


Topic: Heat Transfer

Essential Question:
How does heat transfer differently through solids, liquids, and gases?

Please set up cornell notes



Sep 20-9:10 PM

Name some things that are heated:

Air, House, Car, water,
Stove, pipes, us (people),
heater, computer, animals, dragon's egg,
lights, sun, heat lamp,

Sep 20-9:16 PM

There are 3 types of heat transfer:

- Conduction
- Convection
- Radiation

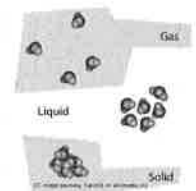
Sep 20-9:13 PM

Before we can define these words, we need to know the difference between a solid, liquid, and gas.

Turn to your neighbor and discuss:
How do you know if something is solid?
How do you know if something is liquid?
How do you know if something is a gas?

Sep 19-7:44 AM


Solid: Keep their shape. Example: desk
Liquid: Take the shape of their container. Example: water
Gas: No shape. Example: air



WHY does this happen? Take H₂O for example. How are ice, water, and water vapor different?

Sep 21-8:49 AM

The red balls represent
ATOMS



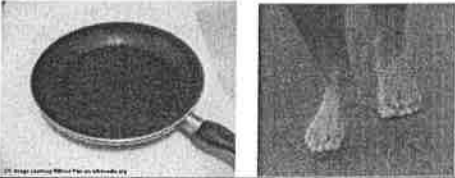
GAS **LIQUID** **SOLID**

Sep 18-7:06 PM

Conduction

Conduction is the transfer of heat through a solid material.

Can you think of an example?

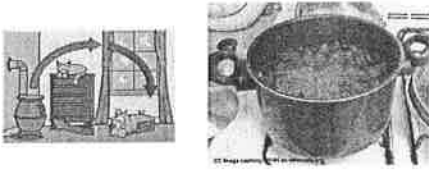


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Convection

Convection is the transfer of heat through liquids and gases.

Can you think of an example?

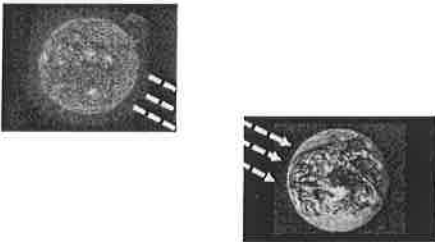


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Radiation

Radiation occurs when heat is transferred without solids, liquids or gases.

Most radiation comes from the sun.

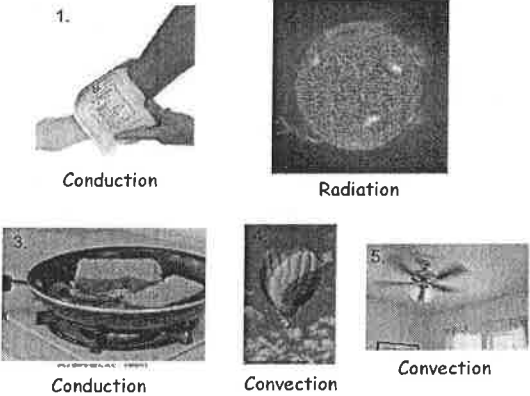


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VIDEO LINK:
<https://www.youtube.com/watch?v=TDOJELI-m8w>

Apr 12-7:46 PM



(Erase below picture to reveal)

Sep 14-8:54 AM

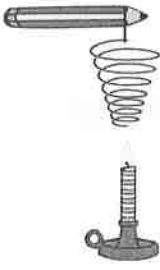
Check your understanding!

Conduction	Convection	Radiation
<input type="checkbox"/> boiling water <input type="checkbox"/> frying pan <input type="checkbox"/> ironing clothes	<input type="checkbox"/> boiling water <input type="checkbox"/> hot air balloon	<input type="checkbox"/> sun <input type="checkbox"/> lava lamp <input type="checkbox"/> campfire

Oct 21-9:00 PM

Try This!

Cut a piece of paper into a spiral and attach a string to one end. Tie the string to the end of a pencil. Hold the spiral above a heat source and watch what happens!



Does this demonstrate conduction, convection, or radiation?

Sep 20-9:26 PM

Why do I care about heat transfer?

- Warm or cool your house
- Walking on the street in the summer barefoot
- Dive into a swimming pool in the winter
- How should I dress today?
- Grabbing a hot dish out of the oven



Sep 19-7:54 AM


Homework:

Heat Transfer Worksheet
(Available for free download at this link)



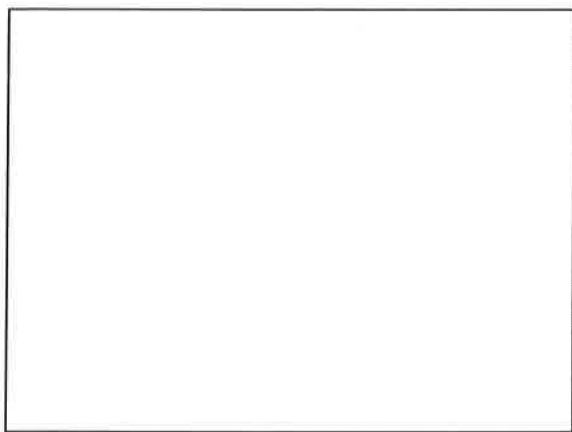
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If you are satisfied with this lesson, please leave positive feedback! Thanks!



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Sep 15-11:12 AM



Apr 16-6:58 AM