

Make up lab
Popcorn lab

You need pages

103-104

Graph paper

Ruler

Two colored pencils

- Answer question 1 as best as you can with looking up the information.
- Answer question 2 by looking up the definitions. Make sure the answer refers to heat transfer.

- In class we performed an experiment to determine:
- A. What are the three types of heat transfer
- B. which type of heat transfer was associated with each device.
- C. Which type of heat transfer was most efficient
- We started the device as soon as we added the popcorn and stopped the device when there was 10 seconds between popped kernels.

1st device- Air Popper

- We placed 1/2 cup of Orville Redenbacher popcorn in the air popper.
- The results are below and pictures of the experiment are on the next pages. Use the pictures to make your observations.
- Time: 2:15 min.
- Unpopped kernels: 5

Air Popper

- Air popper



Air popper

- View inside air popper



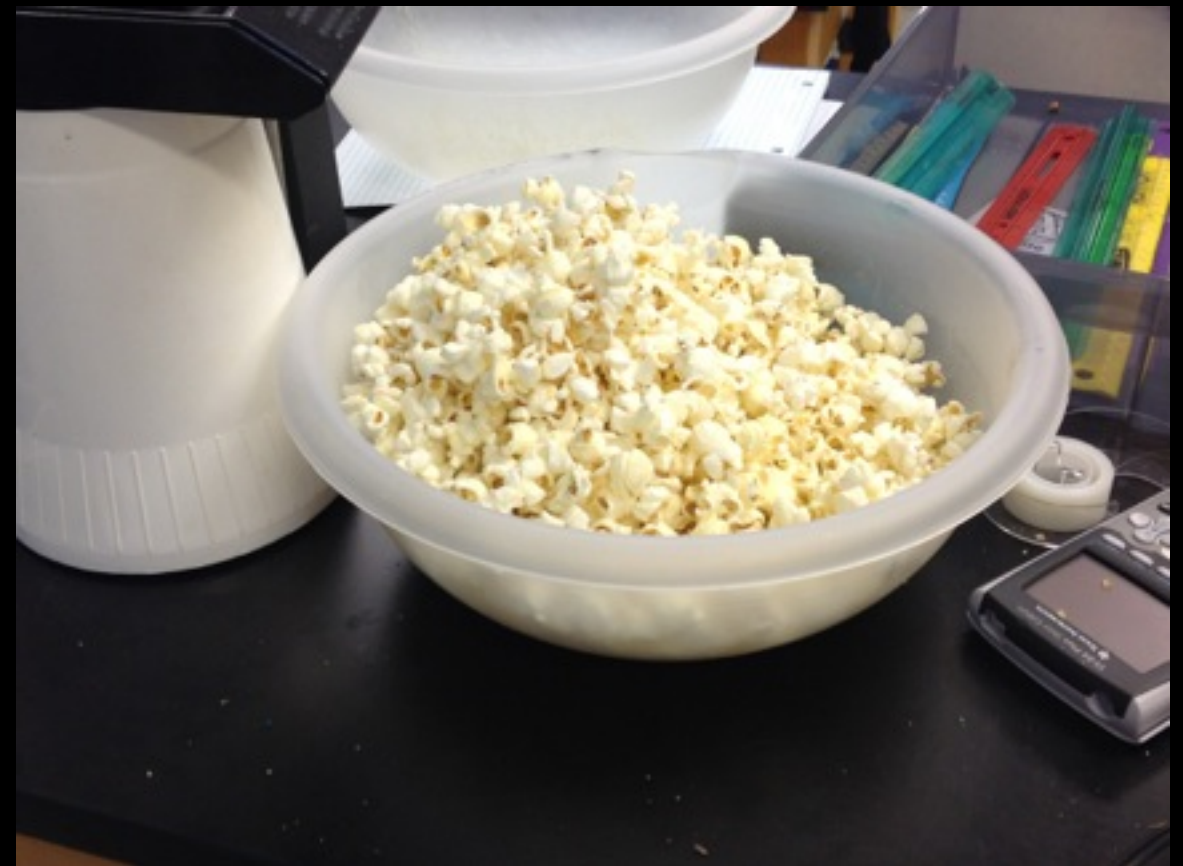
Air popper

- Part way through experiment
- Hot air came out of the popper and we see popcorn rising and sinking inside the metal section of the air popper.
- Popcorn is pushed out the top.



Air popper

- No burnt kernels



2nd Device- Hot plate

- We places one Jiffy Pop buttered popcorn container on the hot plate.
- The results are below and pictures of the experiment are on the next pages. Use the pictures to make your observations.
- Time: 9:06 min
- Unpopped kernels: 100

Hot plate

- As per directions, popcorn sat on the hot plate until it began to sizzle and then it was shook back and forth.



