

Brandon Valley School District
District Learning Plan
April 13-17, 2020

Grade 6 Science



Brandon Valley School District Distance Learning Plan

LESSON/UNIT: WEATHER/CLIMATE

SUBJECT/GRADE: Science/6th

DATES: April 13-17



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| <p>What do students need to do?</p> <p>Link to important video message</p> <p>Link to BV instructional video for week of April 13-17, 2020</p> | <p>This week, you will read and complete an activity on AIR MASSES and AIR FRONTS</p> <p>Monday (4/13): No School</p> <p>Tuesday (4/14): AIR MASSES (Worksheet) Part 1: Read the worksheet</p> <p>Wednesday (4/15): AIR MASSES (Worksheet) Part 2: Re-read the worksheet and complete the answers on the ANSWER DOCUMENT</p> <p>Thursday (4/16): AIR FRONTS (Worksheet) Part 1: Read the worksheet</p> <p>Friday (4/17): AIR FRONTS (Worksheet) Part 2: Re-read the worksheet and complete the answers on the ANSWER DOCUMENT</p> |
| <p>What do students need to bring back to school?</p> | <p>Submit the Answer Document (Choose one way to submit from the list below)</p> <ul style="list-style-type: none"> ● Complete answer document by paper and pencil and submit to BVIS ● Complete answer document electronically through GOOGLE CLASSROOM |
| <p>What standards do the lessons cover?</p> | <p>MS-ESS2-4 Develop a model to describe the cycling of water through Earth’s systems driven by energy from the sun and the force of gravity.</p> <p>MS-ESS2-5 Collect data to provide evidence for how the motions and complex interactions of air masses results in changes in weather conditions</p> <p>MS-ESS2-6 Develop and use a model to describe how unequal heating and rotation of the Earth cause patterns of atmospheric and oceanic circulation that determine regional climates.</p> <p>(All Days)</p> <p>MS-ESS3-3 Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment</p> <p>MS-ESS3-5 Ask questions to clarify evidence of the factors that may have caused a change in global temperatures over the past century</p> |
| <p>What materials do students need? What extra resources can students use?</p> | <p>Need:</p> <ol style="list-style-type: none"> 1. Two worksheets (PDF or Online) 2. Answer document (PDF or on Google Classroom) 3. Paper and Pencil <p>Extra:</p> <ol style="list-style-type: none"> 1. https://my.mheducation.com/login (Student online textbook- Chapter 14) 2. http://studyjams.scholastic.com/studyjams/jams/science/index.htm (Weather & Climate) |
| <p>What can students do if they finish early?</p> | <p>(Optional- With parent or guardian permission and supervision)</p> <p>PICK A TOPIC FROM THE WEEK AND CREATE AN EXPERIMENT:</p> <ol style="list-style-type: none"> 1. Create a PROBLEM: What question are you trying to answer 2. Create a HYPOTHESIS: Come up with an educated guess for the question 3. Create an EXPERIMENT: What are the Materials needed and Procedures for the experiment 4. What are the RESULTS: What data or information were you able to collect |

| | |
|--|--|
| | <p>5. CONCLUSION: Was your hypothesis right or wrong? What did you learn based on the data?</p> <p>6. Send a picture to you Science Teacher</p> |
| <p>Who can we contact if we have questions?</p> | <p>Brandon Valley Intermediate School Principal- Mr. Skibsted- Nick.Skibsted@k12.sd.us Assistant Principal- Mr. Pearson- Rick.Pearson@k12.sd.us Science Teachers: Mr. Putnam- Mike.Putnam@k12.sd.us (blue team) Ms. Grieve- Tami.Grieve@k12.sd.us (silver team) Ms. Schindling- Kayla.Schindling@k12.sd.us (red team) Mr. VanHeel- Jeremy.VanHeel@k12.sd.us (white team)</p> |
| <p>Notes: Please feel free to reach out if you have any questions. We as a Science Team would love to discuss the information with you.</p> | |

Instructional materials are posted below (if applicable)

Brandon Valley School District

MS-ESS2-4 Develop a model to describe the cycling of water through Earth's systems driven by energy from the sun and the force of gravity.
MS-ESS2-5 Collect data to provide evidence for how the motions and complex interactions of air masses results in changes in weather conditions
MS-ESS2-6 Develop and use a model to describe how unequal heating and rotation of the Earth cause patterns of atmospheric and oceanic circulation that determine regional climates.

