

Learning Objectives – “Students can...”

1. Analyze new concept vocabulary – Vocabulary Enhancement (BW)
2. Lab 4-1 Observation: States of Matter and Thermal Dynamics – *Complete the data table, and conversions for Celsius to Fahrenheit degrees*

Assessment

In-class completion of the notebook/bell work
Complete the data table, and conversions for Celsius to Fahrenheit degrees (Lab 4-1)

Homework

1. Complete the data collection and conversions for the Lab 4-1 observation – 10/2
2. Complete BW vocabulary (5 terms) – 10/3
3. Science Fair Topics / Model Observation & Question – 10/3

Reminders / DO NOT COPY

Science Fair Projects are due in class – 11/26

Model notebook entries can be found below at the Teacher’s NB. Use this resource to keep your notebook accurate.

Bell work

Using the vocabulary list provided at your seat: *Complete the five starred* terms*

For each term on the list you may do one of the following:

- Copy
- Summarize
- Provide an example

Incomplete or incorrect vocabulary will be scored accordingly.

No pictures – Text only

***Vocabulary assignments must be complete prior to notebook assessments – please plan/prepare accordingly.*

Linked Documents and Class Resource

[Teacher’s NB 10/1](#)

[Lab 4-1 Obs. Data Collection Handout](#)

[Vocabulary 3-1² ↓](#)

[Science Fair](#)

[SCIENCE FAIR LINK!](#)

[Topic/Question Handout](#)

District Content Descriptor:

Construct, use, and present oral and written arguments supported by empirical evidence and scientific reasoning to support or refute an explanation or a model for a phenomenon. (07-PS3-5)

Temperature is a measure of the average kinetic energy of particles of matter. The relationship between the temperature and the total energy of a system depends on the types, states, and amounts of matter present. (07-PS3-3)

Fayette County
 2018-19
 District Content Map

Date: October 2, 2018

School Day: 032

Learning Objectives – “Students can...”

1. Analyze and respond to our weekly Science Article: Fail, Fail Again (BW)
2. Lab 4-1 Observation: States of Matter and Thermal Dynamics – *Complete Graphing and Conclusion Summary*

Assessment

In-class completion of the notebook/bell work
Complete Graphing and Conclusion Summary (Lab 4-1)

Homework

1. Complete the data collection and conversions for the Lab 4-1 observation – 10/2
2. Complete BW vocabulary (5 terms) – 10/3
3. Science Fair Topics / Model Observation & Question – 10/3

Reminders / DO NOT COPY

Science Fair Projects are due in class – 11/26

Model notebook entries can be found below at the Teacher’s NB. Use this resource to keep your notebook accurate.

Bell work

Using good-practice reading techniques, read this week’s science article. When you finish reading, complete the article questions below.

1. **Explain the difference between a closed and open system.** *Provide an example from the text.*
2. **Summarize the 1st Law of thermodynamics – Provide an example of how it works.**
3. **Summarize the 2nd Law of thermodynamics – Provide an example of how it works.**

Linked Documents and Class Resource

[Teacher’s NB 10/2](#)

[Science Article:
Thermodynamics4Kids](#)

[Lab 4-1 Obs. Data
Collection Handout](#)

[Vocabulary 3-1²](#) ↓

[Science Fair
Topic/Question Handout](#)

[SCIENCE FAIR LINK!](#)

District Content Descriptor:

Construct, use, and present oral and written arguments supported by empirical evidence and scientific reasoning to support or refute an explanation or a model for a phenomenon. (07-PS3-5)

Temperature is a measure of the average kinetic energy of particles of matter. The relationship between the temperature and the total energy of a system depends on the types, states, and amounts of matter present. (07-PS3-3)

*Fayette County
2018-19
District Content Map*

Week 8: October 1 - 3, 2018

©Weger 2018 - 19

Date: October 3, 2018

School Day: 033

Learning Objectives – “Students can...”

1. Use critical thinking to solve a problem. (BW)
2. Sharing Science Fair Topic/Questions & Completing Lab 4-1 Thermal Observation Graph & Conclusion

Assessment

In-class completion of the notebook/bell work
Sharing Science Fair Topic/Questions & Completing Lab 4-1 Thermal Observation Graph & Conclusion

Homework

1. Science Fair Experimental Procedures Handout – 10/10

There is no school 10/4, or 10/5 Fall Break – Enjoy.

Reminders / DO NOT COPY

Science Fair Projects are due in class – 11/26

Model notebook entries can be found below at the Teacher’s NB. Use this resource to keep your notebook accurate.

Bell work

Complete today’s challenge question in the notebook. When you finish, **record your answer on a small piece of paper and place it in the solutions chest at the front of the room.**

Calculate the average temperature of the table in Fahrenheit degrees. Round the final answer to the nearest whole number.

21.5° C	28° C
32° C	85° F
67.1° F	77° F

Linked Documents and Class Resource

[Teacher’s NB 10/3](#)

[Science Fair Topic/Question Handout](#)

*Lab 4-1 Obs. Data Collection SAMPLE**

[SCIENCE FAIR LINK!](#)

District Content Descriptor:

Construct, use, and present oral and written arguments supported by empirical evidence and scientific reasoning to support or refute an explanation or a model for a phenomenon. (07-PS3-5)

Temperature is a measure of the average kinetic energy of particles of matter. The relationship between the temperature and the total energy of a system depends on the types, states, and amounts of matter present. (07-PS3-3)

*Fayette County
2018-19
District Content Map*

Week 8: October 1 - 3, 2018

©Weger 2018 - 19

Vocabulary 3-1² – Climate Science / Thermal Energy

You are expected to familiarize yourself with these concept terms – complete the terms that are (*) as part of the weekly bell work.

Vocabulary Term	Definition
Atmosphere	<i>The thin layer of gases that surround our planet.</i>
Density*	<i>The degree of compactness of a substance.</i>
States of Matter*	<i>Describes one of the four principal conditions in which matter exists-solid, liquid, gas, and plasma.</i>
Anthropogenic	<i>Man-made or caused by human activity</i>
Thermal Energy vs. Kinetic Energy*	<i>Is the internal energy of an object due to the kinetic energy of its atoms and/or molecules; The atoms and/or molecules of a hotter object have greater kinetic energy than those of a colder one, in the form of motion.</i>
Celsius – Fahrenheit Conversion*	$T_{(^{\circ}\text{F})} = T_{(^{\circ}\text{C})} \times 1.8 + 32$
Boiling Point (Fresh Water)	<i>The temperature at which a liquid boils and turns to vapor. (fresh water = 100° C / 212° F)</i>
Entropy*	<i>The degree of randomness or disorder in a system.</i>
Weather	<i>The changing conditions on the surface of our planet at any given point in time</i>
Industry	<i>Human activity – Focusing on the processing of raw materials and manufacturing</i>
Biogeochemical cycles	<i>The processes by which chemical substances and compounds move through the Earth's systems (hydrologic, geologic, etc.)</i>
Combustion	<i>The process of burning something – A chemical change.</i>

Science Fair²

Experimental Procedures

Objective: Outline your experiment by accurately demonstrating how you will test, measure/collect data and graph your results. *If you find you cannot think of a way to do these fundamental steps in experimentation, you may find you do not have an appropriate experimental question.*

What will you measure as part of your experimentation? *As you collect data you must have numerical evidence.*

EXAMPLES: Time, Distance, Accuracy, Population Ratios, etc.

How will you use this data to answer your topic/question?

What variables are conditions of your experiment?

Independent	Dependent	Control Group

What results will qualify your hypothesis as successful/unsuccessful?

<i>Successful</i>	<i>Unsuccessful</i>