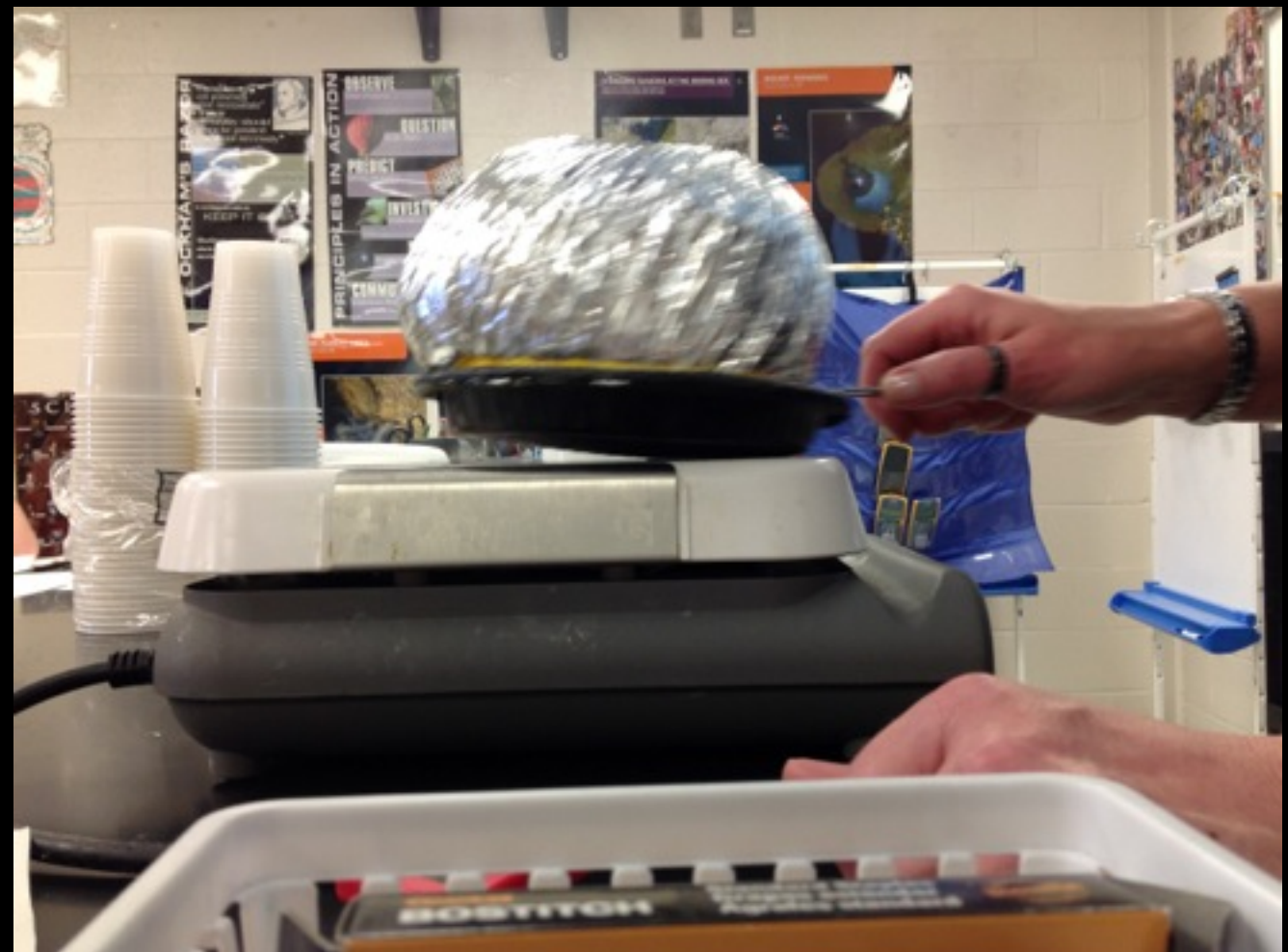
Hot plate

- Steam came out through the hole in the top.
- Foil rose



Hot plate

- Continued to shake until there was 10 seconds between pops



Hot plate

- Notice the amount of left over kernels Unpopped.
- Some of the popcorn was burnt



Hot plate



3rd Device- Microwave

- We placed one full size bag of Pop Secret popcorn into the microwave.
- The results are below and the pictures of the experiment are on the next pages. Use the pictures to make your observations.
- Time: 2:30 min
- Unpopped kernels: 10

Microwave

- One full sized bag



Microwave

- Inside microwave



- Finished experiment



- A few of the kernels were burnt



Instructions

- Make a data table of the results
- Make a graph of the data. You will have two Y axis, one on the left (time) and one on the right (Unpopped kernels)
- Answer the analysis questions

Device	Time (min)	Unpopped kernels
Air popper		
Hot plate		
Microwave		