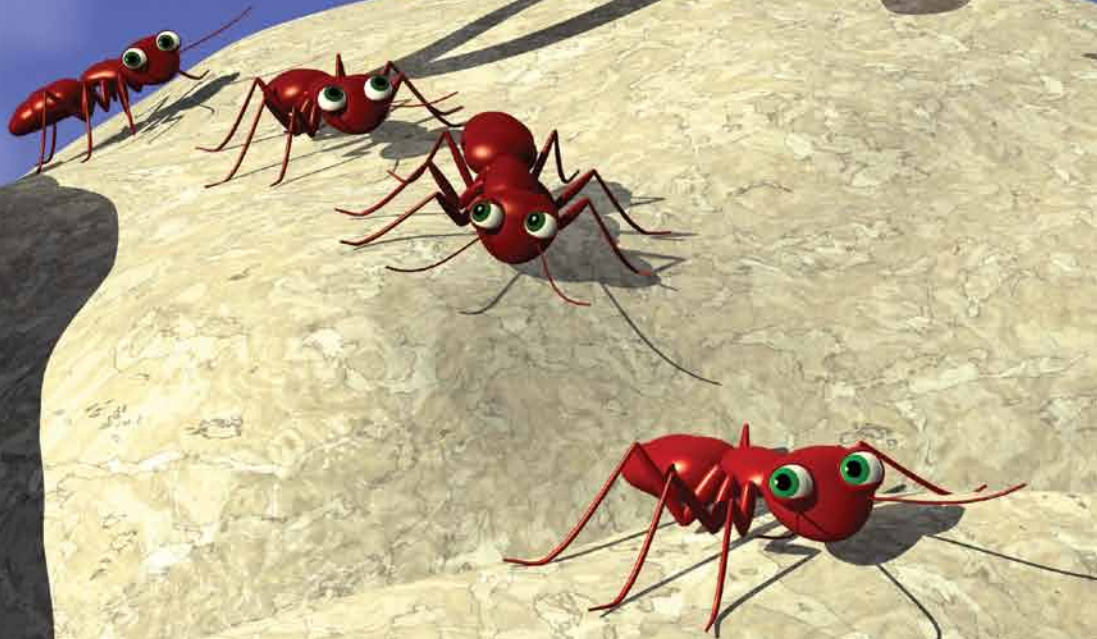


Real Science-4-Kids



Pre-Level I



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Chapter 1 Life

1.1 Studying life

1.2 Sorting living things

1.3 Kingdoms

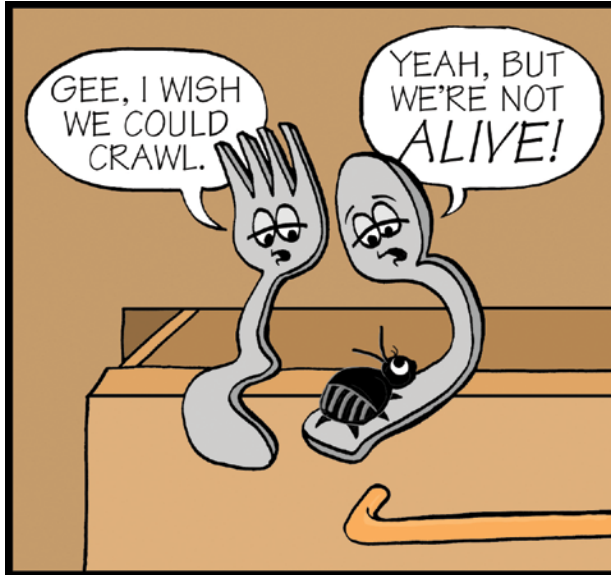
1.4 Sorting within kingdoms

1.5 Naming

1.6 Summary



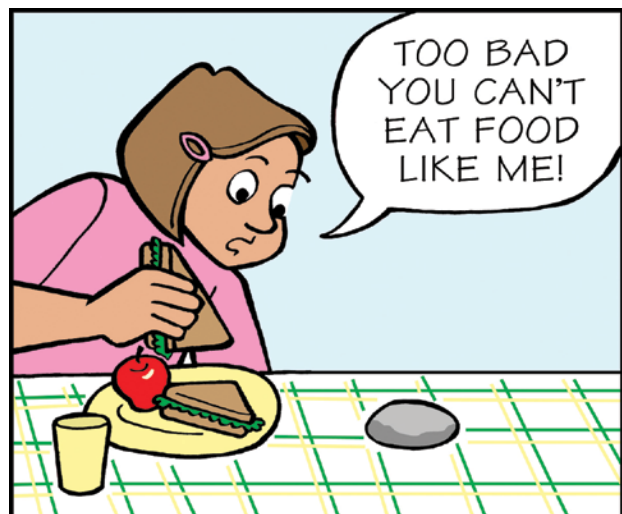
1.1 Studying life



What makes plants, dogs, and beetles different from rocks, dirt, and metal? Maybe you have noticed that rocks don't move like dogs, and that dirt doesn't need food like plants. Maybe you have seen that forks and knives, made of metals, don't crawl around in

