

Real Science-4-Kids

CHEMISTRY

Pre-Level I



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Chapter 1 Atoms

1.1 Atoms

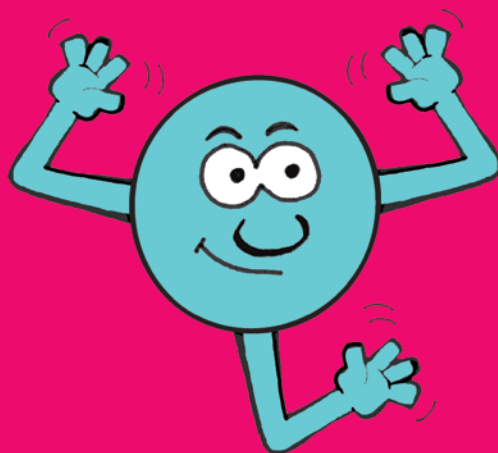


1.2 Different atoms

1.3 Atoms stick together

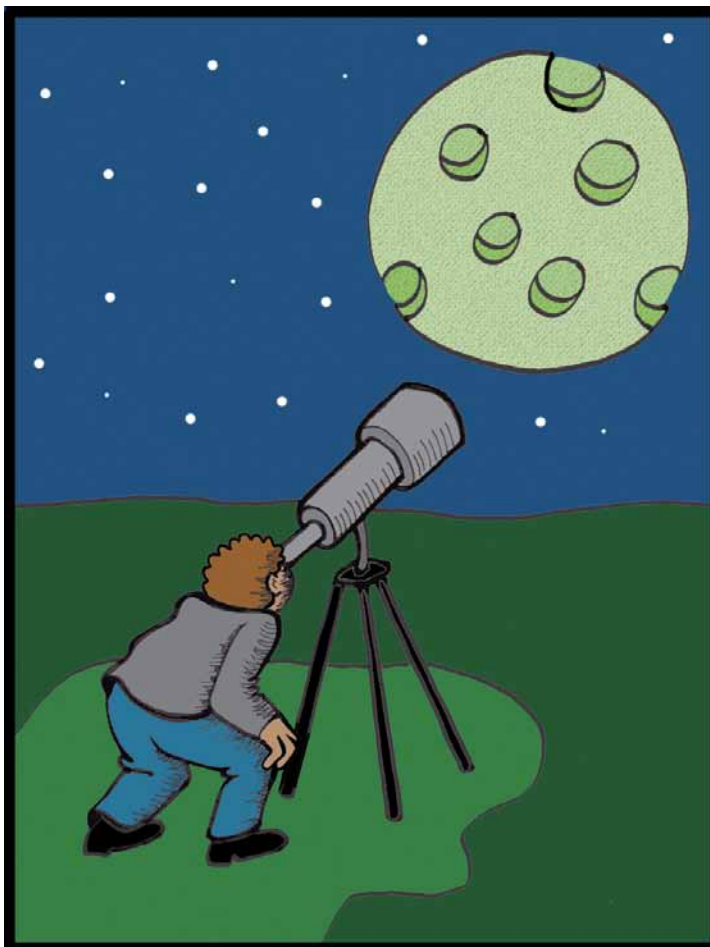
1.4 Making observations

1.5 Summary



1.1 Atoms

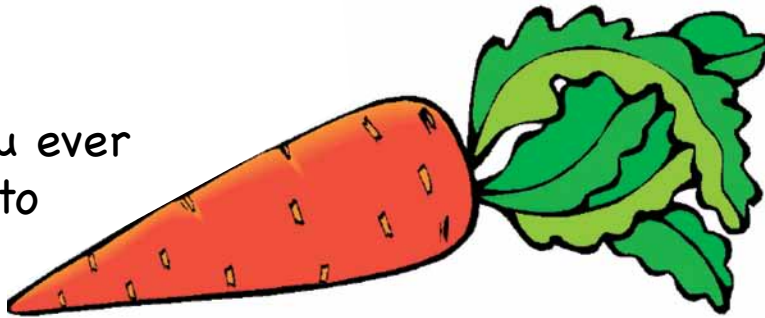
Have you ever wondered if the moon is really made of green cheese?



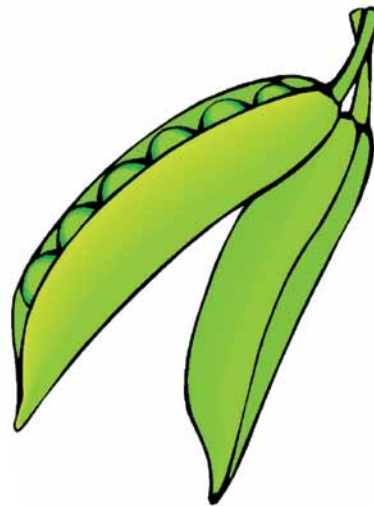
Have you ever thought the clouds might be made of cotton candy?



