Brandon Valley School District

District Learning Plan

May 11-15, 2020

Grade 6 Science

Brandon Valley School District Distance Learning Plan

LESSON/UNIT: Human Impact **SUBJECT/GRADE: 6th Science** **DATES: May 11 - 15, 2020**

What do students need to do? **Link to BV instructional video for week of May 11 -May 15, 2020**	Monday (5/11): ● Read the Newsela article "Life in a Greenhouse? How Ghastly?" Tuesday (5/12): ● Re-read the Newsela article "Life in a Greenhouse? How Ghastly?" and answer the four article questions. Record your answers on the ANSWER DOCUMENT. Wednesday (5/13): ● Complete questions 1-10 on the Carbon Footprint Worksheet Thursday (5/14): ● Calculate your carbon footprint on the Carbon Footprint Worksheet Friday (5/15): ● Complete the reflection questions on the Carbon Footprint Worksheet
What do students need to bring back to school?	Answer Document (Choose one way to submit from the list below) 1. Complete answer document electronically through GOOGLE CLASSROOM 2. Complete answer document by paper and pencil and submit to BVIS
What standards do the lessons cover?	MS-ESS3-3 Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment MS-ESS3-4 Construct an argument supported by evidence for how increases in human population and per capita consumption of natural resources impact Earth's systems. MS-ESS3-5 Ask questions to clarify evidence of the factors that may have caused a change in global temperatures over the past century
What materials do students need? What extra resources can students use?	Need: 1. One Newsela article (PDF or Online) 2. One worksheets (PDF or Online) 3. Answer document (PDF or on Google Classroom) 4. Paper and Pencil Extra: 1. https://my.mheducation.com/login (Student online textbook- Chapter 14)
What can students do if they finish early?	Greenhouse effect- Create a model of how the greenhouse effect works. Take a picture and send it to your teacher. Carbon Cycle- ● TedEd Video- https://www.youtube.com/watch?v=A4cPmHGegKI ● Interactive website- https://www.windows2universe.org/earth/climate/carbon_cycle.html Digital Carbon Footprint Calculator- https://www.nature.org/en-us/get-involved/how-to-help/carbon-footprint-calculator/
Who can we contact if we have questions?	**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)
Notes:	

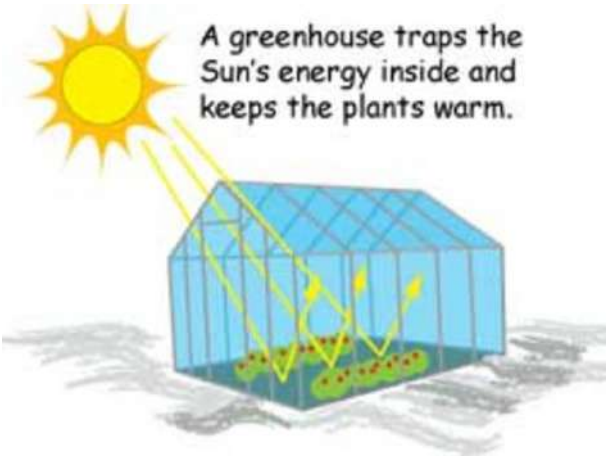
Instructional materials are posted below (if applicable)

Life in a greenhouse? How ghastly!

By NASA.gov on 03.07.17
Word Count **573**
Level **MAX**

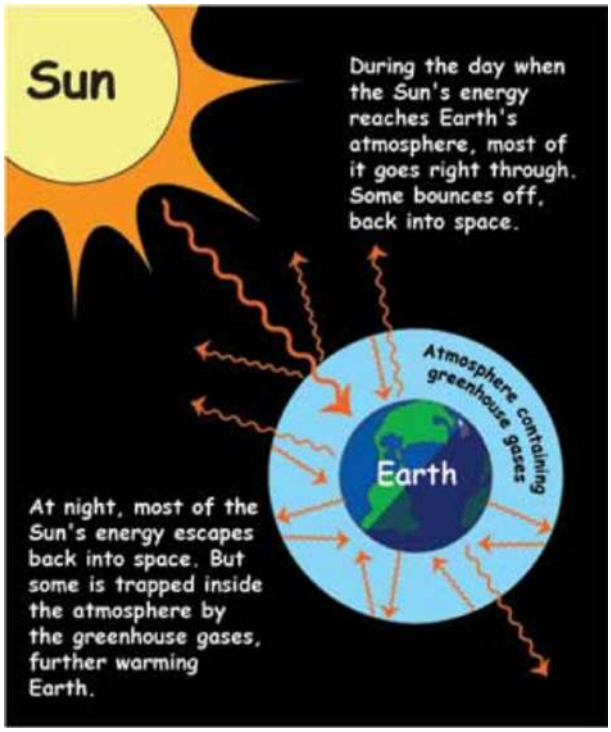
Steam and exhaust rise from different companies on a cold winter day on January 6, 2017, in Oberhausen, Germany. According to a report released by the European Copernicus Climate Change Service, 2016 is likely to have been the hottest year since global temperatures began to be recorded in the 19th century. Photo from: Lukas Schulze/Getty Images. Bottom graphic from: NASA.

