

SPED 445 / 545 Social and Natural Sciences for Special Educators

Unit Modification Project

Copy of Unit _____ / 10

- 20 – 30 pages from a textbook (10)

Textbook Analysis _____ / 35

- Checklist for Considerate Text Characteristics (10)
- Readability level (10)
- Unit summary (10)
- Personal opinion or recommendations (5)

Modifications and Adaptations _____ / 95

- A graphic organizer shows the “Big Ideas” within the unit
 - Unit Organizer and Lesson Organizer (15)
- A list of Internet addresses pertaining to the “Big Ideas” in the unit along with a brief summary and critique of each site is provided (10)
- One chapter or section is color coded using an appropriate method (5)
- 10 – 15 vocabulary words that support the “Big Ideas” are listed with definitions:
 - LINC'S Tables (15)
- FRAME (10)
- TRIMS Learning Sheet (10)
- 2 student assignments for the unit have been developed:
 - 2 Quality Assignment Planning Worksheets (10)
 - 2 Assignment Windows (10)
- 2 alternate assessments for the unit have been developed (10)

Professional Appearance _____ / 10

- title page (2)
- organization (2)
- neatness (2)
- grammar, spelling, punctuation (2)
- usefulness (2)

Total: _____ / 150

Weather Changes

Vocabulary Preview

troposphere
 thermosphere
 mesosphere
 stratosphere
 air mass
 air pressure
 relative humidity
 front
 forecast
 station model
 surface map
 weather balloon
 weather map
 thunderstorm
 hurricane
 tropical storm
 tornado

Everyone talks about the weather, but no one can control it. Plenty of people have tried, but no one has found a way. So far, the best we have been able to do is to improve our ability to predict weather and to warn people when it threatens to become dangerous.

Fast Fact

There are places on Earth where lightning can strike 1000–2000 times an hour during a thunderstorm.

Lightning Strike Facts

Frequency	100 times/sec (world) 20 million/year (U.S.A.)
Temperature	50,000°F (about 28,000°C)
Length (from cloud to ground)	5 mi (about 8 km)
Electric Energy	100 million volts

Fast

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What Causes Severe Storms?

In this lesson, you can . . .



INVESTIGATE how meteorologists track the paths of hurricanes.



LEARN ABOUT how storms develop and what you can do to protect yourself from them.



LINK to math, writing, social studies, and technology.



INVESTIGATE

Tracking Hurricanes

Activity Purpose Meteorologists at the National Weather Service track dangerous storms so that, if necessary, they can tell people to prepare or to move. In this investigation you will get an inside view of one of a meteorologist's most important jobs—tracking the movement of a hurricane. You will track the progress of a fictional storm—Hurricane Zelda.

Materials

- hurricane tracking chart
- 3 different-colored pencils or markers
- history table for Hurricane Zelda
- current advisory for Hurricane Zelda

Activity Procedure

- 1 On the hurricane tracking chart, plot the path taken by Hurricane Zelda. Use the data from the history table and the current advisory. On the tracking chart, draw a small circle for each location listed on the history table. Use an ordinary pencil for this step.

▼ Satellite images like this one help meteorologists track hurricanes, Earth's largest storms.

Highlighting Key - Lesson 4

Vocabulary

Key Details

Key Terms



Severe Storms

FIND OUT

- how thunderstorms, hurricanes, and tornadoes form
- what to do to stay safe in severe storms

VOCABULARY

thunderstorm
hurricane
tropical storm
tornado

Thunderstorms

About 2000 thunderstorms are taking place on Earth at any given moment. A **thunderstorm** can be a very strong storm with a lot of rain, thunder, and lightning.

A thunderstorm begins to form when warm, humid air is pushed high into the atmosphere. Wind, the sun's heating of the Earth's surface, or the arrival of a cold front may do this. As the warm air is pushed upward, it begins to cool. When it reaches the dew point, the water vapor in the air begins to condense, and a cloud forms.

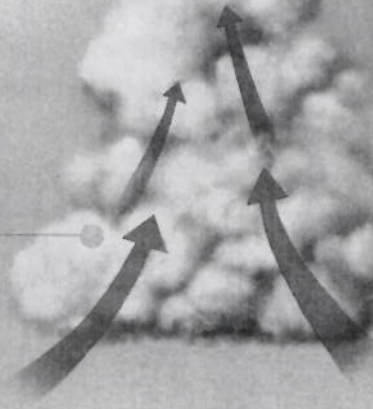
Soon, the weight of the condensed water vapor becomes too much for the air to support. The water falls to the ground, pulling cool air with it. At this time winds blow both upward and downward in the cloud.

Electric charges build up in the cloud. This is similar to static electricity collecting when clothes rub against each other. The charges increase until they are so strong that electricity travels through the air as lightning. It may travel between parts of the cloud or between the cloud and the Earth's surface.

The air along the path of a lightning bolt is heated to temperatures that can be greater than 28,000°C (about 50,000°F), which is about four times the temperature at the surface of the sun. This intense heat makes the air expand so fast that the shock waves make the sound of thunder.

About 45,000 thunderstorms occur on Earth every day. They result in lightning, thunder, heavy precipitation, and sometimes hailstones as big as tennis balls. ▼

The large volumes of warm air being pushed upward add height to the cloud that forms. These upward movements of air, called **updrafts**, can reach speeds of 100 km/hr (62 mi/hr).



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Hurricanes

Much fiercer weather than thunderstorms can form in the tropics. **Hurricanes** are large, spiraling storm systems that can be as much as 600 km (about 372 mi) across. **They can travel for thousands of kilometers and last for more than a week.** Their winds can reach 300 km/hr (186 mi/hr).

A hurricane starts as a low-pressure area over an ocean. This area is called a **tropical depression**, because the air pressure is low, or

“depressed.” Winds blow into the low-pressure area, and the rotation of the Earth causes them to spiral around that area. If the winds reach a constant speed of 63 km/hr (about 39 mi/hr), the tropical depression is classified as a **tropical storm**. About half of the tropical storms that form each year develop winds that **exceed 119 km/hr (about 74 mi/hr).** **When the wind reaches this speed, the storms are classified as hurricanes.**

When a hurricane reaches land, extremely strong rains can cause flooding, and violent

THE INSIDE STORY

Anatomy of a Hurricane

The center of a hurricane, called the eye, is about 20 km (12 mi) wide. Within the eye the winds drop and there is no rain. The eye is caused by dry, cool air that is pulled down from above.