the kitchen, like beetles. Living things are different from rocks, and dirt, and metals, because living things are **alive**.

What does it mean to be alive? Think about how you are different from a rock. You need food and a rock doesn't. One feature of being alive is **needing food**.

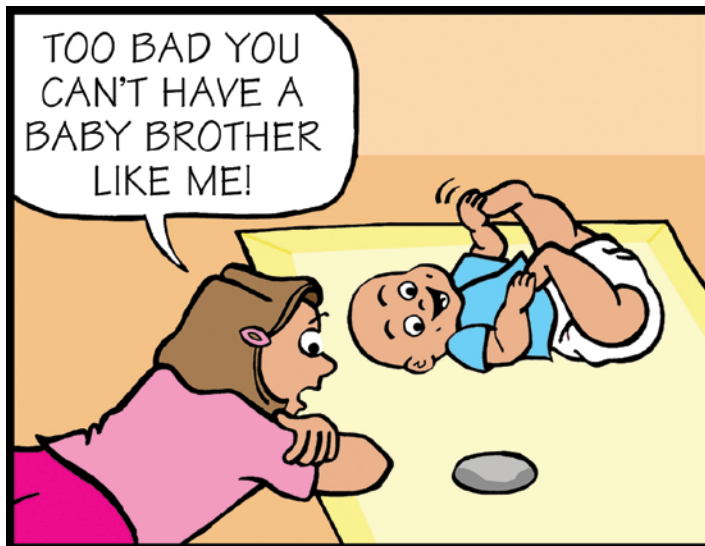


Second, you can walk, run, jump, curl up into a ball, and roll on the carpet. But a rock can't move. So, another feature of being alive is the **ability to move**.



Finally, a rock can't make baby rocks, but plants, animals, and humans all make baby plants or baby animals or baby humans. So another feature of

being alive is the **ability to reproduce**.



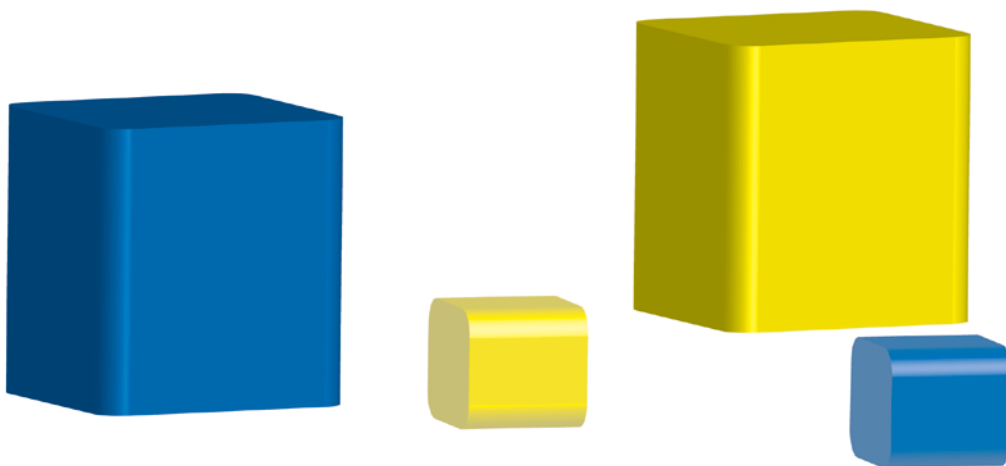
As we can see, living things are much different from non-living things.

1.2 Sorting living things

How do we keep track of all of the living things we find on the planet? Is there a way to sort them? Why would we want to sort them?