A greenhouse is for growing plants. It is made of glass or clear plastic to let in lots of sunlight. But why not just put the plants outside? A greenhouse stays warmer than the air outside. Instead of cooling off at night, it traps some of the heat inside to maintain a warm atmosphere for the plants. Even in the winter, with no heat source but the sun on a clear day, a greenhouse stays warmer than the air outside. In the summer, if a greenhouse gets excessively hot, the gardener can open the windows and doors and maybe turn on a fan.



Greenhouse Earth?

A greenhouse is terrific if all you want to do is cultivate heat-loving plants. But what if Earth's atmosphere started to behave like a too-hot greenhouse? Don't forget, we cannot open Earth's windows or doors to cool it off. Earth as a closed-up greenhouse would soon grow to be ghastly!



If the atmosphere works too well as a greenhouse, each day gets a little warmer and a little warmer. We may not be able to measure this effect from day to day or even year to year. But over tens of years, a few degrees of warming start causing changes. For example, ice melts in the North and South Pole regions. All this new liquid water raises the sea level. Cities built on coastlines could someday be underwater!

When the oceans get warmer, weather is affected everywhere. Some places have more severe storms and other places have hardly any rain at all. And many other changes could occur that would be devastating for humans and other living things.

Our Burning Desires

Some of the greenhouse gases in the atmosphere are caused by humans. Whenever we burn anything — such as gasoline in our cars and trucks, jet fuel in our planes, coal in our factories or power plants, trees to clear the land for farming — we pollute our atmosphere with carbon dioxide and carbon monoxide. Although carbon monoxide does not act as a greenhouse gas, it is poisonous to breathe.

Our livestock (cows, pigs and chickens, for example) also pollute the atmosphere with methane from their digestion process.

Good Ozone, Bad Ozone

Ozone is created when the sun cooks carbon monoxide, such as from our car and truck exhaust, with other chemicals in the atmosphere.

In the case of ozone, it's all about location, location, location.

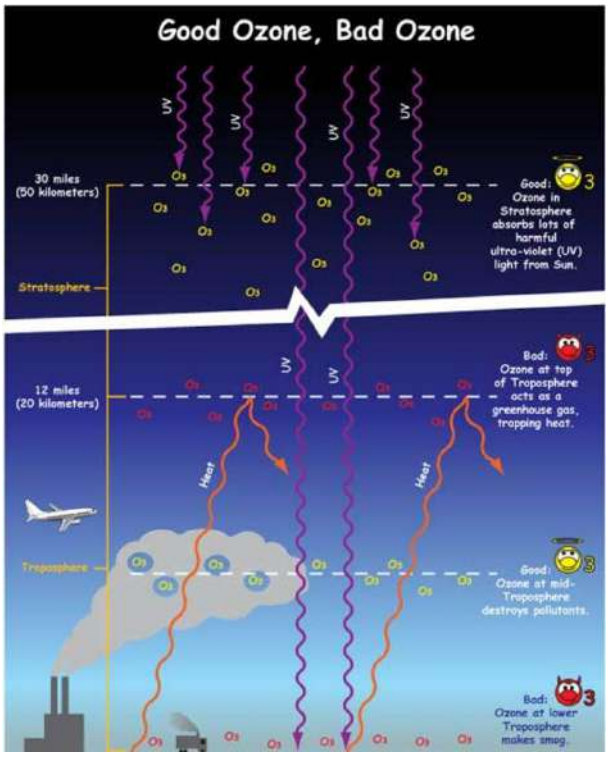
Scientists have categorized the atmosphere into different layers, each with a name. The layer closest to the ground, where we live and fly in jets, is called the troposphere [TRO-po-sphere]. Above that layer is the stratosphere [STRAT-o-sphere], which goes to about 30 miles high. (Three more layers above that have names, too, but we won't talk about those right now.)

Ultraviolet radiation from the sun causes sunburns and skin cancer. Ozone high in the stratosphere shields us from much of this ultraviolet radiation. That's good.

But at the top of the troposphere, ozone acts as a greenhouse gas and adds to global warming. That's bad.

In the middle region of the troposphere, ozone helps to clean the atmosphere of certain pollutants. That's good.

But in the atmosphere close to Earth's surface where we live, ozone adds to smog and damages plants and animals, including us. That's bad.



Quiz

1 Read the summary below. Choose the answer that BEST fits into the blank to complete the summary.

A greenhouse is great for plants, but it can be bad for Earth as a whole. _____.

Earth can behave the same way. But if Earth gets too hot, the rise in temperature can cause rising sea levels, major storms and changing climates.

(A) In the summer, gardeners can open the windows and doors and maybe turn on a fan.

(B) Ozone is made when the sun cooks carbon monoxide with chemicals in the atmosphere.

(C) Greenhouses trap heat to keep plants warm when it's not so warm outside.

(D) Ultraviolet radiation from the sun causes dangerous problems for people on Earth.

