

Name _____ Date _____



Popcorn Experiment

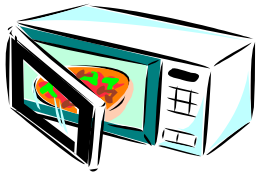
Conduction, Convection, Radiation



Station 1 - Microwave popcorn

Directions: Microwave a bag of microwave popcorn for 2 minutes.

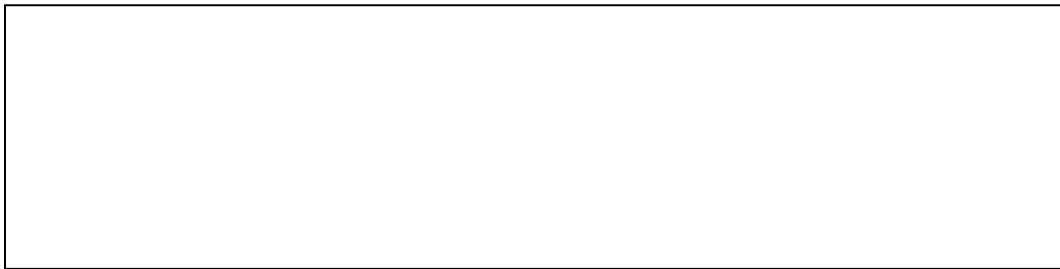
Observe what happens as the popcorn is popped and fill out the chart on the other side of this lab paper.



How is heat reaching the kernels?

What type of heat transfer is this? Explain why.

In the box, draw a simple diagram showing the transfer of energy. Make sure to label how the heat is transferred.



Station 2 - Stove/hot plate popcorn

Directions: Put 1 Tablespoon of oil in the bottom of a pan and $\frac{1}{4}$ cup of popcorn kernels. Place the pan on the hot plate and turn on the burner to level 8. Cover the pan with a lid. Periodically shake the pan side to side **without lifting** off the hot plate so the kernels move around in the oil.

Observe what happens as the popcorn is popped and fill out the chart on the other side of this lab paper.



How is heat reaching the kernels?

What type of heat transfer is this? Explain why.

In the box, draw a simple diagram showing the transfer of energy. Make sure to label how the heat is transferred.



Station 3 - Popcorn popper

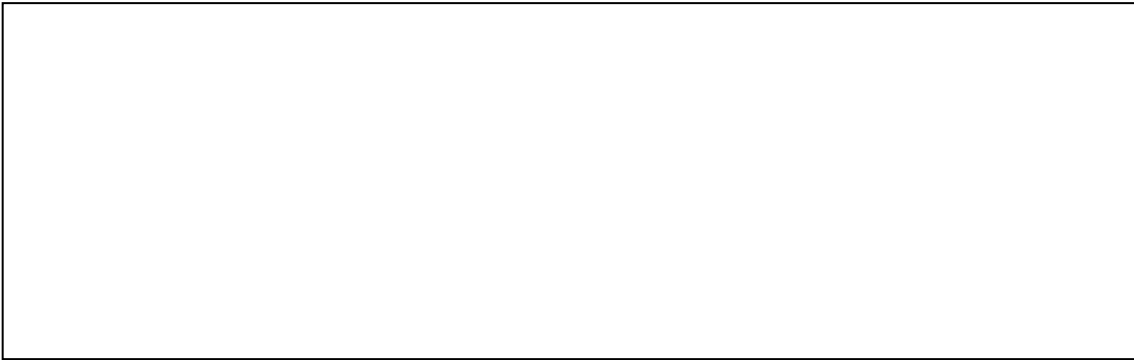
Directions Obtain a popcorn popper. Place $\frac{1}{4}$ cup of popcorn kernels in the popper. Plug in/turn on the popper, place a bowl at the open end to catch the popcorn as it pops out



Observe what happens as the popcorn is popped and fill out the chart on the bottom of this lab paper.
How do the kernels heat?

What type of heat transfer is this? Explain why.

In the box, draw a simple diagram showing the transfer of energy. Make sure to label how the heat is transferred.



Data Table - Complete this data table while making observations

	Start Time	Time First Kernel Popped	Time Last Kernel Popped	Total Time (from start time to last kernel popped)
Microwave Popcorn				
Hotplate Popcorn				
Air Popper Popcorn				

Station 4 – Energy Transfer Examples

Directions – Identify each example as conduction, convection or radiation.

1. _____	13. _____
2. _____	14. _____
3. _____	15. _____
4. _____	16. _____
5. _____	17. _____
6. _____	18. _____
7. _____	19. _____
8. _____	20. _____
9. _____	21. _____
10. _____	22. _____
11. _____	23. _____
12. _____	24. _____