What are air masses?

Large bodies of air

From when the air over a large region sits in one place for many days

The air gradually takes on characteristics of the land or water it

How do air masses affect our weather?

As an air mass moves, it brings its characteristics with it

Changes weather

What are the two characteristics that describe air masses?

Two words each

- One for **MOISTURE**
- One for **TEMPERATURE**

When describing moisture what words can we use?

The first word of an air mass tells where the mass was formed (over LAND or WATER)

Continental

- Air masses formed over *LAND*
- Moisture: *DRY*

Maritime

- Air masses formed over *WATER*
- Moisture: *WET*

When describing temperature what words can we use?

The second word of an air mass tells whether an air mass was formed close to the equator or pole

Tropical

- Air masses formed near the *EQUATOR*
- Temperature: *WARM AIR*

Polar

- Air masses formed closer to the *POLES*
- Temperature: *COL AIR*

What are the 4 major air Masses?

The four major air masses are:

- Maritime Tropical (moist warm air)
- Continental Tropical (dry warm air)
- Maritime Polar (moist cold air)
- Continental Polar (dry cold air)

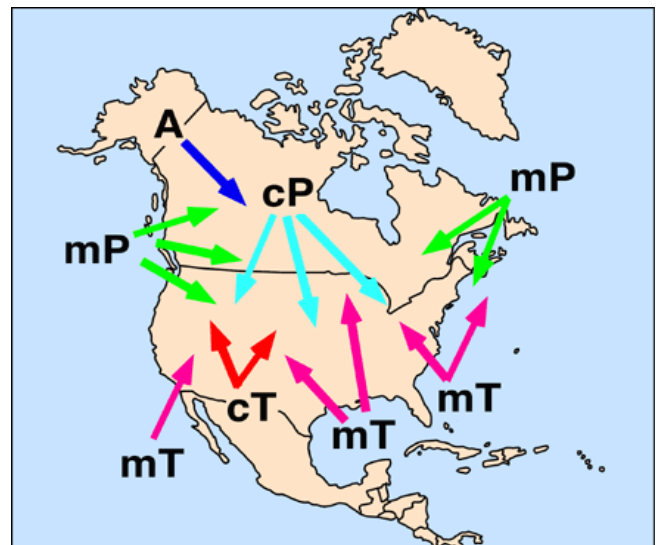
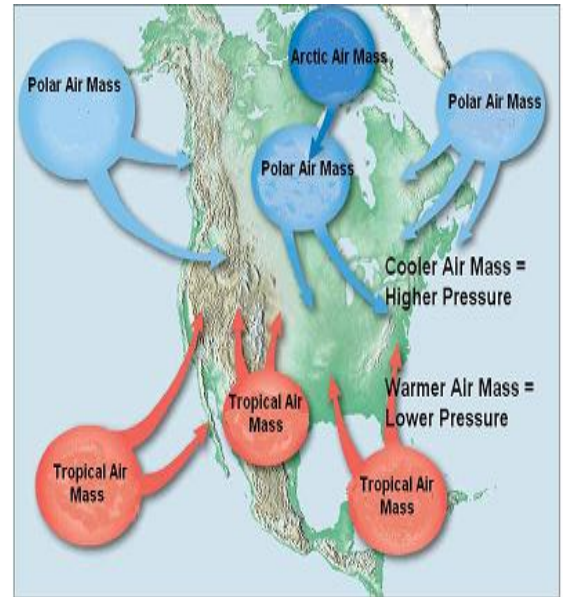
What moves air Masses?