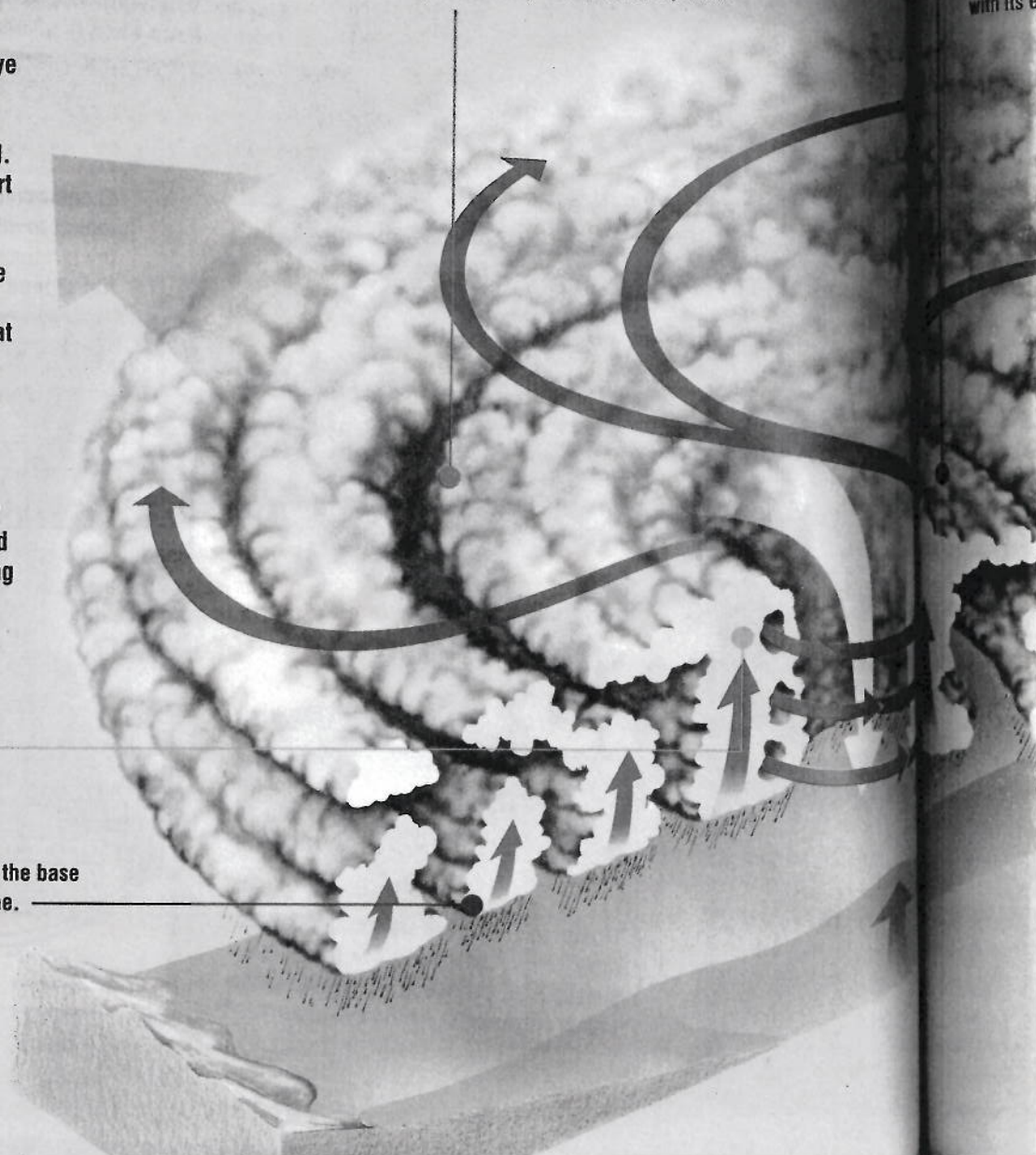
Around the eye is the eye wall. This area is the most intense part of the storm. The warm, wet air that rushes to the center of a hurricane is pulled upward in the eye wall. As the air travels upward, it causes low pressure at the surface, pulling in more air. When the water vapor in the air that is being pushed upward condenses into rain, it releases heat, strengthening the storm.

Heat and moisture from below feed both the upward-moving and the downward-moving air. As long as the storm stays over warm water, it can continue to strengthen.

The hurricane's fastest winds spiral around the eye in the eye wall.

Warm, wet air is pulled into the base and the sides of the hurricane.

The spiral is made up of cumulus clouds that can stretch 12 km (about 8 mi) into the atmosphere.



Tornadoes

Far from the ocean, a stretch of the Great Plains from northern Texas through North and South Dakota has hundreds of Earth's most violent storms each year. This stretch is known as **Tornado Alley**.

A **tornado** is an intense windstorm that often forms within a severe thunderstorm. The winds of a tornado spin in a column of air that extends from the bottom of a thundercloud.

Warm, humid air is pulled into the funnel-shaped column. The swirling updrafts can reach speeds of 480 km/hr (about 300 mi/hr). A tornado may also form because of winds associated with a hurricane. When a tornado touches the ground, its winds can pick up or destroy almost everything in their path, including buildings, railroad cars, and buses.

✓ **What kinds of storms can cause tornadoes?**



◀ A small funnel begins to form at the bottom of a wall cloud, a circular bulge on the bottom of a thundercloud. Strong updrafts are already present in this bulge. With modern **Doppler radar**, meteorologists can detect tornadoes as they form in clouds.



◀ The swirling funnel starts to descend. By the time the funnel is visible, the winds may already be swirling debris around on the ground below. Flying debris is one of the greatest dangers from a tornado.

Tornado Safety

When you hear a tornado warning or see a tornado, act quickly.

1. **Stay inside, if possible.** However, some homes, such as mobile homes, are not sturdy enough to withstand the force of a tornado.
2. **If you look for shelter inside, go to an inside room on the lowest floor of the building.** A basement is best, but an inside hallway or bathroom is a good second choice. Stay away from windows and doors.
3. **Stay underneath a staircase, a bed, or a strong table or desk.**
4. **If you can't get inside a building, lie in a ditch with your hands over your head.** Don't stay in a car or other vehicle.