Have you ever
wanted to
know
what
makes
carrots
orange...



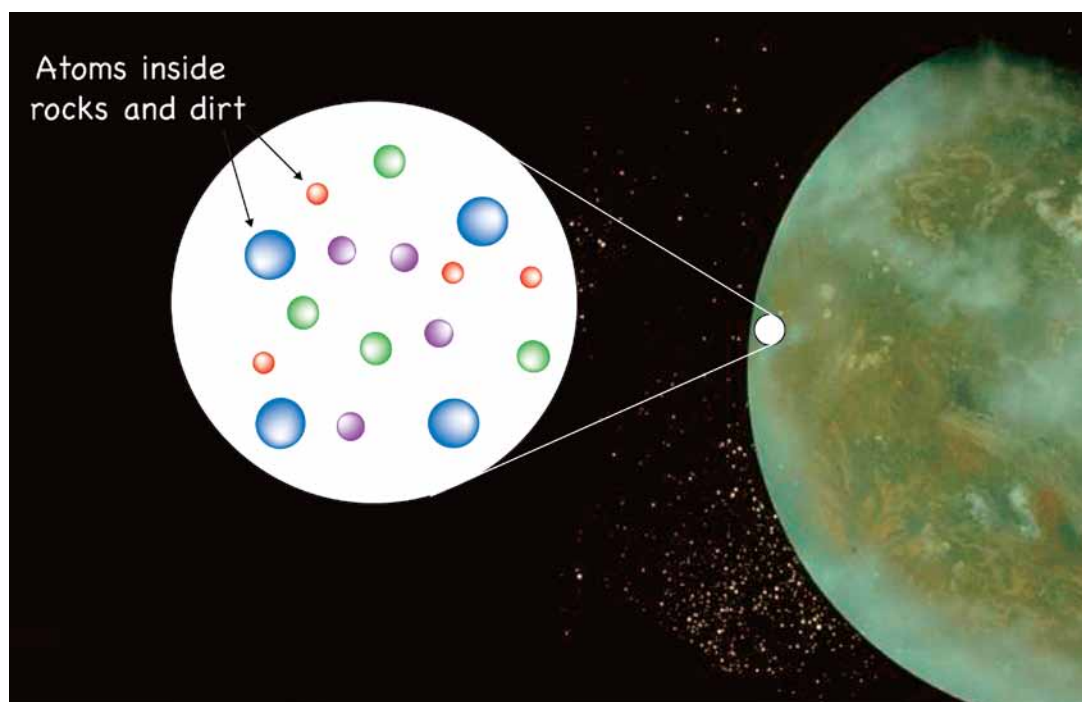
or peas
green?



Have you ever wondered why
brussels sprouts couldn't taste
more like sweet cherries, or
asparagus taste more like candy
canes?

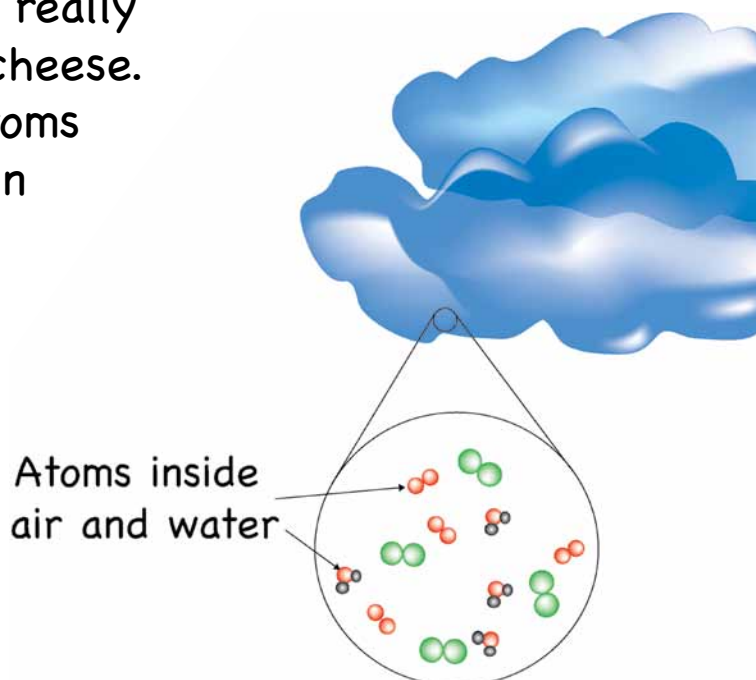
Everything around us has a
different shape or flavor or color,
because everything around us
was designed with different **atoms**

put together in different ways. Atoms are very small things we can't see with only our eyes.



The moon is not really made of green cheese. It is made of atoms that are found in rocks and dirt.