Winds

Air masses can travel away from the regions where they form

- Can move with global winds and jet streams

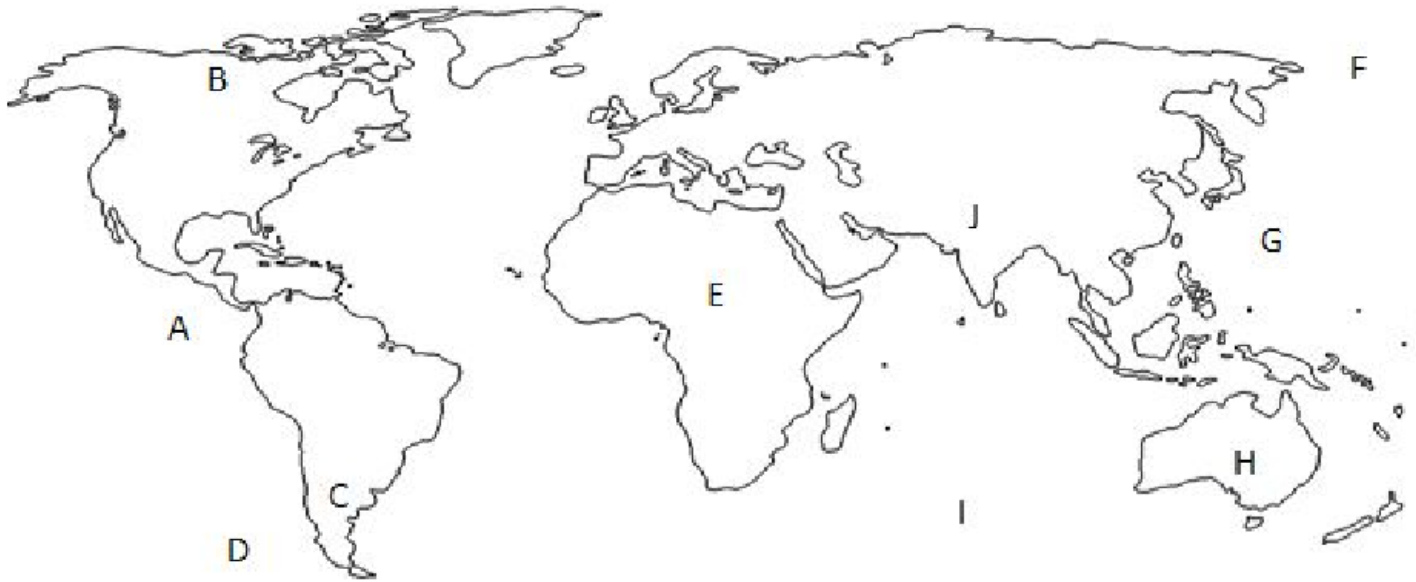
As the air mass moves it changes



MS-ESS2-4 Develop a model to describe the cycling of water through Earth's systems driven by energy from the sun and the force of gravity.
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 MS-ESS2-6 Develop and use a model to describe how unequal heating and rotation of the Earth cause patterns of atmospheric and oceanic circulation that determine regional climates.

Name: _____ Period: _____

Air Mass Worksheet



| Letter | Temperature (Hot or Cold) | Moisture (Dry or Moist) | <i>Air Mass Name</i> (Maritime Tropical, Maritime Polar, Continental Tropical, Continental Polar) |
|--------|------------------------------|----------------------------|---|
| A | | | |
| B | | | |
| C | | | |
| D | | | |
| E | | | |
| F | | | |
| G | | | |
| H | | | |
| I | | | |
| J | | | |

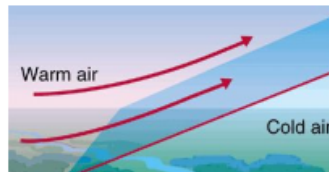
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Name: _____ Period: _____

AIR FRONT NOTES

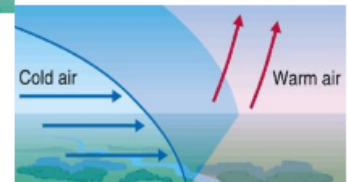
What is it called when 2 air masses meet?