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APPENDIX B

Checklist for Considerate Text Characteristics

Textbook Title: Science - Harcourt School Publishers

Check each question with a **yes** or **no**.

	YES	NO	
T	Yes		1. Does the title reflect the main idea/topic of the chapter?
R	Yes		2. Does the table of contents show relationships or organizational patterns between the unit and the current chapter?
	Yes		3. Are the headings listed in the table of contents or is there an expanded table of contents?
	Yes		4. Does the table of contents show a clear arrangement of ideas by use of one of the most common relationship structures? Check the structure used: <div style="display: flex; justify-content: space-between; margin-left: 40px;"> <div style="width: 45%;"> <input checked="" type="checkbox"/> Order <input type="checkbox"/> Process <input type="checkbox"/> Causality <input type="checkbox"/> Problem/Solution </div> <div style="width: 45%;"> <input type="checkbox"/> Explanation <input type="checkbox"/> Comparison <input type="checkbox"/> Deliberation </div> </div>
	No		5. Is there a clear relationship or structure of ideas between the current chapter and the immediately preceding and the following chapters?
I		No	6. Is there a clearly identified introduction to the chapter?
	Yes		7. Does the introduction specify chapter goals/objectives for reading? Are the goals/objectives: <i>says "Find Out"</i> <div style="display: flex; justify-content: space-between; margin-left: 40px;"> <div style="width: 45%;"> <input checked="" type="checkbox"/> Explicit (stated/listed)? <input type="checkbox"/> Implied (embedded)? </div> </div>
		No	8. Does the introduction provide an overview of the chapter?
		No	9. Does the introduction specify the relationship or organization of ideas/events in the chapter through use of one of the most common relationship structures? Check structure used: <div style="display: flex; justify-content: space-between; margin-left: 40px;"> <div style="width: 45%;"> <input type="checkbox"/> Order <input type="checkbox"/> Process <input type="checkbox"/> Causality <input type="checkbox"/> Problem/Solution </div> <div style="width: 45%;"> <input type="checkbox"/> Explanation <input type="checkbox"/> Comparison <input type="checkbox"/> Deliberation </div> </div>
		No	10. Does the introduction state the rationale/relevance of the chapter content? Are the rationales/relevance statement: <div style="display: flex; justify-content: space-between; margin-left: 40px;"> <div style="width: 45%;"> <input type="checkbox"/> Explicit? <input type="checkbox"/> Implied? </div> </div>
	No	11. Does the introduction: <div style="display: flex; justify-content: space-between; margin-left: 40px;"> <div style="width: 45%;"> <input type="checkbox"/> review previously studied relevant material/information? <input type="checkbox"/> relate it to the topic of the current chapter? <input type="checkbox"/> explicitly state the relationship? <input type="checkbox"/> imply the relationship? </div> </div>	

YES NO

M	Yes	12. Do titles of main headings and subheadings clearly reflect the main idea structure of information presented?
	Yes	13. Do subheadings follow a clear sequence of information directly related to the main headings?
	Yes	14. Does the author use size, shape, color, and/or placement to distinguish types of headings?
	Yes	15. Are new/key vocabulary highlighted in the text? <u>Yes</u> In bold print or italics? <u>Yes</u> Listed at end of chapter, bottom of page, or margin?
	Yes	16. Does the text provide <u>Yes</u> A definition of key terms? <u>Yes</u> A pronunciation guide for key terms?
	Yes	17. Do graphics enhance the most important information contained in the chapter and/or related directly to headings?
	No	18. Do graphics depict information in a succinct, easy-to-read format with instructions provided for interpretation or use of charts and graphs?
S	Yes	19. Is there a clearly identified summary?
	Yes	20. Does the summary synthesize chapter contents?
	Yes	21. Does the summary review chapter goals/objectives?
	Yes	22. Does the summary focus student attention on the most important concepts, ideas, and information?
	Yes	23. Are there chapter review/study questions?
	Yes	24. Are chapter review questions based on the critical key concepts and ideas?
	Yes	25. Is there a good balance among main idea, detail/fact, and critical thinking (applications, analysis, synthesis) questions?

Total number of questions answered "YES" 18

The higher the score, the more considerate and "user friendly" the textbook. The more considerate a textbook, the more likely that students will be able to use it independently. The more inconsiderate a textbook, the more teacher facilitation and intervention will be required.

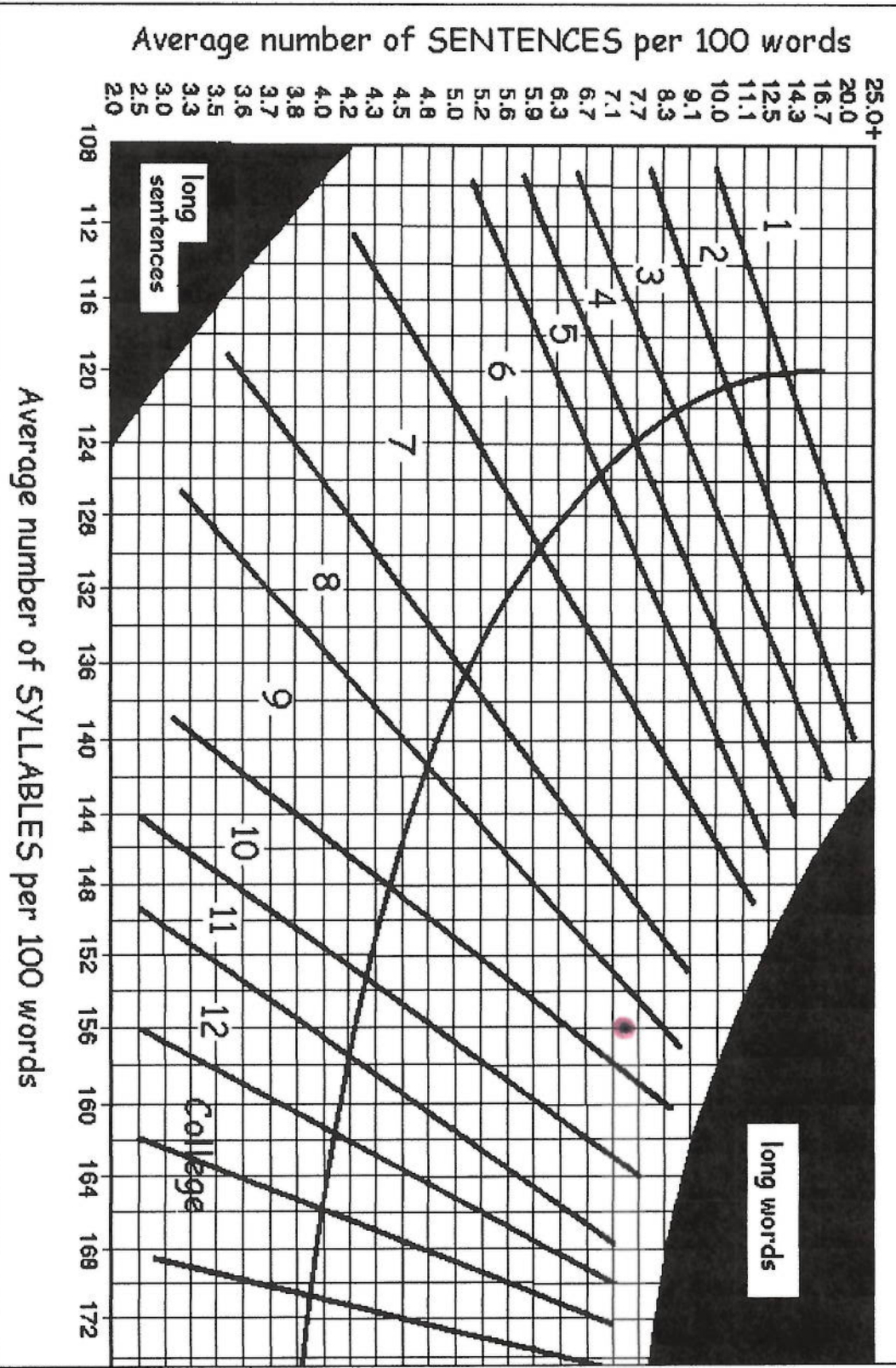
Text Sample #1
Sentences: 8.5
Syllables: 156

