

CT Science Standard 3.4 – Earth’s Resources

Earth Materials provide resources for all living things, but these resources are limited and should be conserved.

Teacher Trail Guides

Trail Guide *Overlook Balcony*: 3.4 Earth Materials

Visit the **River of Life Gallery**

Overlook Balcony

Water, land, air---and everything that grows here are part of our natural resources.

Where do you see water? Do you see any examples of how we use that water?

What types of structures do you see built along the river? Why might they have been built there?

Observe and point out different uses of the land that you see. How many different uses can you spot?

Record your answers in your science notebook.

Teacher notes:

Students should be guided to really look at the landscape from the window overlook. What evidence do students see that people live here? Work here? Use the land and water? Are there businesses here? Are there things growing here?

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Trail Guide *Connecticut River Watershed:* 3.4 Earth Materials

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The Connecticut River Watershed

The Connecticut River has been polluted by trash and other things from the people, towns, and factories near the river.

How many ways can you think of in which “reduce”, “reuse”, or “recycle” would make a difference in the pollution of the river?

Discuss with a partner and record your ideas in your science notebook.

Think about your home and yard. Think about when you visit a park, pond, or the beach. What can you do to make sure that your trash doesn’t wash away down the river?

Record your answers in your science notebook.

Teacher notes:

You may not see evidence of pollution on the map, but you can see where people live and work near the river.

Ask the students if they have visited a river, pond or beach. Did you notice that people had been there? How? Were there buildings near the water? Trash cans? Was all the trash in the cans?

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Trail Guide *What is Insulation?:* 3.4 Earth Materials

Visit **Energy City**

What is Insulation?

Why is insulation used in houses and around pipes?

How does insulation save energy?

Record your answers in your science notebook.

Teachers Note:

Have the students focus on the text over the insulations in the wall. Insulation is used to keep the temperature inside the house or building constant whether it is hot or cold outside. It is used around pipes to keep the water either hot or cold depending on the outside temperature.

Insulation saves energy by reducing the amount of time the air conditioner or furnace/boiler needs to stay on to cool or heat the house.

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Trail Guide *Biomass-Plant Power*. 3.4 Earth Materials

Visit **Energy City**

Biomass-Plant Power

Is the release of CO₂ (carbon dioxide) from burning biomass as dangerous as the release of CO₂ from burning fossil fuels?

What form of life can remove CO₂ from the atmosphere?

Think what would happen if humans kept releasing CO₂ while at the same time destroying the forests of the world. What affect would this have on the CO₂ concentrations? Write down your thoughts.

Record your answers in your science notebook.

Teachers Note:

The CO₂ released from burning biomass is chemically the same as is released from burning fossil fuels. However, the difference is where the CO₂ comes from. CO₂ that is released from burning fossil fuels been bound up in the ground for millions of years and essentially has been removed from the current carbon cycle. Therefore this CO₂ is ADDED to what is already in the carbon cycle. While CO₂ that is released from burning biomass is already within the carbon cycle and therefore, does not add anymore CO₂ than was already in the cycle.

Most plants “breathe” CO₂ and therefore remove CO₂ from the atmosphere. They incorporate the CO₂ into their body and “exhale” oxygen. When these plants are burned the CO₂ goes back into the atmosphere and the cycle starts over again.

Student Trail Guides

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