



MISSION 2 the sky

Temperature Difference

As our balloon carries the package above the clouds, the temperature will change quite a bit. As you go up into the sky the air gets colder and our package will likely experience temperatures as cold as -50F! That is much colder than the temperature on the ground where even on the coldest day of winter we only get to close to -10F.



Description

- We need to make sure our package will have enough heat inside so the equipment will keep working when it gets really cold outside.

Task

- This experiment will show us how cold the temperature will get inside the package and measure how much heat adding a hand warmer will create.

Process

- 1) Clear a place for 2 Styrofoam boxes in freezer
- 2) Put Thermometer #1 inside Box #1 and replace the top
- 3) Activate the hand warmer and add it to box #2 then add Thermometer #2
- 4) Place both boxes in freezer
- 5) Record temperature each minute
- 6) Draw a graph of the temperature vs time

If you only have 1 thermometer, measure the temperature of Box #1 at start and after 20min then measure the temperature of Box #2 at start and after 20min. Compare results.

Conclusions/Results

What was the temperature inside the Styrofoam box in the freezer?
What was the temperature inside the Styrofoam box in the freezer with the hand warmer?
How much warmer did the hand warmer make the box?

Materials

- 2 Styrofoam boxes
- 2 Probe thermometers
- 1 Hand warmer
- 1 Freezer