Text Sample #2
Sentences: 8
Syllables: 138

Text Sample #3
Sentences: 6
Syllables: 163

9th grade long words

Fry Graph for estimating Reading Ages (grade level)



Unit Summary

I have chosen a middle school Science textbook. The book is broken up into six units and each unit is made up of two to four chapters. I chose Chapter 4: Weather Changes from Unit C: The living Planet. Chapter 4 is made up of four lessons. The lessons are titled: What Makes Up the Atmosphere, What Are Weather Fronts, How Can Weather Be Predicted, and What Causes Severe Storms.

Each lesson starts with a hands on activity and contains some conclusion questions. The lesson vocabulary is listed at the beginning and has a section titled “find out” letting you know what things you will learn in that lesson. Each lesson ends with a summary and five review questions. The fourth question in each lesson is titled critical thinking and the fifth is a test prep question. Each lesson also ends with a box that contains links to different educational areas. They are math, writing, social studies, and technology. Each includes a problem or prompt or website related to the lesson.

The chapter ends with a 28-question review and test prep. The first ten questions are on vocabulary, the next 5 are multiple-choice titled check understanding, the next three are critical thinking short answer questions, and the last three are process skills review. The review also includes a concept connections chart where terms are given and students are asked to complete the chart.

Lesson 1 is titled What Makes up the Atmosphere. This lesson covers the types of gasses that make up the atmosphere, the structure and layers of the atmosphere, and how the energy from the sun affects the atmosphere. Lesson 2 is about Weather Fronts. This lesson covers air masses and covers the following types of fronts: warm, cold, stationary,

and occluded. Lesson 3 is about how weather can be predicted. It goes over how meteorologists forecast the weather and types of instruments and weather maps that are used. The final lesson is about the causes and types of severe storms. It covers thunderstorms, hurricanes and tornadoes.

Before the chapter review there are a couple articles that are included. One is titled Tracking El Nino and the second is about a meteorologist. These are supplemental articles that could be used but are not included in the review of the chapter.

Personal Opinion/Recommendations

I like that each lesson starts with an activity to get the students engaged and help promote learning of the lesson and help teach concepts to students who are on the lower academic level. It is helpful that each lesson states what you are to find out and the key vocabulary terms at the start of each lesson. The vocabulary words are highlighted and the heading for each section is written in red, which helps to show when a new topic is being addressed. The format for each lesson stays the same and is consistent making it more predictable for students once they have learned the format. There are several opportunities throughout each lesson for the student to demonstrate understanding. This is helpful for those students that don't test well as it gives them other ways to be assessed.

There are a lot of visuals and pictures, which are helpful for learning but I feel they could be overwhelming and distracting for some kids. If a student were not able to read at grade level they would struggle with this chapter. They would need someone who could read the material to them or have the required reading shortened for them. These would be easy modifications to make.

The content would be difficult if you had an ELL student with limited English proficiency or understanding. They may have difficulty finding terms that would translate into their native language.

There is minimal diversity. In the chapter I chose they had a picture of a white student and one of an African American student. The weather systems that are discussed have to do with the United States and don't cover any other areas of the world.

The Unit Organizer

NAME _____
DATE _____

4 BIGGER PICTURE

The Living Planet

<p>2 LAST UNIT/Experience Earth's Ocean</p>	<p>1 CURRENT UNIT Weather Changes</p>	<p>3 NEXT UNIT/Experience Movement of Earth's Crust</p>																														
<p>8 UNIT SCHEDULE</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>9/30</td><td>Lesson 1 C92-C97</td></tr> <tr><td>10/4</td><td>Lesson 1 Review</td></tr> <tr><td>10/7</td><td>Lesson 2 C98-C105</td></tr> <tr><td>10/11</td><td>Lesson 2 Review</td></tr> <tr><td>10/14</td><td>Lesson 3 C106-C113</td></tr> <tr><td>10/18</td><td>Lesson 3 Review</td></tr> <tr><td>10/21</td><td>Lesson 4 C114-C121</td></tr> <tr><td>10/25</td><td>Lesson 4 Review</td></tr> <tr><td>10/28</td><td>Chapter 4 Review</td></tr> <tr><td>11/1</td><td>Chapter 4 Test</td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </table>	9/30	Lesson 1 C92-C97	10/4	Lesson 1 Review	10/7	Lesson 2 C98-C105	10/11	Lesson 2 Review	10/14	Lesson 3 C106-C113	10/18	Lesson 3 Review	10/21	Lesson 4 C114-C121	10/25	Lesson 4 Review	10/28	Chapter 4 Review	11/1	Chapter 4 Test							<p>5 UNIT MAP</p> <p style="text-align: center;"><i>is about..</i></p> <div style="text-align: center;"> </div>	<p>6 UNIT RELATIONSHIPS</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>compare/contrast</td></tr> <tr><td>cause/effect</td></tr> <tr><td>description</td></tr> <tr><td> </td></tr> </table>	compare/contrast	cause/effect	description	
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<p>7 UNIT SELF-TEST QUESTIONS</p> <p>What are the layers of the Earth's atmosphere? How do air masses and the collision of air masses cause weather conditions? How do meteorologists make station models and surface maps? How do thunderstorms, hurricanes, and tornadoes form?</p>																																