- Front



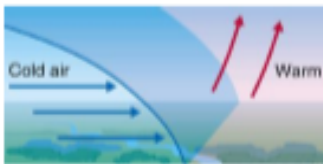
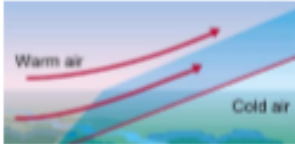
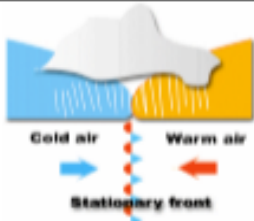
What happens at a front?

- Weather Changes
- Clouds and precipitation are often formed



What are the three different types of fronts?

- Cold Front
- Warm Front
- Stationary Front

| | Cold Front | Warm Front | Stationary Front |
|--|--|---|---|
| Description (State what type of air mass meets the other type of air mass) | <ul style="list-style-type: none"> • Mass of cold, dense air moves in • Warmer air ahead of it is pushed upward (its less dense) and condenses forming precipitation | <ul style="list-style-type: none"> • Mass of warm air moves in • Warm air moves above/on top the cold air (it's less dense) • Moisture in the warm air condenses, producing cloud-covered skies. | <ul style="list-style-type: none"> • Occurs when air masses meet and stop moving. • The air can still move sideways • Whatever front advances first decides which it will be |
| Weather that occurs at the boundary | Heavy Storms | Hours of rain or snow | X |
| What type of cloud do you find at the front? | Cumulonimbus | Cirrus and Stratus | Cirrus and Stratus |
| Weather you will find after | Cool and Clear Skies | Warmer Weather | Either the weather of a warm front or a cold front |
| Ways to identify that the front is occurring | <ul style="list-style-type: none"> • Heavy Storms Occur • Temperature Drops • Barometric Pressure Drops | <ul style="list-style-type: none"> • Steady Rain Occurs • Temperature Increases • Barometric Pressure Drops | X |
| Picture |  |  |  |

Air Front Questions

MS-ESS2-4 Develop a model to describe the cycling of water through Earth's systems driven by energy from the sun and the force of gravity.
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MS-ESS2-6 Develop and use a model to describe how unequal heating and rotation of the Earth cause patterns of atmospheric and oceanic circulation that determine regional climates.

1. Examine the following diagram and answer the following questions.

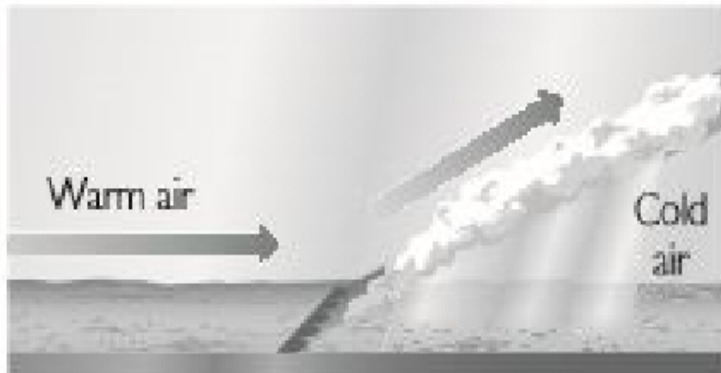


What type of front is illustrated?

How did you identify this front?

2. Explain why warm air is pushed up by the cold front.
3. Where are clouds formed when there is a cold front?

4. Examine the following diagram and answer the following questions.



What type of front is illustrated?

How did you identify this front?