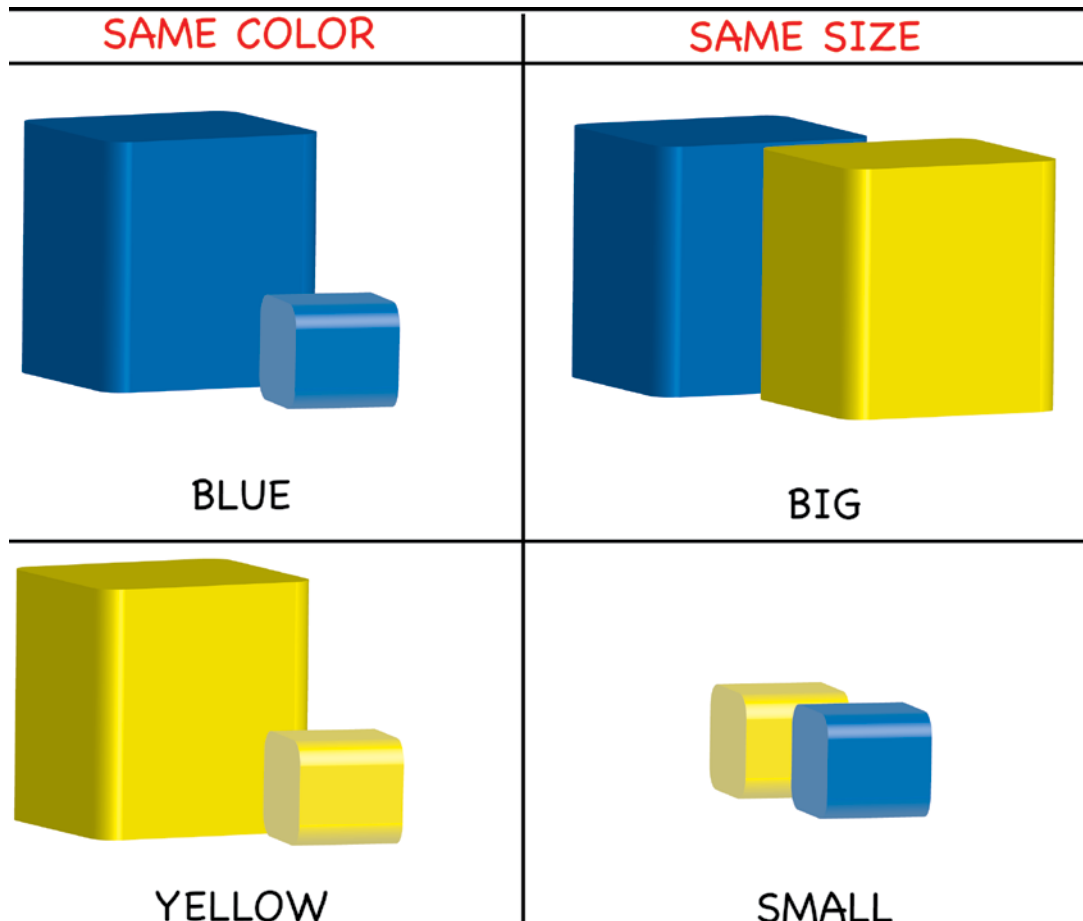
Sorting living things helps us understand how they are different and how they are the same. For example, what if you had some yellow blocks and some blue blocks? How would you sort them?

HOW WOULD YOU SORT THE BLOCKS?



If you sort your blocks according to color, you can see that the blue blocks are different from the yellow blocks. However, you might also notice that some of the blue blocks are the same size as some of the yellow blocks. So you could also sort them

by size. By sorting, you can see how some blocks are different (different color), but also how some are the same (same size).



A very long time ago a man named Carolus Linnaeus thought about how to sort living things. He came up with a system of sorting all of the creatures on the planet. We call this system **taxonomy**.

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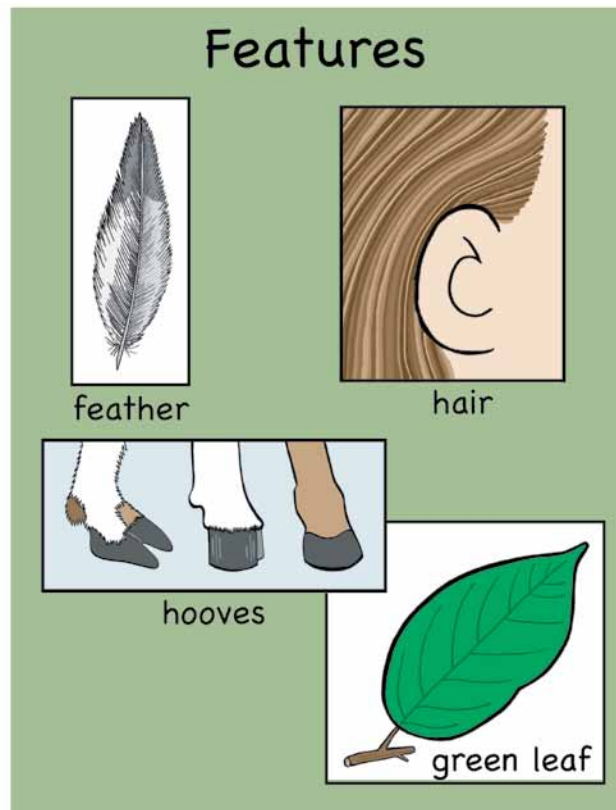


Taxonomy is a branch of biology that is concerned with how to sort living things.

