Cohen Middle School
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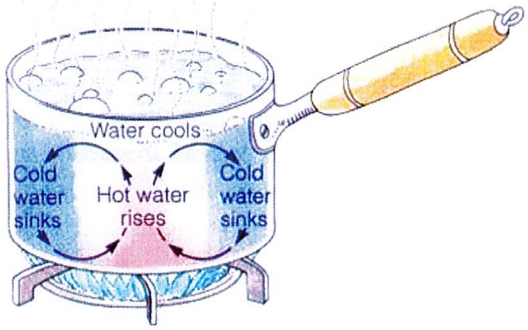
Name: _____ **Date: March 13, 2020**____

Math:	2 Step Equations
Social Studies:	- **4 Governments of Greece** **HW: Owed Work**
ELA:	Daily Warm Up Finish Online Quiz Conjunctions - abcya.com
Science	(1) review page 10 - Heat Transfer (2) See: Weather Underground current radar + fronts (3) Convection in the Air Demonstration and drawing (page 11)
Computer Apps/ Technology	(4) Read + Discuss "Convection" Green Book Pg 33

Focus Question: How does energy transfer impact the movement of warm and cool air masses?
Task 1: Can water of two different temperatures form layers? **Yes No**

Copy into NB, Page 9



Explanation:

- **<u>Convection</u> is the movement of fluids due to a difference in density, resulting from temperature.**
- **<u>Convection</u> happens when particles in air, liquid, and/or gasses are free to move.**
- **Heat transfers from More heat - to - less heat**

Three types of Energy Transfer

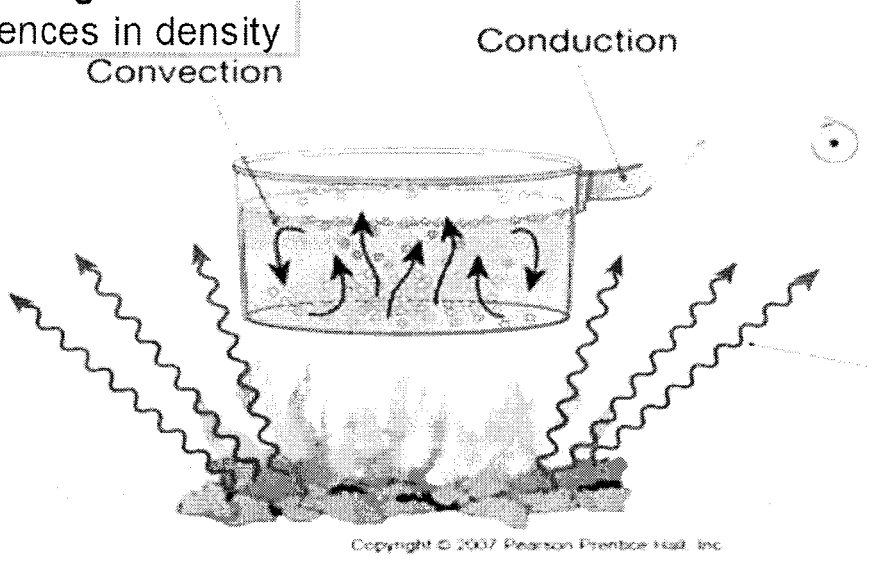
We claim this form of energy transfer is...

We know this because the molecules in fluids are moving due to differences in density

We claim this type of energy transf

conduction

WE know this because heat is being tranferred from more heat to less heat by *contact*