Clouds are not made of cotton candy, but of atoms found in air and water.



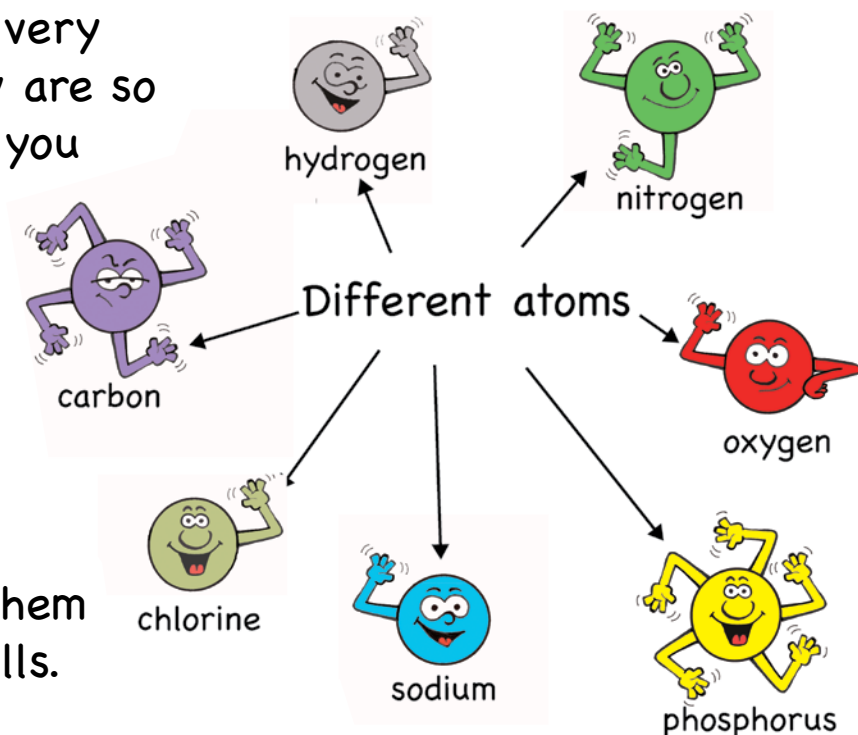
Carrots are orange because their atoms are arranged in a way that makes them orange. Peas are green because their atoms are arranged in a way that makes them green. Brussels sprouts and asparagus don't taste sweet like cherries or candy canes because the atoms inside brussels sprouts and asparagus are not arranged in a way that makes them sweet.

1.2 Different Atoms

There are over 100 different atoms.

Carbon, oxygen, and nitrogen are the names of a few different atoms.

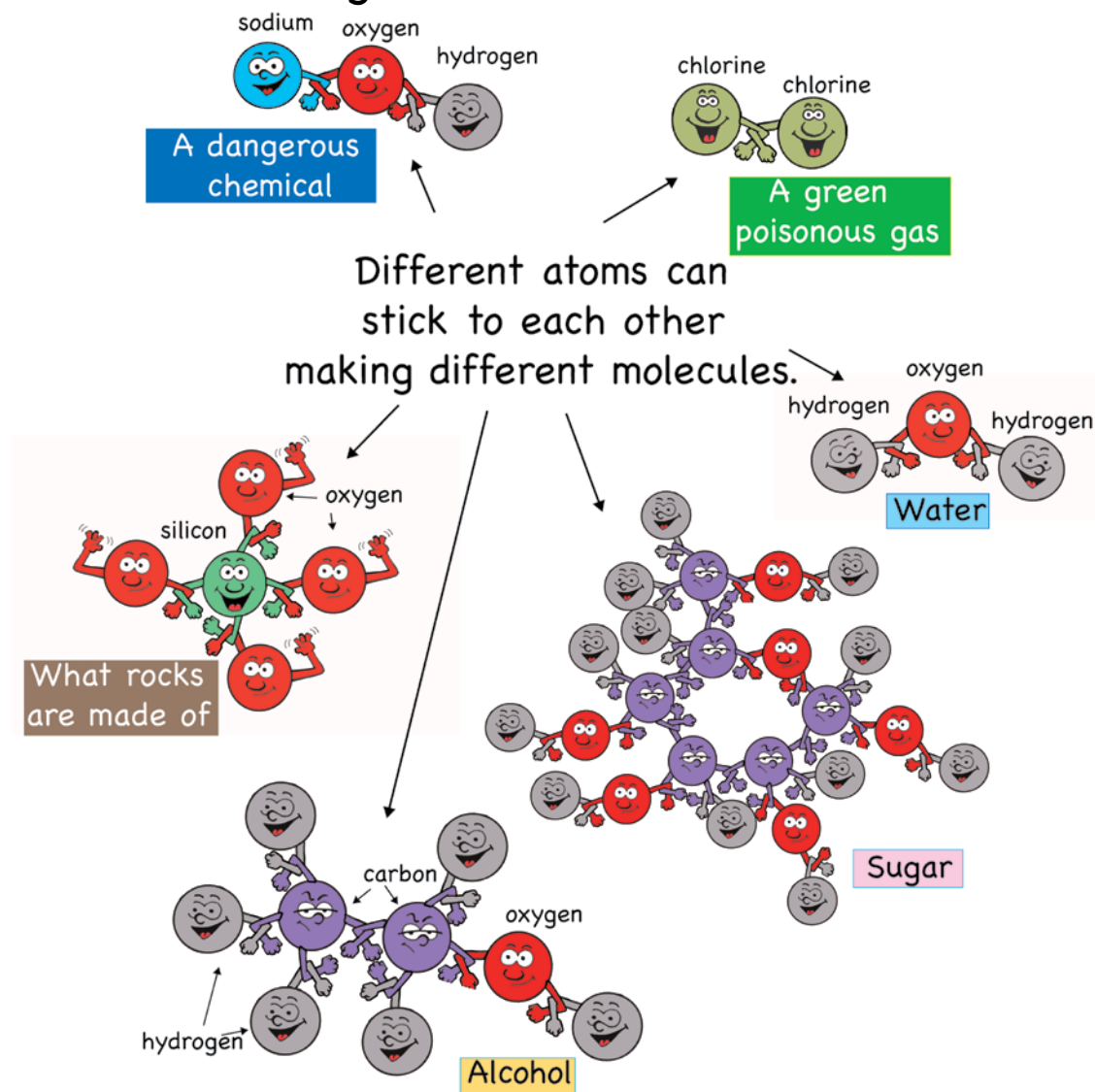
Atoms are very small; they are so small that you can't see them with only your eyes. Even though we can't see atoms we can draw them as little balls.



