

Pictou County Forest School - Grade 8 Lesson Plans

Climate Change

Activity: Hot Rocks! (suggested time 120 minutes)

Overall Curriculum Outcome: Learners will create a model that demonstrates the principles of kinetic molecular theory.

Specific Curriculum connections:

Kinetic Molecular Theory

- How does the kinetic molecular theory allow for an understanding of heat and temperature?
- How do the notions of hot and cold relate to the kinetic molecular theory?
- How does the kinetic molecular theory relate to states of matter?

Heat Transfer

- How does kinetic molecular theory relate to heat transfer?
- How does heat transfer impact our daily lives?

Heat Capacity of materials

- Why do some materials take longer to heat up/cool off?
- Which materials are best for insulating?

Materials:

- Found natural materials
- Bricks
- tinfoil
- Infrared thermometer
- Leather gloves

Intro/Activation:

Talk about insulation in our lives

What animals utilize

What natural materials are insulative?

What's more important? Heat vs. Insulation?

Activity:

- Each group gets a fire heated brick (or frozen brick in warmer months). An initial temperature is taken of each brick.
- Groups create an insulative system to insulate their brick from the elements
- Final temperatures are recorded.

Reflections/further wonderings:

How can we transfer this knowledge to our modern life?: clothing, homes etc?

How do animals intrinsically apply the theories of kinetic molecular theory?

What's more important? Heat vs. Insulation? (or a balance of both??)

How would this experiment change if it was summer and we froze the bricks instead!???