

How does the material affect how long a drink can stay warm.

Prediction:

I think that tin foil will be best because when we did the test for the eggs, it proved most effective.

How will I make this test fair?

The variable I will change is the material.

The variables I will keep the same is: the same amount of water at the same temperature; same amount of material; the cup; equipment; time measured and size of hole.

I will measure and observe the change of temperature.

Equipment:

- material
- thermometer
- 250 ml of warm water
- a cup
- sellotape
- scissors
- stop watch
- measuring jug
- ruler

Method:

1. Collect all equipment.
2. Place 3 layers of material around the cup.
3. Place water in the cup.
4. Take the temperature to start.
5. Repeat every minute until water reaches room temperature. ( $21^{\circ}\text{C}$ )

Results:

See the table and graph!

Conclusion:

We discovered, overall, that layers of hessian are the best insulator because it traps layers of air between each layer. Tin foil is still a good insulator because it acts as a good barrier to the air hence keeping the warm air in. With bubble wrap, the air inside the bubbles resists changes in temperature.