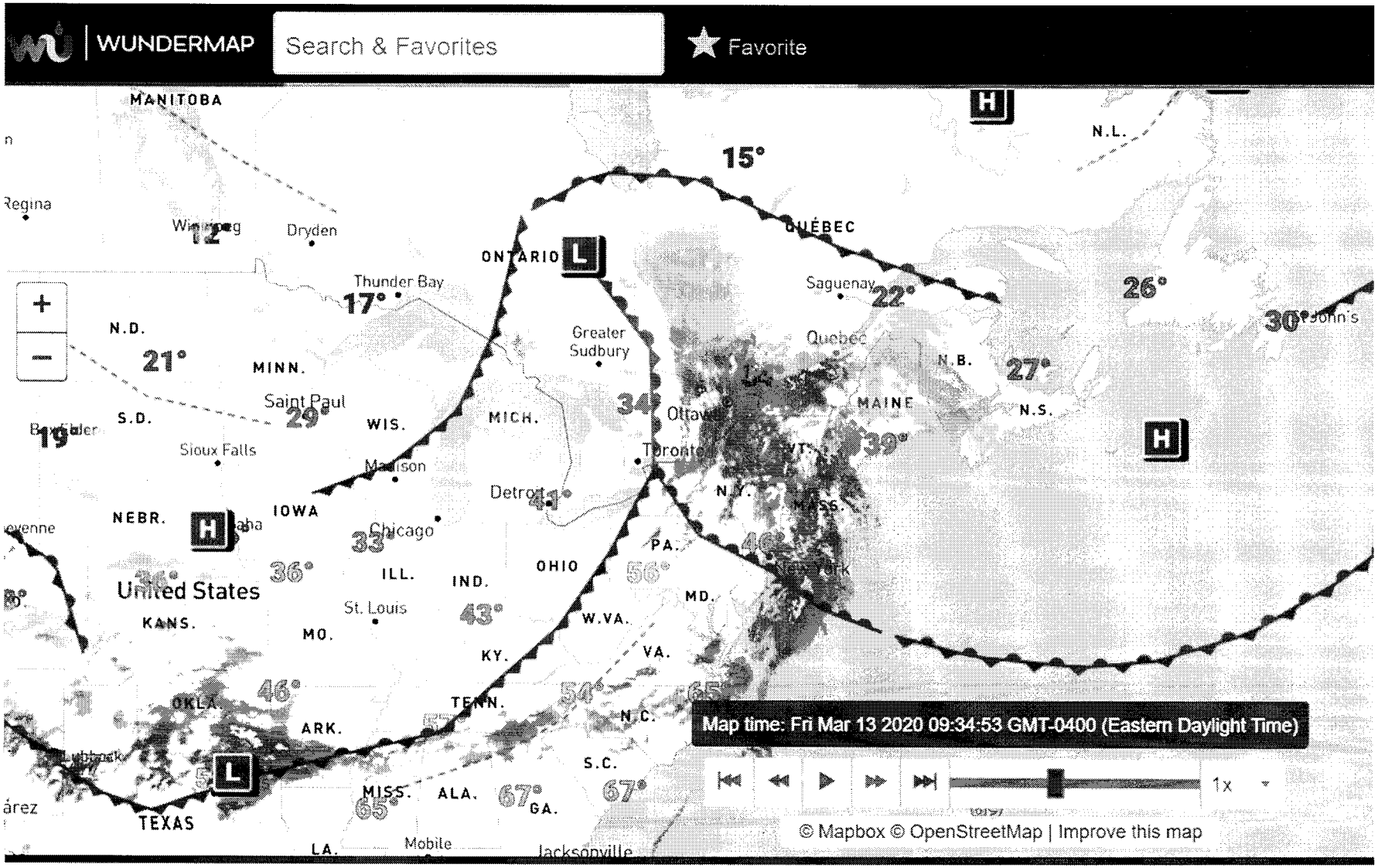


WE claim this type of energy transfer is Radiation

We know this because heat energy is being transferred through waves or rays (no direct contact)

