

## Materials

Some students may benefit from having concrete materials to help trigger their imagination.  
Possibilities include:

- Soil
- A variety of
- Sand containers
- Gravel
- A plant
- Water
- or grass
- Lamp(s)
- A piece of
- Lightbulbs
- asphalt / brick
- (different
- Thermometer
- kinds)



## Experiment

You are going to heat up different materials to see how the temperature changes.

1. First are you going to heat up different samples that you collected indoor and outdoor and write down your findings.
2. The heating up will be done in the form of a Lamp with a lightbulb ( this can take some time so be patient)

Indoor

Outdoors

River sand

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Leam sand

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Clay sand

Potting soil

Cement

Rock any

Grass

Any other plant

Water

Did you know that coastal provinces have milder winters than those that are inland? For example, for the last 29 years, the average winter temperature (December to March) was  $-4.6^{\circ}\text{C}$  in Collegeville, Nova Scotia, but in Ottawa, Ontario, it was  $-7.0^{\circ}\text{C}$ , even though they are the same distance north (Latitude  $45^{\circ}\text{N}$ ) and have a similar elevation (about 78 m above mean sea level). There

are lots of factors that affect local climate, but I wonder how much it matters that one is out in the ocean and the other is landlocked. After all, the sun is in both places! Let's see by planning an investigation...

- Does water heat up faster than land?
- Does it matter what is on the land (cityscape vs. vegetation or agricultural crops)?
- Does the type of land matter (soil vs. sand)?