We sort living things by looking at their different **features**.

A feature is anything like hair, hooves, feathers, or green leaves.

For example, we might sort animals that have hair from animals that don't have hair. We might sort plants that live in the soil from plants that live in the water.



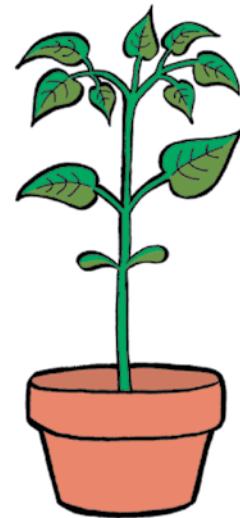
We might also sort very small creatures that we can't even see from larger creatures that we can see. Looking at the features of living things helps us sort them.

1.3 Kingdoms

It is very difficult to decide how to sort living things—there are so many different features! Once upon a time, living things were sorted into only two large groups: **plants** and **animals**. However, as scientists learned more about all of the different creatures, they had to make more groups.

Today scientists use five large groups to sort living things. These groups are called **kingdoms**. The names of the kingdoms are **Plantae**, **Animalia**, **Monera**, **Protista**, and **Fungi**.

The kingdom **Plantae** groups all of the plants. Houseplants are in the kingdom **Plantae**.



House plants
are in the
kingdom
Plantae

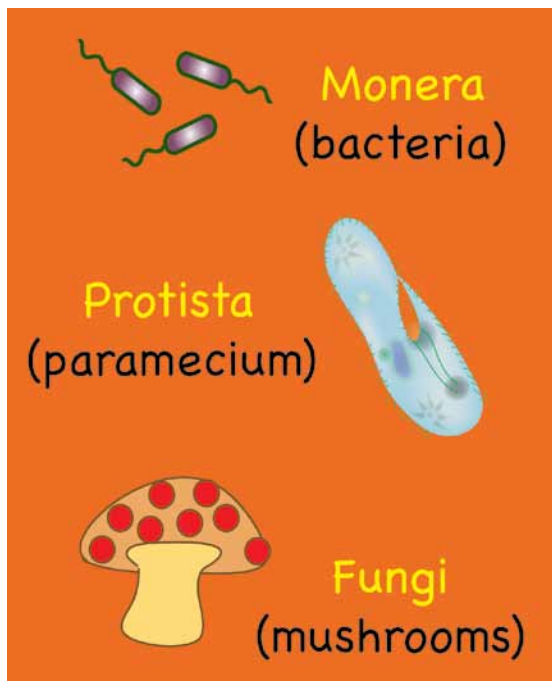
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Dogs are in the kingdom
Animalia

Animalia groups all of the animals. Dogs are in the kingdom Animalia. So are cats, frogs, and butterflies.

Monera groups some of the very small creatures that we can't see with our eyes, like bacteria.



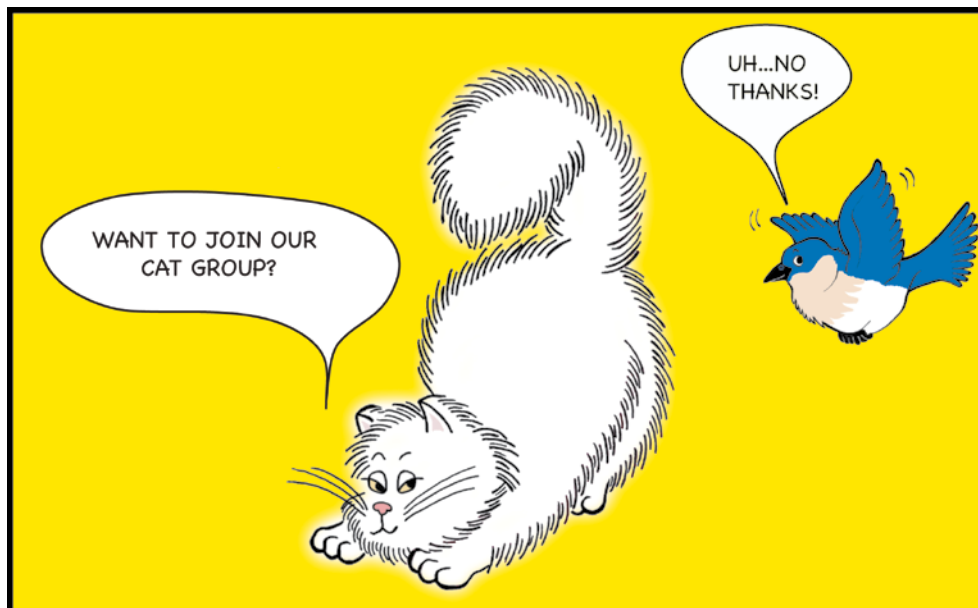
Protista is a group for very small creatures called protists.

