



# Three Ways to Transfer

Engage



Explore



**Materials:** Hot plate, Jiffy Pop popcorn OR pot with lid, oil, popcorn, Air popper, popcorn, microwave, bag of microwave popcorn

**What To Do:**

1. Your teacher will use the hot plate and Jiffy Pop popcorn to cook the popcorn.
2. Describe what you observe about what caused the popcorn to pop below.

1. Describe what you observe in the picture above.

2. At what temperature does water freeze in degrees Celsius?

3. At what temperature does water freeze in degrees Fahrenheit?

4. Why do you think the ice is melting?

3. Your teacher will use an air popper to cook the popcorn.
4. Describe what you observe about what caused the popcorn to pop below.

5. Your teacher will use a microwave oven to cook a bag of microwave popcorn.

6. Describe what you observe about what caused the popcorn to pop below.

## HEAT TRANSFER

Explain



### CONDUCTION

### CONVECTION

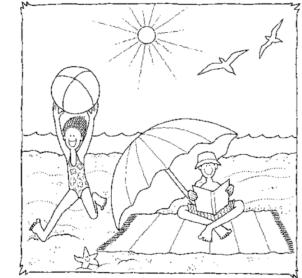
### RADIATION

Write the definitions of each type of heat transfer under the flaps as your teacher presents them.

Cut out and glue the examples of each type of heat transfer and glue on the back of the flap.



Heat moves from the flames to the rocks.



Heat moves from sun through the vacuum of space to the Earth.



Heat moves from the bottom of the pot through the water to the top of the pot.



## Elaborate

Watch the video Conduction, Radiation, Convection from Untamed Science found at  
<https://www.youtube.com/watch?v=NbtVpqYKJWM&t=5s>

1. What example of conduction did they use in the video?

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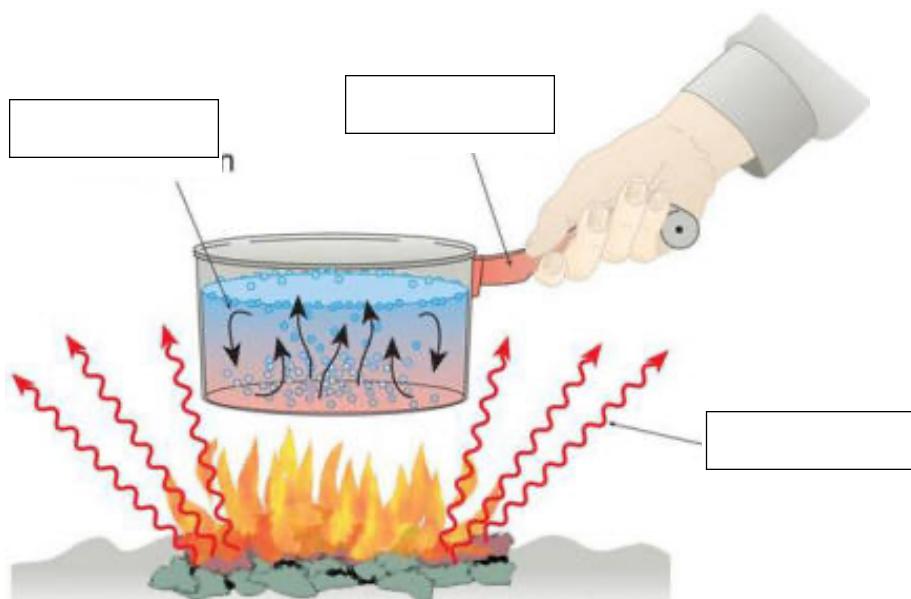
2. What example of radiation did they use in the video?

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3. What example of convection did they use in the video?

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Label each type of heat transfer in the picture below.



## Evaluate

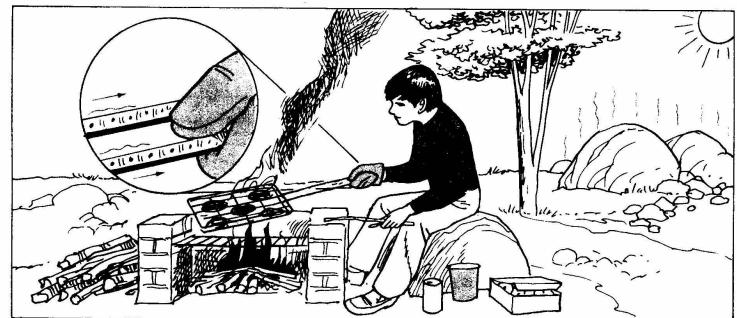
Name \_\_\_\_\_ period \_\_\_\_\_

## EXIT TICKET

Three Ways to Transfer

**Match the term in column A with description in column B**

_____ 1. Convection	a. way heat moves through empty space
_____ 2. Conduction	b. the movement of thermal energy between substances
_____ 3. Radiation	c. way heat moves through solid matter
_____ 4. Heat Transfer	d. way of heat moving through liquids and gases



5. What is an example of the transfer of heat by radiation in the picture?

- a. hot handle touching the glove
- b. smoke rising in the air
- c. heating of the rocks by the sun

6. What is an example of the transfer of heat by conduction in the picture?

- a. hot handle touching the glove
- b. smoke rising in the air
- c. heating of the rocks by the sun