



WATER

Vocabulary (can be discussed before or after viewing):

- H₂O
- Hydrogen
- Oxygen
- Molecule
- Solid
- Liquid
- Gas
- 3 States of matter

I. Pre-viewing Questions

Ask:

Who has heard the term “H₂O”?

What does that mean? [Water].

What does the H and the O stand for?

SHOW WATER VIDEO (eight minutes)



WATER

II. Post-viewing Questions

Ask:

What is H₂O exactly?

[A molecule of water made of two parts hydrogen and 1 part oxygen. Hydrogen and oxygen are important elements on Earth. If you showed the SALT video, people may remember the explanation of elements.]

Scientists talk about the three states of matter: solid, liquid, and gas. How did Chef Jamika use all three forms of water in her cooking?

[Solid—frozen strawberry ice cubes; liquid—she boiled the pasta in liquid water; and she steamed the artichokes. Water in the form of an invisible gas is present whenever you see steam.]

What happens to the molecules in water when you boil it?

[The molecules start to move around faster and faster, bumping into each other. A fast-moving molecule is a hot molecule.]

What happens to the molecules in the water when you freeze it?

[They move slower and slower and get locked into a crystal pattern. They cannot slide around freely like they in the liquid state.]

Can we see water as a gas?

[No. Where there is steam, there is water in a gas form, but you can't see it. The white puff we see are actually tiny droplets of liquid water.]

[Note that many people use gas to heat their homes and cook on gas stoves. This type of gas, such as propane or butane, is different from water vapor. Because natural gas is invisible and has no odor, a smell has been added to it so that leaks in the gas pipe can be detected.]

Almost everything in the universe comes in the form of a solid, a liquid, or a gas. Can you name some examples of each? [Solid: a table, a book, a hat, an umbrella...etc. Liquid: oil, milk, blood, water droplets in the air that you can see as a white puff. Gas: oxygen, helium, carbon dioxide, carbon monoxide, ozone.]

General Discussion:

What else did viewers learn from the video? Was it enjoyable? Ask for examples of what was clear/confusing. How did the recipe relate to the science topic? What else do learners want to know about this topic? Would they show it to their children?

Web Lessons: On tv411.org/Science, note the science and math web lessons that correlate to **Water**. Use them as part of your lesson or encourage learners with outside access to the internet to visit tv411.org where they can review the videos, learn more about the topic through the related web lessons, or explore other videos and lessons.