

CT Science Standard 2.1- States of Matter

Materials can be classified as solid, liquid or gas based on their observable properties.

Trail Guide Biomechanics: 2.1 States of Matter

Visit the Sports Lab Gallery

Go to Biomechanics

Complete the three stations. Compare your results. When athletes do hard physical activities they sweat.

Did you start sweating during that activity?

Where did that water come from?

Teacher notes:

Where does the moisture come from? Sweat is transpired water and chemicals from our bodies. It comes through our skin. It started as the foods and liquids that we ate. So where does that sweat go once it comes through our skin? Not all of it will drip off of us--Sweat's job is to cool us. It does this through evaporation---changing that water from liquid to vapor as it evaporated, taking some of our heat away when it changes state!

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Trail Guide Earth Observatory: 2.1 States of Matter

Visit the Planet Earth Gallery

Go to the Earth Observatory

The weather events that occur in one geographic area may not have originated in that same area. Choose an Earth event on touch screen related to storms. Watch it play out on the globe.

Watch your world at work. What type of weather do you see? Can you spot storm clouds?

Are there solids, liquids or gases on and around the earth?

What are the storm clouds? Are they solids? Is there liquid in them? Is there gas?

Teacher notes:

Weather is all about the changing state of water!

The precipitation that falls is part of the water cycle. Water evaporates (changes into water vapor) and then condenses as the temperature drops, changing back into liquid water. If it is cold enough, that water will become ice or snow---frozen water. Once the precipitation falls to the Earth, it will evaporate or run off into larger bodies of water. There it will evaporate into water vapor to start all over again.

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Trail Guide Different Types of Clouds: 2.1 States of Matter

Visit the Planet Earth Gallery

Go to the Weather Station

View Different Types of Clouds

Check out the Weather Station. Most days we see some clouds in the sky. Do all of them mean that rain or snow is on the way?

Why or why not?

Spin the dial and view the different types of clouds. You can turn the dial either direction. Watch clouds form and disappear.

What type of weather is associated with each type of cloud?

How are they created?

Teacher notes: Cirrus (fair weather), Nimbostratus (produce rain or snow), cumulus (puffy-fair weather), cumulus congestus (towering cumulus- reaches higher in the sky), stratus (grey sheet-may produce drizzle-at ground level “fog”), stratocumulus (low-lying cloud formation), altostratus (made from ice crystals-form ahead of storm clouds), altocirrus (made of ice crystals- mid level atmosphere), and cirrostratus (made of ice crystals-“whitish veils”, very thin can hardly see at all).

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Trail Guide Moon Projection Globe: 2.1 States of Matter

Visit the Exploring Space

Go to the Moon Projection Globe

What is on the moon?

Are there solids, liquids, and gases?

There is no oxygen. If you visit the Climate Change Theater our friend the sheep on the moon will show you that. He turns blue because he has no oxygen.

Are there other gases on the moon?

Is there liquid?

Teacher notes: In 2008 water was discovered in volcanic pearls brought back by the 1971 Apollo 15 mission.

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Trail Guide KidSpace: 2.1 States of Matter

Visit the KidSpace Gallery

Please note that availability to KidSpace is limited and based on capacity and other audience considerations.

Explore the lego block building area within the water tables.

Can you contain a lot of water in one area?

What type of creations can you make?

Where do you see the water flowing within your own creation?

What are some of the rules you may have discovered about a liquid such as water?

Is the water changing its shape to flow over the blocks?

Are there solids, liquids, and gases in this gallery?

As you go through the other galleries think about that question. Are

Teacher notes: This experience will get students thinking about properties of matter. Does the shape change? Does the volume change? (space it takes up). You can make connections from this gallery with the other galleries they will experience.

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Student Trail Guides

Trail Guide 6th Floor Overlook Balcony: 2.1 States of Matter

Visit the Planet Earth Gallery

Go to the 6th floor overlook balcony

Look outside over the Connecticut River. How is the water moving? Is water always a liquid?

Look behind you at the stream table exhibit. Watch the movement of the water within the water table. How is that water moving?

How does it compare to the water outside in the Connecticut River?

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