2 Read the section "Good Ozone, Bad Ozone." Select the paragraph that describes a gas that makes up part of ozone.

3 What is the difference between a greenhouse and Earth's atmosphere?

(A) A greenhouse uses fans to cool the air; Earth's atmosphere uses ozone to cool the air.

(B) A greenhouse traps warm air inside; Earth's atmosphere traps cool air inside.

(C) A greenhouse allows a lot of sunlight in to help plants grow; Earth's atmosphere does not allow sunlight in.

(D) A greenhouse uses open windows to cool down; Earth's atmosphere does not have an opening to help cool it down.

4 The author explains the impact of greenhouse gases by

(A) discussing how rising sea levels cause higher temperatures around the world.

(B) providing information about the different layers of Earth's atmosphere.

(C) describing how global warming changes weather patterns on Earth.

(D) comparing and contrasting the various types of greenhouse gases.

Name: _____ **Date:** _____

Carbon Footprint Worksheet

Instructions: Answer the questions below, then fill in the corresponding values on the far right. Tally the values to find your carbon footprint. Only fill in one value for each question, unless otherwise stated.

Ex. Do you turn off the lights when you leave a room?		
a. Yes	a. 133	***133***
b. No	b. 268	_____

1. How do you get to school?		
a. walk	a. 0	_____
b. bike	b. 0	_____
c. car	c. 1115	_____
d. bus	d. 131	_____
e. carpool	e. 459	_____
2. Do you eat mostly…		
a. fast food	a. 4818	_____
b. home cooked food	b. 629	_____
3. Do you eat mostly…		
a. vegetables/fruits	a. 153	_____
b. meat	b. 644	_____
c. bread	c. 364	_____
4. Do you turn off lights when you leave a room?		
a. yes	a. 133	_____
b. no	b. 268	_____
5. Do you unplug appliances/chargers when not in use?		
a. yes	a. 9	_____
b. no	b. 18	_____
6. How do you dry clothes?		
a. hang to dry	a. 0	_____
b. dryer	b. 750	_____
c. both	c. 375	_____
7. Do you turn off the water when brushing your teeth?		
a. yes	a. 34	_____
b. No	b. 274	_____
8. Do you turn off the TV when you're not watching it?		
a. yes	a. 47	_____
b. no	b. 140	_____
9. Do you turn off your video game system when you're not using it?		
a. yes	a. 29	_____
b. no	b. 90	_____
c. don't have/use one	c. 0	_____
10. Do you recycle? (for this question, select all that apply)		
a. magazines	a. -15	_____
b. newspaper	b. -90	_____
c. glass	c. -7	_____
d. plastic	d. -19	_____
e. aluminum and steel cans	e. -86	_____

Add together all the values in the far right column and report here:
Use the workspace on the next page to do your work.

Name: _____ **Date:** _____

Work space:

This total is your "carbon footprint" in the number of pounds of carbon dioxide per year. The lower the number, the fewer greenhouse gasses are emitted into the atmosphere.

Review your choices in the survey. **What changes can you make in your life to reduce your carbon footprint?** Try to make some of these changes in the next week. Use the space below to engineer a plan to reduce your carbon footprint.

Things I will turn off:

How I will get to school:

What I will eat:

How much I will use electronics:

What I will recycle:

Other things I will do:

Distance Learning - 6th Grade Science - May11th- May 15th

Monday, May 11- (NEWSELA-Life in a Greenhouse? How Ghastly?)
Directions- *Read the article.*

Tuesday, May 12- (NEWSELA-Life in a Greenhouse? How Ghastly?)
Directions- *After reading the article answer the questions and circle the letter that correlates with the response you chose*.

1.	**A**	**B**	**C**	**D**
2.	**A**	**B**	**C**	**D**
3.	**A**	**B**	**C**	**D**
4.	**A**	**B**	**C**	**D**

Wednesday, May 13- Carbon Footprint Worksheet

					Calculation lines (Thurs.)
1.	**A**	**B**	**C**	**D**	_____
2.	**A**	**B**	**C**	**D**	_____
3.	**A**	**B**	**C**	**D**	_____
4.	**A**	**B**	**C**	**D**	_____
5.	**A**	**B**	**C**	**D**	_____
6.	**A**	**B**	**C**	**D**	_____
7.	**A**	**B**	**C**	**D**	_____
8.	**A**	**B**	**C**	**D**	_____
9.	**A**	**B**	**C**	**D**	_____
10.	**A**	**B**	**C**	**D**	_____

Thursday, May 14- Carbon Footprint Worksheet
Directions- *Yesterday you reflected on your own carbon usage. Today use the letters and the values provided on the worksheet to calculate your carbon footprint.*

My total carbon footprint is _____.

Friday, May 15- (Short Answer Question)

Directions- *After calculating your carbon footprint reflect on your choices and engineer a plan to reduce your carbon footprint. Complete the questions below.*

1. Things I will turn off:

2. How I will get to school:

3. What I will eat:

4. How much I will use electronics:

5. What I will recycle:

6. Other things I will do: