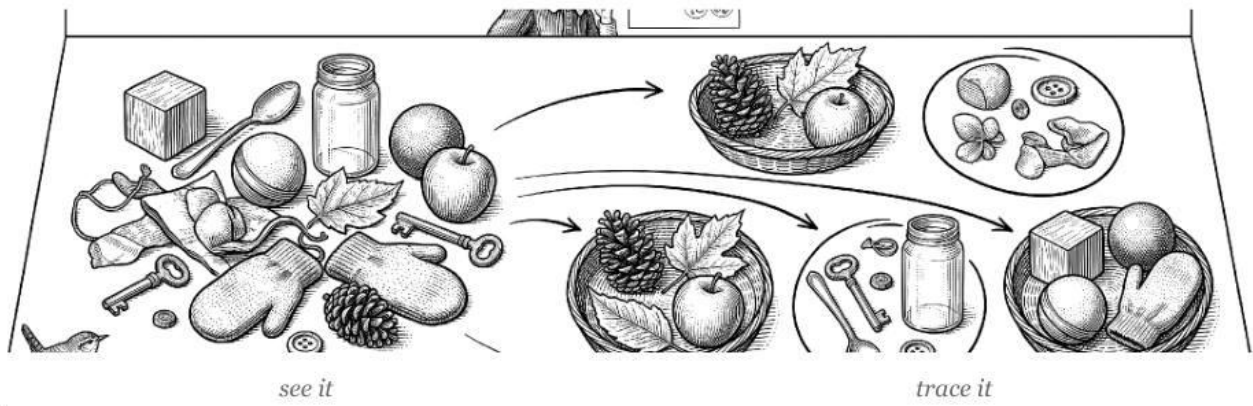
category

organize

attribute

subcategory

sort — putting things into groups · *group* — things put together in one place · *category* — things that belong together · *organize* — putting everything in its place · *attribute* — the thing you notice: color, size, or use · *subcategory* — a group inside a group



sort

sort

group

group

category

category

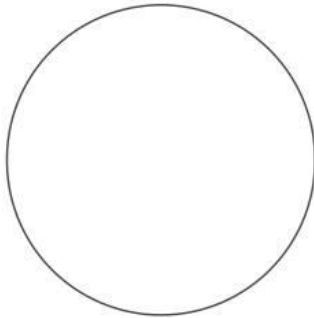
organize

organize

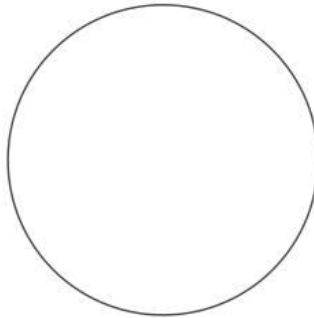


1 • MY CATEGORIES

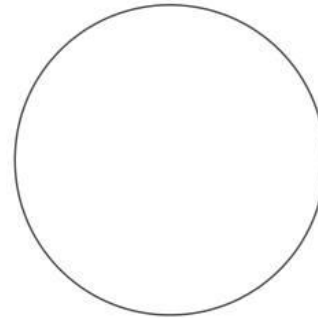
Grab a handful of things from a junk drawer or from around the house, put them on the floor, and decide on your categories. Write each category's name on its line, then draw the things that went in that circle.



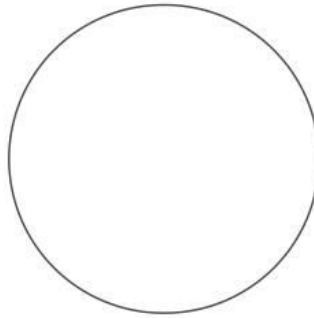
Category 1



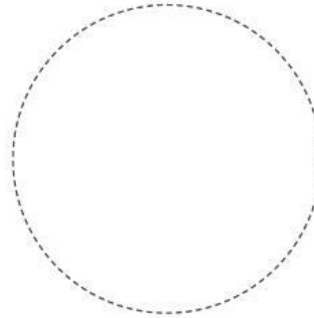
Category 2



Category 3



Category 4



things that fit nowhere yet
(scientists keep this pile too!)

2 • COUNT EACH CATEGORY

Use the same groups as your circles above. Make one tally mark for every thing in that group, then write the total.

CATEGORY	TALLY MARKS	TOTAL
Category 1		
Category 2		
Category 3		
Category 4		

Both at Once & Groups Inside Groups



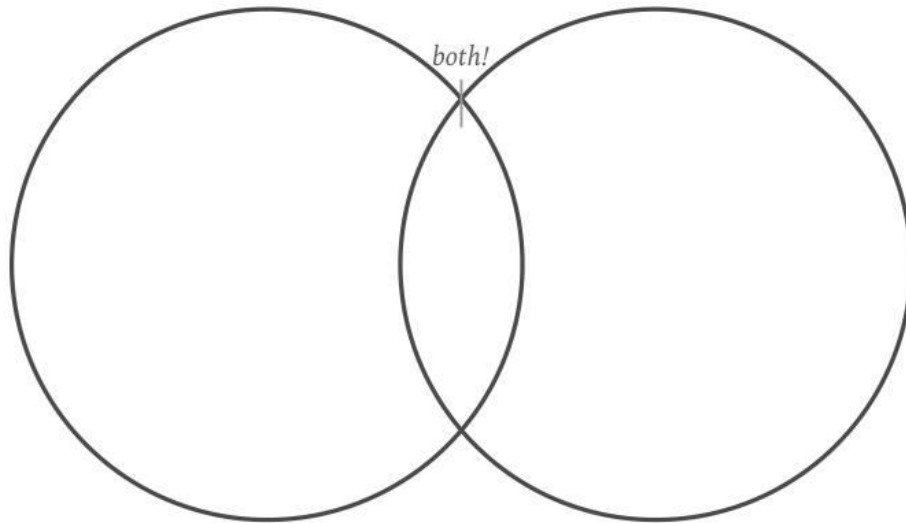
A Venn diagram and a tree diagram — real scientists' tools

1 • THE TWO-CIRCLE SORT — A VENN DIAGRAM

Just like the floor hoops: write (or have a grown-up letter) each circle's category on its line, then draw each thing where it belongs. A thing that fits **both** circles stands in the middle.