1.3 Atoms stick together

Atoms can be by themselves, or they can hook to other atoms to make **molecules**. We will learn more about molecules in Chapter 2.

Atoms can stick together in many different ways. The different ways that atoms stick to other atoms make things different from each other.

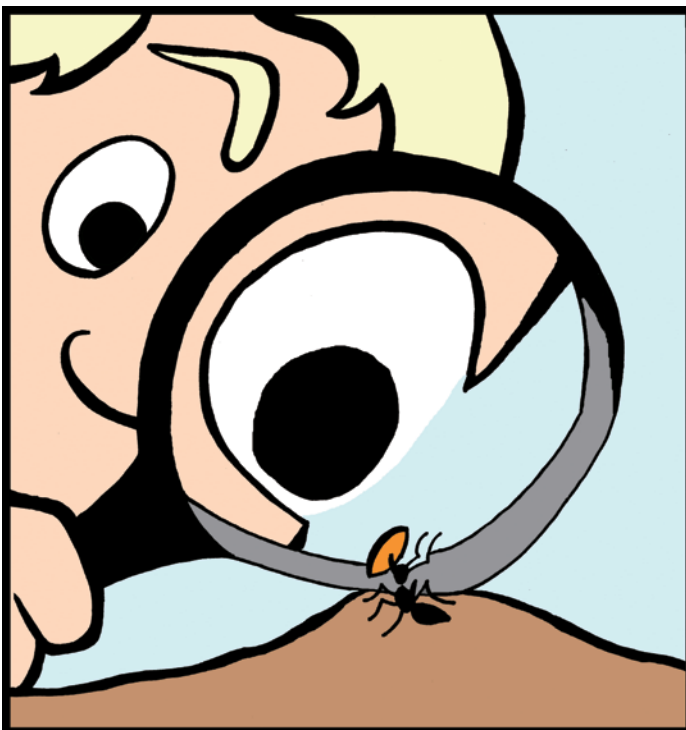


1.4 Making observations

How do we know everything is made of atoms if we can't see them with our eyes?

We know about atoms because of the way things look and the way things behave. To learn about atoms, scientists make very careful **observations** about the world around them.

But scientists aren't the only ones who make observations. Everyone does! Making observations just means looking at things and wondering about them. *You* make observations all the time.



For example, when you see an ant crawling on the ground, you are making an observation. You might ask yourself, "What color is the ant?"

"How many legs does it have?"

"Does he crawl in

a straight line, or does he wander?" All of these questions, and many others, can be answered by making careful observations. Observations are a very important part of science, because it takes careful observations to discover new things. You might think you know what something looks like, but when you observe it carefully, you might find something new!

1.5 Summary

- Everything is made of atoms.
- Atoms are very small things we can't see using only our eyes.
- Atoms can stick to other atoms to make things taste different, feel different, look different, or smell different.
- Making careful observations helps scientists and *you* make new discoveries about the world.