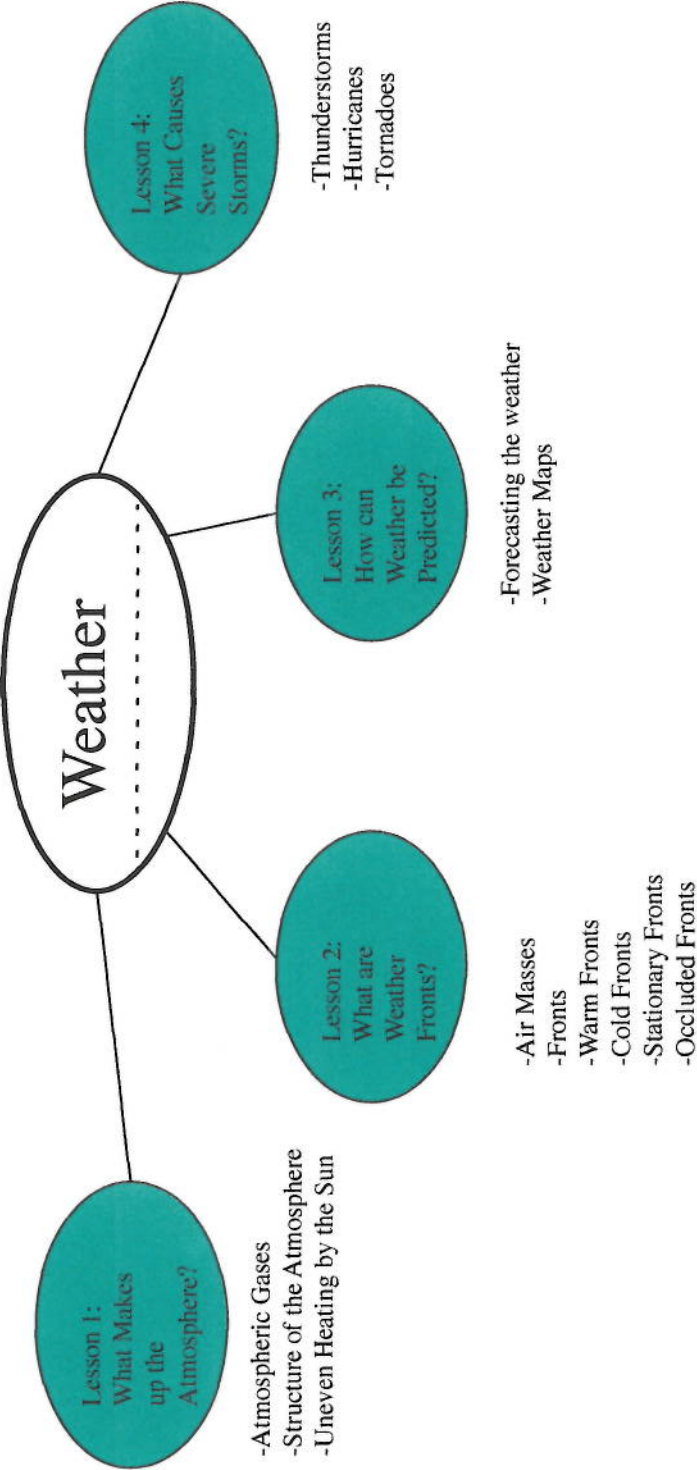
The Unit Organizer

⑨ Expanded Unit Map

NAME _____
DATE _____

Weather Changes

is about...



NEW UNIT
SELF-TEST
QUESTIONS

10

How is weather formed?
How is weather predicted?
How does weather change?

Lesson Organizer

④ UNIT or BACKGROUND

DATE: _____ NAME: _____

Weather Changes

Atmosphere

Weather Fronts

Weather Predictions

Severe Storms

② Relationships

Cause and Effect

①

LESSON TOPIC

What causes Severe Storms?

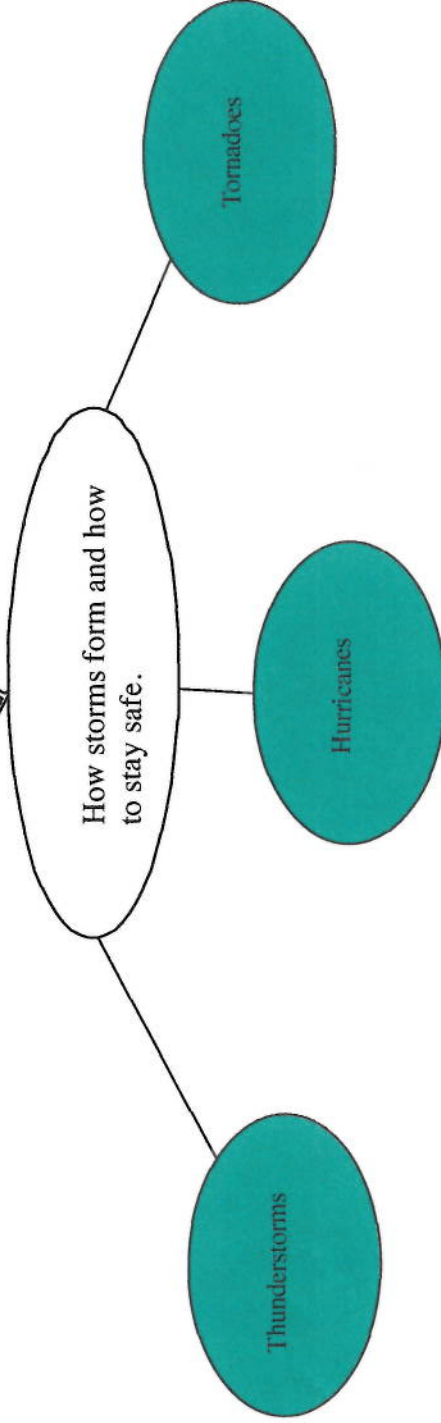
③

Task-Related Strategies

Self-questioning

⑤ Lesson Map

is about



⑥ Challenge Question

Why do most thunderstorms form in the afternoon?

