

ENERGY FROM THE SUN (Thermal Insulators)

Which material is best for keeping something warm?



You will need:

- Six or eight jars with lids, or empty drinks cans
- Samples of material - enough to cover each of your containers snugly
- Thermometer
- Water
- Measuring jug

Choose pieces of fake fur fabric, woven wool, newspaper, aluminium foil, bubble wrap, fleece, plus our own suggestions. Think about the thickness of the fabrics.



(Which material do you think will be the "best"? What does "best" mean?)

What to Do:

- Wrap each container in one of your chosen fabrics, fix with tape or elastic bands
- Measure the same amount of hot water into each container until about one third full
- If necessary, plug the hole in the top of each container with a thermometer or piece of blu-tak
- Put the containers on a bed of newspapers in the sun.

What to Measure

- After five minutes measure the temperature of each amount of water.
- Repeat every five minutes
- Record your results.

What did you find out from your results?

Whichever container's water is hottest at the end of the set time, has the "best" thermal insulator.

Think About:

- What you did to make this a FAIR test
- Why you used the newspapers
- What you would change to make the test more accurate next time
- Why it is important to be able to keep things warm