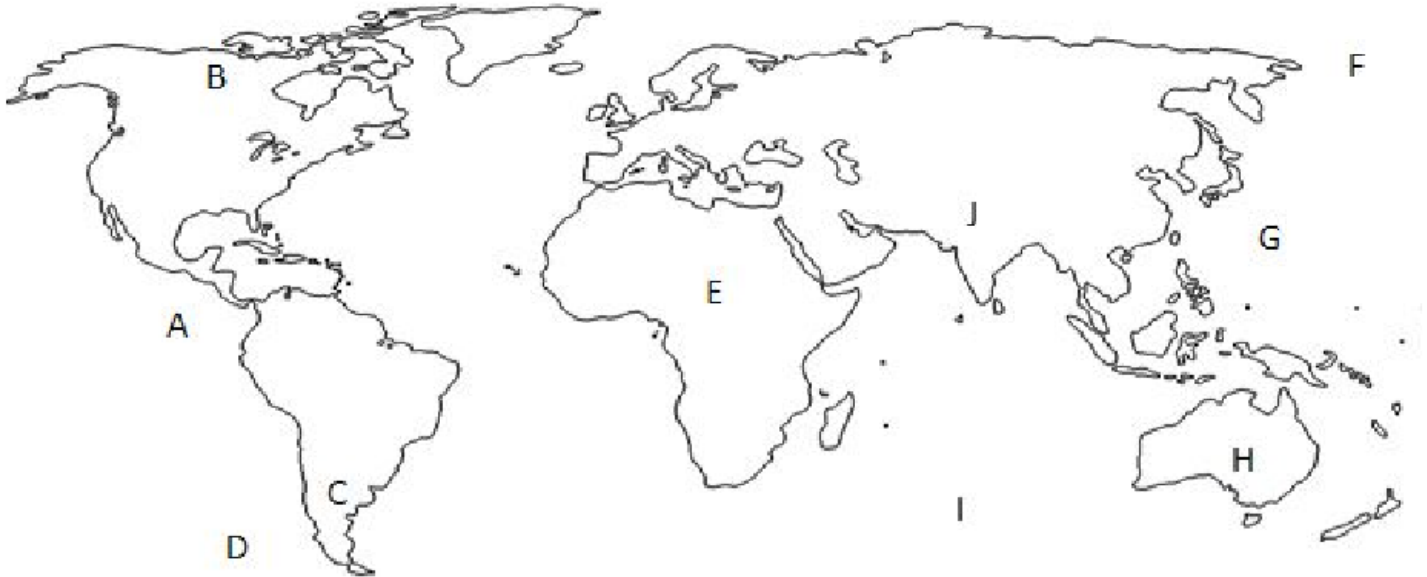
5. What happens to the warm air when it overtakes the cold air?
6. Where do clouds form when there is a warm front?

Tuesday, April 14th - (Air Masses Worksheet)

Directions- After reading the information on the Coriolis Effect, answer the following questions below.

Name: _____ Period: _____

Air Mass Worksheet



| Letter | Temperature (Hot or Cold) | Moisture (Dry or Moist) | Air Mass Name Maritime Tropical, Maritime Polar, Continental Tropical, Continental Polar |
|--------|------------------------------|----------------------------|--|
| A | | | |
| B | | | |
| C | | | |
| D | | | |
| E | | | |
| F | | | |
| G | | | |
| H | | | |
| I | | | |
| J | | | |

Thursday, April 16th - (Air Fronts Worksheet)

Directions- After reading the information on the Air Fronts, answer the following questions below.

1. Examine the following diagram and answer the following questions:

a. What type of front is illustrated?



b. How did you identify this front?

2. Explain why warm air is pushed up by the cold front.

3. Where are clouds formed when there is a cold front?

4. Examine the following diagram and answer the following questions:

a. What type of front is illustrated?



b. How did you identify this front?

5. What happens to the warm air when it overtakes the cold air?

6. Where do clouds form when there is a warm front?