⑦ Self-test Questions

1. How do you stay safe from storms?
2. Why do most thunderstorms stop?

⑧ Tasks

1. Class breaks into small groups to complete the Tracking Hurricane activity.
2. Same group reads the chapter together.
3. Same group answers 5 review questions. Each group member must have the answers written out to turn in but the group can help each other answer the questions.

<https://www.weatherwizkids.com/>

This website has headings at the top titled Weather, Natural Disasters, Experiments, Kid's Zone, and Store. Under Weather there are several choices to pick from such as: Thunderstorms, Tornadoes, Weather Forecasting, and Weather Instruments. These are all topics covered in Chapter 4 of my project. If you select one of those topics, it brings you to a page that contains questions, definitions, facts, and activities on that topic. It is very user friendly and has up to date pictures and is interactive.

<https://www.scholastic.com/teachers/activities/teaching-content/weather-and-climate-13-studyjams-interactive-science-activities/>

This site contains a list of topics that include severe storms, air masses and fronts, seasons, air pressure and wind, and weather instruments. Once you've picked your topic you click the red button titled go to the activity. There you will find key vocabulary terms, either a video or power point, and a button that says test yourself. The test gives you 7 multiple-choice questions. This is a good site but something you would maybe want to have as teacher led or directed.

<http://www.sciencekids.co.nz/>

If you click on the top bar heading titled Topics you will get 30 different topics to pick from. There is a topic titled Weather. There are experiments, videos, games, images, facts, quizzes, projects, and lessons. The sight is user friendly and could be used by students or as a resource for teachers to get supplemental information and assignments from.





<http://www.weatherforkids.org/>

This website is advertised as a resource for parents and teachers to help kids learn about the fascinating weather that effects us day to day. The topics it covers are rain, wind, climate, lightning, clouds, temperature, tornadoes, hurricanes, and thunderstorms. There is a More+ tab that covers earthquakes, volcanoes, worksheets, quizzes and weather cams. Each topic contains facts and several details and at the end gives other websites as a resource to get further information.

<https://www.dkfindout.com/us/earth/weather/>





If you go to the topic of weather it has several subcategories to click on. These subtopics include clouds, thunderstorms, hurricanes, weather forecasting, and what causes weather. All of these topics align with ones from the chapter. When you click on each topic it gives a detailed description off to the side along with a very real life graphic picture. In the picture you can click on the terms and it will give the definition. There is also an interactive quiz about weather that there is a link to on the bottom of the page.

LINCS Tables

<p>① Term</p> <p>Front</p>	<p>④ LINCing Story</p> <p>He parted his fro in the middle to make two braids.</p>	<p>⑤ LINCing Picture</p> 	<p>② Definition</p> <p>The border between two air masses that collides.</p>
<p>③ Reminding Word</p> <p>Fro</p>			
<p>① Term</p> <p>Forecast</p>	<p>④ LINCing Story</p> <p>The cast predicted how the play would end.</p>	<p>⑤ LINCing Picture</p> 	<p>② Definition</p> <p>A prediction of what the weather will be like in the future.</p>
<p>③ Reminding Word</p> <p>Cast</p>			
<p>① Term</p> <p>Thunderstorm</p>	<p>④ LINCing Story</p> <p>I hid under the bed so I couldn't hear the rain and thunder.</p>	<p>⑤ LINCing Picture</p> 	<p>② Definition</p> <p>A very strong storm with a lot of rain, thunder, and lightning.</p>
<p>③ Reminding Word</p> <p>Under</p>			
<p>① Term</p> <p>Hurricane</p>	<p>④ LINCing Story</p> <p>I used a cane to to keep me standing in the spiraling wind.</p>	<p>⑤ LINCing Picture</p> 	<p>② Definition</p> <p>Large spiraling storm systems that can be as much as 600 km across.</p>
<p>③ Reminding Word</p> <p>Cane</p>			



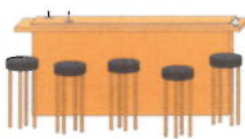

List the parts **I**dentify a remaining word **N**ote a LINCing story **C**reate a LINCing picture **S**elf-test

LINCS Tables

<p>① Term</p> <p>Troposphere</p>	<p>④ LINCing Story</p> <p>Everyone on Earth wants to drink a cold pop.</p>	<p>⑤ LINCing Picture</p> 	<p>② Definition</p> <p>The layer of the atmosphere in which nearly all life on Earth exists.</p>
<p>③ Reminding Word</p> <p>Pop</p>			
<p>① Term</p> <p>Stratosphere</p>	<p>④ LINCing Story</p> <p>The rat could not survive in the layer of smog.</p>	<p>⑤ LINCing Picture</p> 	<p>② Definition</p> <p>The layer of the atmosphere in which ozone is present.</p>
<p>③ Reminding Word</p> <p>Rat</p>			
<p>① Term</p> <p>Air Pressure</p>	<p>④ LINCing Story</p> <p>The weight of the dresser was pressing on the carpet.</p>	<p>⑤ LINCing Picture</p> 	<p>② Definition</p> <p>The weight of air pressing down on an area.</p>
<p>③ Reminding Word</p> <p>Dresser</p>			
<p>① Term</p> <p>Thermosphere</p>	<p>④ LINCing Story</p> <p>The coffee in the thermos was extremely hot.</p>	<p>⑤ LINCing Picture</p> 	<p>② Definition</p> <p>The upper layer of the atmosphere where temperatures are extremely high.</p>
<p>③ Reminding Word</p> <p>Thermos</p>			

List the parts **I**dentify a reminding word **N**ote a LINCing story **C**reate a LINCing picture **S**elf-test