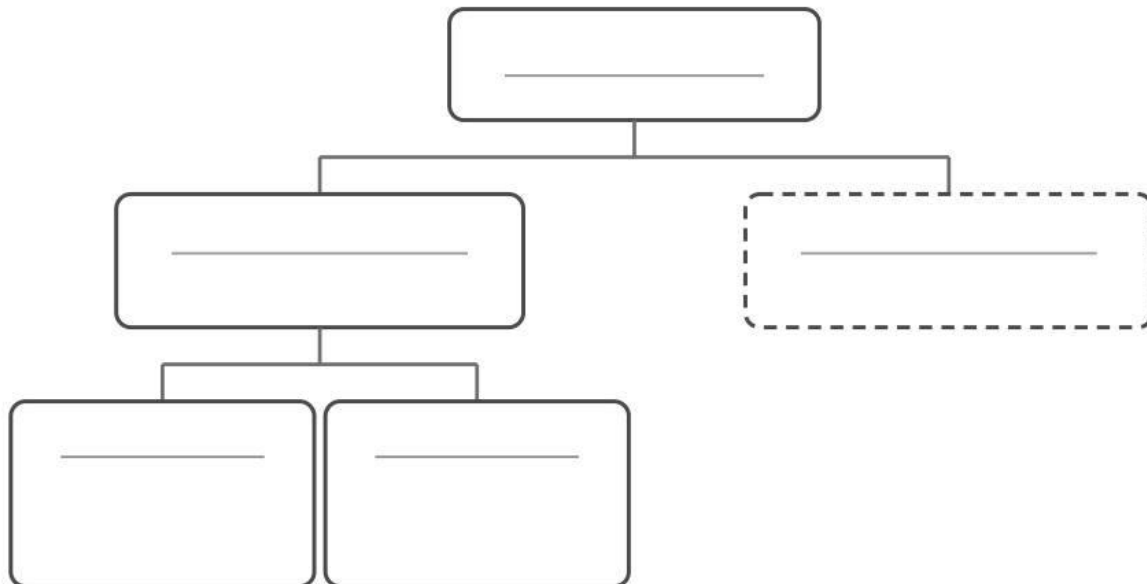
circle 1 is things that are...

circle 2 is things that are...



2 • GROUPS INSIDE GROUPS — THE FOOD TREE

Write each group's name on its line, then draw foods in the open space below it. A grown-up can help with the writing.



3 • THINK LIKE A SCIENTIST

Point to a **subcategory** on your tree. Tell someone: what bigger group does it live inside?



1 • SHADE A STRIPE FOR EVERY THING YOU REMEMBERED

Round 1: just looking. Round 2: after learning the category trick — one category on each finger. Shade the bar up from the bottom, *one stripe per remembered thing*.

Round 1
just looking

Round 2
with the category
trick

2 • WRITE THE NUMBERS

Round 1: I remembered things

Round 2: I remembered things

We sorted the tray into categories — one on each finger

3 • THINK LIKE A SCIENTIST

Which bar is taller? Your brain didn't grow between the rounds — so **what changed?** Tell someone the secret.

Put It With Its Friends

the lesson's song — sing it, then say what it means



SONG

VERSE 1

Here's a drawer of this-and-that, a jumble on the floor,
Buttons, keys, and pencil stubs, and half a dozen more.
Can't find one paper clip in all that mess — oh dear!
But watch what happens when the categories appear...

CHORUS

Sort it out, sort it out — put it with its friends!
Things that belong together get put together in the end.
A group of things that go alike — "category" is its name,
And when you organize your world, it's never quite the same!

VERSE 2

The grocery store keeps apples where the other apples stay,
The library gives every book a shelf to spend the day.
Your shirts live in the shirt drawer, your blocks live in the bin —
The whole wide world is sorted; look close and you'll fit in!

CHORUS**VERSE 3**

Now sort it all by color! Now sort it all by size!
The stuff is still the same old stuff — surprise, surprise, surprise!
There's no one way that's only right, so choose the way you need:
The ATTRIBUTE's the thing you notice — yes indeed!

CHORUS

Bridge *(slower, wondering)*
And inside every group... another group can hide —

The fruits live in the produce, with the veggies side by side.

A group inside a group? A SUBCATEGORY!
That's how a scientist sorts the world — from acorn up to tree.

Final Chorus *(big, with claps)*

Sort it out, sort it out — put it with its friends!
Things that belong together get put together in the end.

A category's things that go alike — now you know its name,

And now you've organized your world... you'll never see it the same!

How to use it. Play the recording once while everyone just listens. Play it again and join in on the chorus only — that is the part carrying the lesson. By the third time most children have the chorus. Then close the binder and ask what the words actually mean; a child who can sing it and explain it has the idea for good.