And finally, **Fungi** groups things like toadstools and mushrooms.

1.4 Sorting within kingdoms

Once scientists sort all of the living things into their kingdoms, they organize them into smaller groups to better understand them. So, living things in different kingdoms are further sorted into smaller, different groups.

To sort living things into smaller groups, scientists again look for different or similar features. For example, both birds and cats are animals, but we can see that birds are different from cats. For one thing, birds have wings and fly, but cats don't fly. Cats have fur and eat birds.



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Even though birds and cats are both animals, they are different from each other. All of the birds are put into a group for birds, and all of the cats are put into a group for cats.

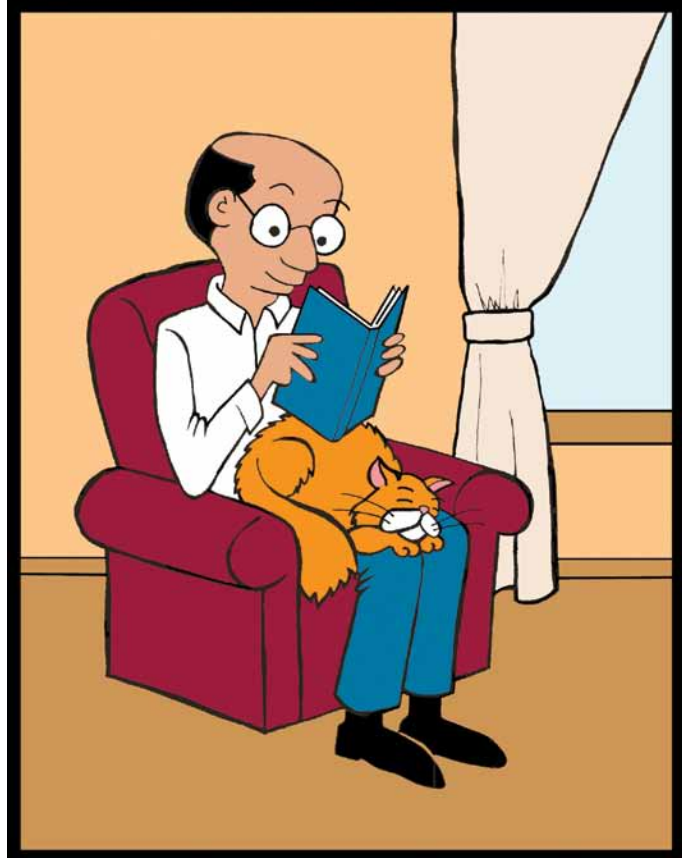
What about tigers and house cats? They are both cats. Are they exactly the same? In fact, they aren't. Even though tigers and house cats have some similar features, they are also different. For example, house cats don't usually eat their owners, but tigers could! So house cats and tigers are put into even smaller groups within the larger grouping of "cats."



1.5 Naming

How do we name all of the creatures we find? Because there are so many different languages, and because there are so many different living things, scientists use a **scientific name** to name each living thing. Every plant and animal, fungus and bacterium has a scientific name. The scientific name for each living thing comes from the Latin language. Each creature has two Latin names. The first name is called the **genus** and the second name is called the **species**.

The Latin name for a house cat is *Felis catus* and the Latin name for humans is *Homo sapiens* which means "man wise."



1.6 Summary

- Living things are different from non-living things. All living things need food and can reproduce, and some living things can move.
- Scientists sort living things into groups to understand them better.
- Kingdoms are one kind of group that scientists use to sort living things.
- All living things have a special **scientific name** which is in Latin.