LINCS Tables

<p>① Term</p> <p>Tornado</p>	<p>④ LINCing Story</p> <p>The house was torn in half by the storm.</p>	<p>⑤ LINCing Picture</p> 	<p>② Definition</p> <p>Intense windstorm that often forms within a severe thunderstorm.</p>
<p>③ Reminding Word</p> <p>Torn</p>			
<p>① Term</p> <p>Anemometer</p>	<p>④ LINCing Story</p> <p>My mom measures the ingredients carefully when baking.</p>	<p>⑤ LINCing Picture</p> 	<p>② Definition</p> <p>Measures the speed of wind.</p>
<p>③ Reminding Word</p> <p>Mom</p>			
<p>① Term</p> <p>Barometer</p>	<p>④ LINCing Story</p> <p>The air temperature in the bar measured to warm.</p>	<p>⑤ LINCing Picture</p> 	<p>② Definition</p> <p>Measures air pressure.</p>
<p>③ Reminding Word</p> <p>Bar</p>			
<p>① Term</p> <p>Meteorologist</p>	<p>④ LINCing Story</p> <p>It will either be sunny or cloudy.</p>	<p>⑤ LINCing Picture</p> 	<p>② Definition</p> <p>A weather forecaster that uses science and math to understand and predict weather.</p>
<p>③ Reminding Word</p> <p>Or</p>			

List the parts **I**dentify a remaining word **N**ote a LINCing story **C**reate a LINCing picture **S**elf-test

The FRAME Routine

Key Topic
Cause of Severe Storms

is about...

How severe storms are tracked and how to stay safe.

Main idea

Thunderstorms

Main idea

Hurricanes

Main idea

Tornadoes

Essential details

They begin when warm, humid air is pushed in the atmosphere.

Contain a lot of rain, thunder, and lightening

Most are done within an hour

Essential details

Large, spiraling storm system that can be 600 km across

If winds reach speeds of 63 km/hr, it's a Tropical Storm

Warm, humid air keep hurricanes in motion

Essential details

An intense windstorm that often forms w/a thunderstorm

When a tornado touches the ground it can destroy almost everything in its path

There is a stretch called Tornado Alley

So What? (What's important to understand about this?)

Thunderstorms, Hurricanes, and Tornadoes can cause severe damage and should be taken seriously.

Student Name: _____

TRIMS Learning Sheet

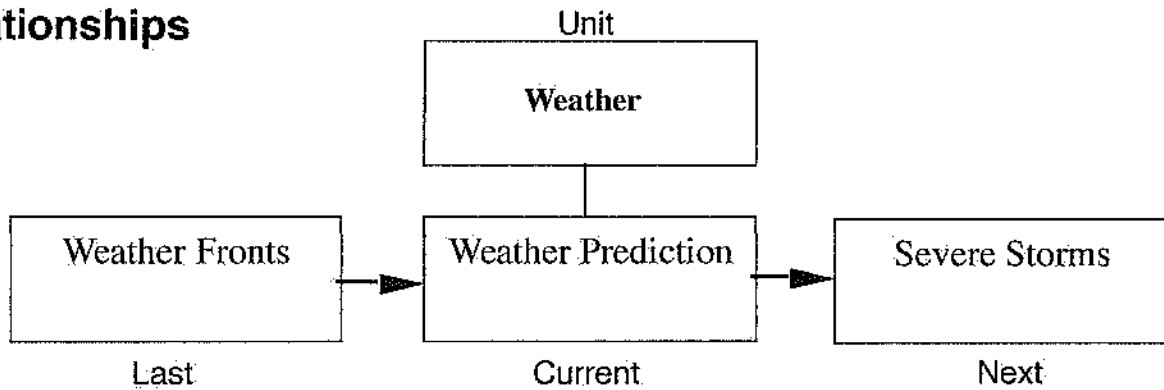
Title

How Can Weather Be Predicted?

1. Title: _____
2. This is about Models and tools meteorologists use to predict and forecast the weather

Relationships

3.



4. The relationship of current passage to the unit: _____
Understanding weather fronts helps meteorologists predict weather
5. The relationship of passages within the unit: _____
When meteorologists have the tools to predict weather they can warn people when severe storms are approaching.

Introduction

6. ● How meteorologists make station models and surface maps
- The tools and technology that meteorologists use to forecast weather
- _____

Main Parts

7. (Fill in next page)

Summary/Critical Questions

8. ● Meteorologists use data collected at weather stations to make surface maps.
- The information from these models is gathered using a variety of tools.
- Weather maps use data collected by weather satellites, Doppler radar, and weather balloons.

Main Part # 1: Forecasting the Weather

p. C108

Key Question

- _____
- Name three instruments used in weather forecasting. _____
- _____

Vocabulary

Forecast	Weather Balloon	_____
Station Model	_____	_____
Surface Map	_____	_____

Main Part # 2: Weather Maps

p. C110

Key Question

- _____
- What will the weather just ahead of the cold front be like in another 24 hours? _____
- _____

Vocabulary

Weather map	_____	_____
National Weather Service	_____	_____
_____	_____	_____

Main Part # : Satellite and Doppler Technology

p. C112

Key Question

- _____
- How do weather satellites and Doppler radar help meteorologists forecast violent _____
- _____ weather conditions? _____