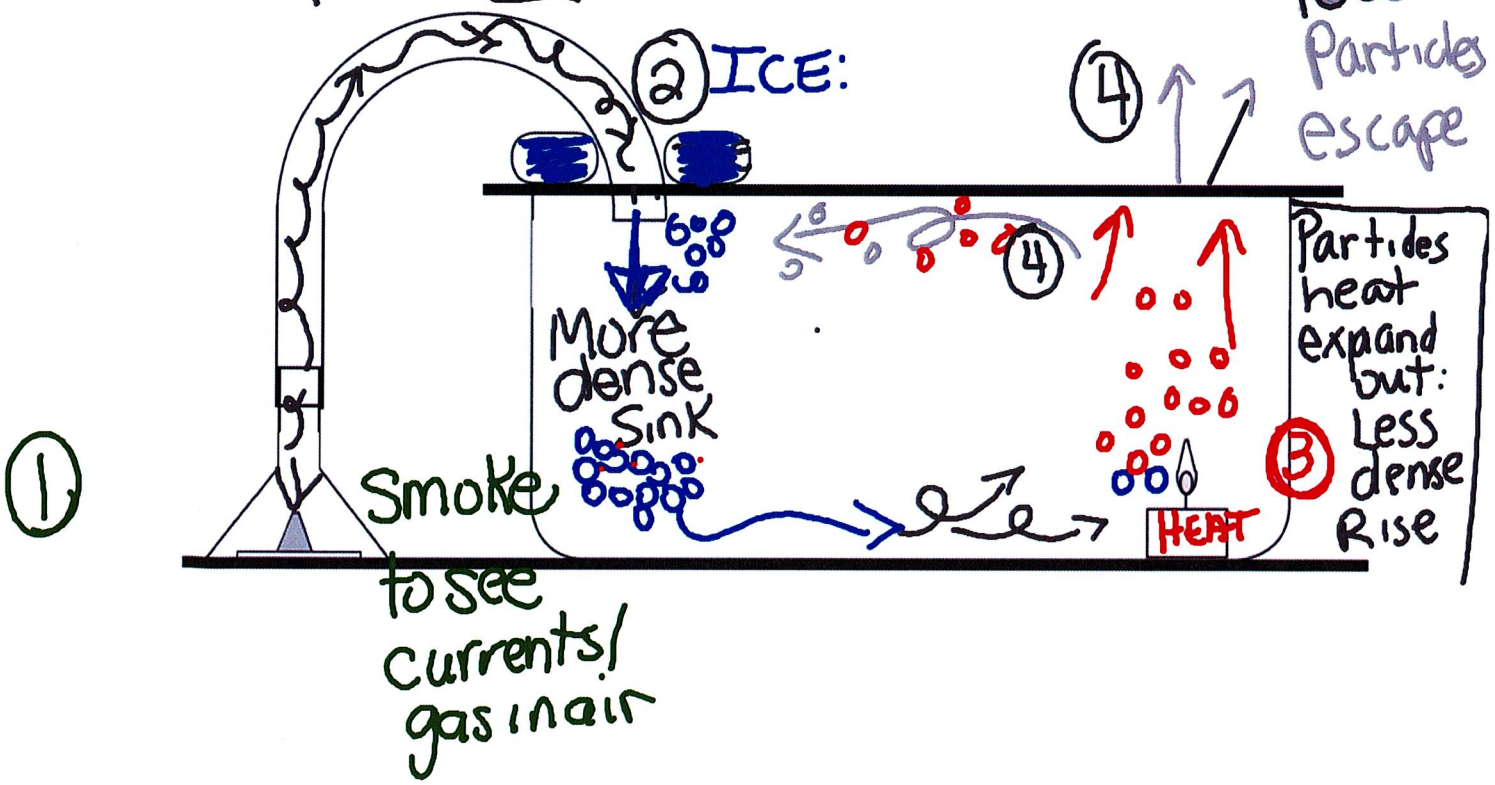
What do you see? Fronts / precipitation **March 13, 2020**