Vocabulary

Weather satellites	_____	_____
Doppler radar	_____	_____
_____	_____	_____

Course _____
 Unit _____

**The Quality Assignment
 Planning Worksheet**

<p>P</p> <p><i>Plan the purpose of the assignment.</i></p>	<p>1. WHAT WILL STUDENTS ACCOMPLISH?</p> <p>Students perform an experiment using different temperatures of water to illustrate what air pressure can do.</p> <p>2. HOW WILL THEY DO THIS?</p> <p>Through an experiment that involves using different temperatures of water.</p>		<p>3. WHY IS THIS IMPORTANT? (BENEFITS)</p> <p>It is a hands on way to help students understand the concept of air pressure and that when air is warm it expands.</p>	
<p>L</p> <p><i>Link assignment to student needs & interests (HALO)</i></p>	<p>1. HOW CAN THE ASSIGNMENT BE MADE PERSONALLY RELEVANT FOR STUDENTS?</p> <p>Have students decorate their plastic bottles with markers so they can personalize it to their group.</p>	<p>2. OPTIONS / CHOICES?</p> <p>Can work in a small group, with a partner, or individually.</p>	<p>3. PITFALLS TO SUCCESSFUL COMPLETION OF WORK?</p> <p>1. Working in a group may not allow everyone to get a chance to be hands on. 2. Finding the buckets and bottles.</p>	<p>4. SOLUTIONS TO THESE PITFALLS?</p> <p>1. Establish that everyone will work in groups of 2. 2. Have a bucket and bottle ready for each group.</p>
<p>A</p> <p><i>Arrange clear student directions.</i></p>	<p>ACTION STEPS</p> <p>1. Complete experiment 2. Answer 4 draw conclusion questions by writing answers out, one paper per group.</p>	<p>SUPPLIES / RESOURCES</p> <p>Bucket or deep container Hot tap water 0.5L plastic bottle with cap Cold Tap Water Piece of paper Pencil</p>	<p>GRADING CRITERIA (PAGE 1, 2, ...)</p> <p>1. Verbally explain experiment steps to teacher, get cleared to move on to questions 2. Write answers out to 4 conclusion questions</p> <p>DUE DATE 10/8 PTS: 10 pts</p>	
<p>N</p> <p><i>Note evaluation date & results.</i></p>	<p>DATE TO REVIEW ASSIGNMENT OUTCOMES</p> <p>10/10</p> <p>RESULTS</p> <p>Students enjoyed the hands on experiment and were able to make the connections between air pressure and water pressure. Some students struggled with the conclusion questions that required more inferring answers. Next time, we will do the experiments the</p>		<p>RESULTS</p> <p>Same but answer the conclusion questions as a whole group with time for small group discussions first. Review conclusion questions prior to experiment to get the students thinking about the answers while performing the experiment.</p>	

Course _____
Unit _____

The Quality Assignment Planning Worksheet

<p>P</p> <p><i>Plan the purpose of the assignment</i></p>	<p>1. WHAT WILL STUDENTS ACCOMPLISH?</p> <p>Answer Lesson 2: What Are Weather Fronts? Review questions.</p> <p>2. HOW WILL THEY DO THIS?</p> <p>Students will write out the answers the 5 review questions at the end of the lesson.</p>		<p>3. WHY IS THIS IMPORTANT? (BENEFITS)</p> <p>To know what information they need more help understanding and to better prepare for the end of the Chapter test.</p>	
<p>L</p> <p><i>Link assignment to student needs & interests (HALO)</i></p>	<p>1. HOW CAN THE ASSIGNMENT BE MADE PERSONALLY RELEVANT FOR STUDENTS?</p> <p>Allow students to choose how they want to answer the questions (ex: paper/pencil, notecards, video)</p>	<p>2. OPTIONS / CHOICES?</p> <p>Students can work at any space in the room</p> <p>Can work individually or with a partner.</p>	<p>3. PITFALLS TO SUCCESSFUL COMPLETION OF WORK?</p> <p>If student hasn't read the lesson it will be difficult to answer questions.</p> <p>If they choose partner work, one person may do more of the work.</p>	<p>4. SOLUTIONS TO THESE PITFALLS?</p> <p>Tell students when they will be doing the review questions so that they know how much time they have to get the lesson read.</p> <p>If they work as partners, require both to hand in the answers.</p>
<p>A</p> <p><i>Arrange clear student directions</i></p>	<p>ACTION STEPS</p> <p>1. Read Lesson 2. Choose method of question answering 3. Answer review questions</p>	<p>SUPPLIES / RESOURCES</p> <p>Textbook Paper/Pencil Notecard iPad</p> <p>*supply depends on what delivery method student chooses</p>	<p>GRADING CRITERIA (PAGE 1, 2, ...)</p> <p>1. Name, date and lesson number are noted 2. 5 review questions are answered 3. Answers are written in complete sentences.</p> <p>DUE DATE: 10/11 PTS: 10 pts</p>	
<p>N</p> <p><i>Note evaluation date & results</i></p>	<p>DATE TO REVIEW ASSIGNMENT OUTCOMES</p> <p>10/14</p> <p>RESULTS</p> <p>The students enjoyed getting the choice of how they wanted to answer the questions and were allowed to be more creative. Some groups struggled with staying on task and needed more redirections.</p>		<p>RESULTS</p> <p>Next time I will designate spaces that can be worked in so there aren't any arguments over who is going to work where.</p>	

The Assignment Window

Course & Assignment: Science / Vocabulary Review

Date Given: 10/28

Date Due: 10/29

Directions: Use the terms found on page C126 under the heading Vocabulary

Review to complete the 10 sentences, can use textbook and notes as a resource.

Options: Write the entire sentence and underline the vocabulary work or just

write the number followed by the vocabulary word.

Grading Criteria: 1. Paper numbered 1-10. 2. Vocabulary word

matched with correct definition. 3. Vocabulary word spelt correctly.

Supplies/Resources: Textbook, paper, pencil.

Goal: To get 10/10.

The Assignment Window

??? Directions ?? Materials/Resource ?? Grading ???

Subject Science Date: Given 10/29 Due 10/30 Turned In

Read Answer Write Other

D: Answer review questions 19-29

O: Students may work individually or with a partner

G: number paper 19-29, critical thinking and process skills written on complete sentences

S/R: Textbook, notes, paper, pencil

Parts: # of study sessions: 1 Actual Grade Received:

- 1. Answer ?'s 19-23 10 min Grade Goal: A B C A B C D F
- 2. Critical Thinking ?'s 20 min
- 3. Process Skills Review ?'s 20 min Quality Goal: A B C Other: _____

Goal: Be prepared to take Chapter test on 11/1

Alternate Assessments

Option 1:

Students will form 4 small groups. Each group will be assigned a lesson from the chapter. The group will be responsible for creatively teaching that lesson to the entire group. They can choose to do a power point, a poster, a skit, etc. They need to have their presentation method pre-approved by the instructor before they start. The presentation needs to include an attention getter and an introduction to the topic, key details from the lesson, and some sort of assessment at the end. The group will be graded on accuracy of their information, participation, presentation, and level of creativity.

Option 2:

All students will be given a list of 5 essay questions pertaining to the chapter. Students will be required to choose 2 of the 5 questions to answer. Questions can be answered using a word document or hand written, either will be accepted. If it is hand written it needs to be legible. Final drafts should be well written using complete sentences and showing a sequence of thought. Students are able to use any class notes along with their book. Each question should be no shorter than one page.