Look outside: observe cloud formations & direction of movement



Convection

The particles come in contact with the ice: COOL



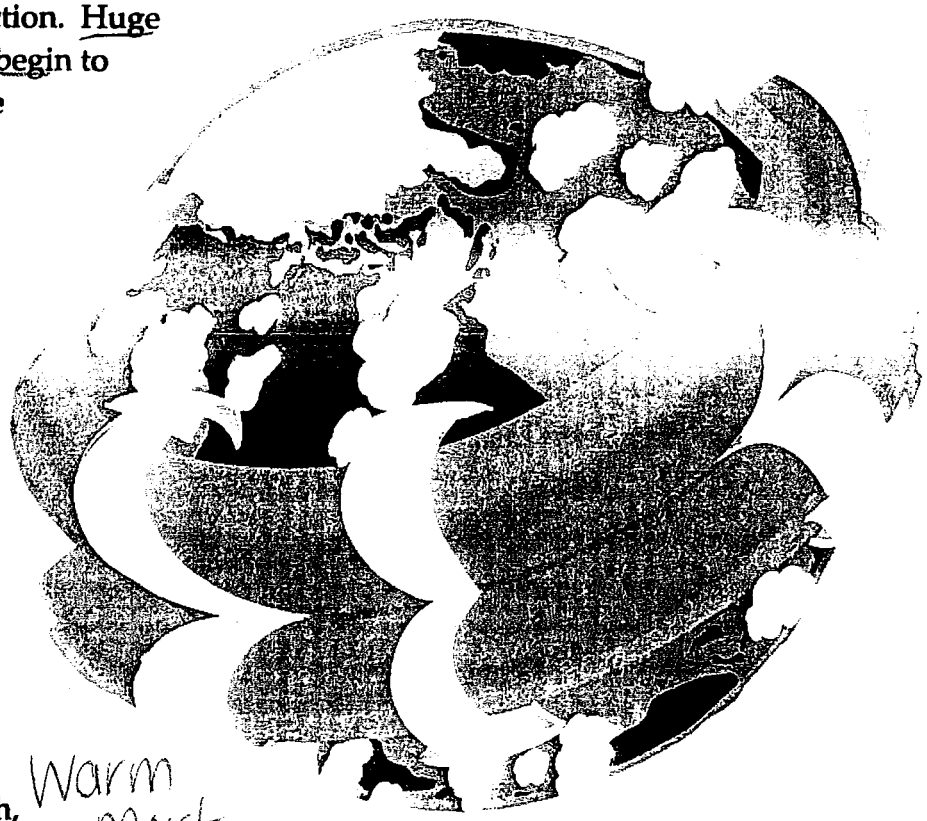
Convection

Science 6

Air is a fluid. Energy can transfer to air, causing it to expand. When air expands, it becomes less dense. Less-dense air will rise in the atmosphere.

Warm air

This is exactly what happens in the real world. Earth's surface is always warm in the tropics, the part of the planet near the equator. Water in the tropical oceans absorbs a lot of solar energy. Air in contact with the tropical seas receives a lot of energy by reradiation and conduction. Huge masses of air heat up and begin to rise. This is the start of the largest convection cell on Earth.



The equatorial convection cells circle the globe like two bicycle inner tubes. Because much of the energy transfer occurs over the ocean, large amounts of water vapor rise high into the atmosphere, riding along in the convection cell. The warm, moist air spreads out north and south, and it cools. When the air cools, water vapor condenses into droplets of liquid water. Large numbers of little droplets of water form clouds. And we all know what happens after clouds form—rain.

Warm Moist Maritime

In the next few investigations, we will see how the process of convection helps redistribute water around the planet and affects wind, everything from gentle breezes to powerful, dangerous storms.

www.FOSSweb.com

Objective: **Solving Equations**

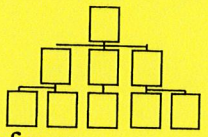
Vocabulary

Expression: A combination of variables, numbers, and symbols representing a mathematical relationship

Equation: A statement that two mathematical expressions are equal

Inverse Operation: Operations that do the exact opposite of each other

Notes/Rules/Steps/Procedures



Inverse Operations
Addition and Subtraction
Multiplication and Division

One Step Equations
Only one operation to perform

Hints
Equations must stay **balanced**
Do it to **both** sides
Goal: Isolate the variable
You want the variable **alone**

Two Step Equations
2 or more operations to perform
Do addition or subtraction 1st
Do multiplication or division 2nd

One-Step Equation

$26 + x = 35$ Identify the current operation (addition) and its inverse

$26 + x = 35$ Take the ***inverse*** of the operation on **both** sides
$-26 \quad\quad -26$

$x = 9$ Solve for x (or any variable)

Two-Step Equation

$6x + 5 = 53$ Identify addition/subtraction operations first

$6x + 5 = 53$ Take the addition/subtraction inverse on both sides
$-5 = -5$
$6x = 48$ Identify multiplication/division operations second

$\frac{6x}{6} = \frac{48}{6}$ Take the multiplication/division inverse on both sides

$1x = 8$ Solve for x (or any variable)

Name _____Call me, a detective!

You are a detective trying to determine the long lost sibling of the Duchess of Yorkshire. In order to find her long lost sibling you have to solve the problems. For every problem you solve you will get another clue to draw a sketch of her sibling. Once you have solved all of the problems draw a sketch to help reunite the Duchess with her family.

Problem 1:

$2x - 4 = 8$ **Check:**

Answer Choices:

6	8	4
Red Hair	Brown Hair	Blonde Hair

Problem 2:

$\frac{x}{5} + 4 = 10$ **Check:**

Answer Choices:

20	25	30
Green Eyes	Brown Eyes	Blue Eyes

Problem 3:

$4x - 10 = 22$ **Check:**

4	7	8
Fair Tone	Medium Tone	Dark Tone

Problem 4:

$8x - 10 = 42$ **Check:**

2	3	4
Button Nose	Pointy Nose	Wide Nose

Problem 5: **Check:**

$\frac{x}{9} + 13 = 28$

Odd number answer	Even number answer
Male	Female

Draw the Duchess's long lost sibling here: