

Scope and Sequence
Science - 5th Grade Gen Ed

Unit : Customary Units of Measurement

Terms to Know:	Convert, Inch, Foot, Yard, Mile, Fluid Ounce, Cup, Pint, Quart, Gallon, Ounce, Pound, Ton, Rename, Regroup,				
STUDENTS MUST KNOW HOW TO CORRECTLY SPELL AS WELL AS THE DEFINITION OF EACH OF THE "Terms to Know" EVERY WEEK!					
Timeline:	Day "A"	Day "B"	Day "C"	Day "D"	Day "E"
Week 1	Bellwork - 10 min	Bellwork - 10 min	Bellwork - 10 min	Bellwork - 10 min	Bellwork - 10 min
	<i>Sadlier Math, Chapter Fourteen, Pages 316-317</i> - Read aloud and discuss how the Customary Units of Length (CU) are related to each other; teacher to provide examples of meter sticks, rulers, and yard sticks; how are they similar yet different? Teacher to focus on only CU at this time - 10 min	Teacher to review homework; create illustrations on the board to assist in understanding; students to use rulers to measure various items in the classroom and gain an understanding of the dimensions of height, length, and width (ex. How tall is one brick vs the number of bricks in the wall?) - 20 min	<i>Sadlier Math, Chapter Fourteen, Page 317</i> - Teacher to review homework and create illustrations to support as needed; students to come to the board to demonstrate knowledge - 15 min	Teacher to review homework and converting from one unit to another; students to come to the board to work through solutions; Teacher to use measuring cups and liquid to display how to measure correct increments; Teacher to create examples that are VERY BASIC for deeper understanding of concepts - 15 min	Teacher to review Customary Units of Measurement (CU) as a class and provide examples of volume and distance to convert; students to work individually to convert but also come to the work to review and assist in discussion - 15 min
	<i>Sadlier Math, Chapter Fourteen, Page 316</i> - Teacher to review the units of measurement in this section and review visual examples; provide items at random for students to practice measuring with; Teacher to assist students in calculating examples of yard to feet and vice versa; Teacher to model how to complete "Practice #'s 1-3", remind students of CU values for each - 15 min	<i>Sadlier Math, Chapter Fourteen, Page 317</i> - Teacher to lead discussion of converting inches to feet and feet to yards; how many feet are in a mile? Provide examples; Teacher to permit calculator use to assist with decimals and fractions as needed to compute; calculator use in ONLY TEMPORARY and will be removed; there should be NO CALCULATOR USE IN MATH CLASS; complete together "Practice #'s 16-18" and evaluate - 10 min	<i>Sadlier Math, Chapter Fourteen, Page 318</i> - Teacher to display graduated cylinders, beakers (flasks), and other liquid containers to display volume; Teacher to discuss cups, pints, quarts, and gallons; Teacher to provide physical examples of volume such as a can of soda pop, a 20-oz bottle of soda pop, an empty 2-L of soda, and an empty gallon of milk; students to see visual comparisons of how volume relates to itself; discuss and compare - 15 min	<i>Sadlier Math, Chapter Fourteen, Page 319</i> - Teacher to assist students in converting units of measurement to other units (ounces to cups, cups to gallons, etc) and discuss how to make conversions; as a class practice together "Practice #'s 13-15" and review solutions; students to individually convert "Practice #'s 16-19"; students to come to the board to present knowledge and information - 20 min	Students to illustrate, color, and label an image of six items and an approximate size in volume or distance; three of the illustrations are to relate to distance and three will relate to volume; include the measurements of each distance and liquid AS WELL AS AT LEAST two converted measurements to correlate with the illustration; for example: if a student illustrates a 20-oz bottle of Pepsi, they must also include a conversion of 2 cups, 4 oz and 1 pint, 4 oz as part of the illustration; Students to be clear in their illustrations and labels as well as their conversions for each; total of six illustrations, six labels, and 12 conversions - 30 min
<i>Sadlier Math, Chapter Fourteen, Page 316</i> - Students in pairs to practice completing "Practice #'s 4-9"; Teacher to travel to each group to assist as needed and direct students; Teacher to assist with decimal and fraction values; Teacher to review work and illustrate images to help display values - 15 min	<i>Sadlier Math, Chapter Fourteen, Page 317</i> - Teacher to assist students with finding the length of items in the hallway (locker height & width, tile length to calculate the length of the hallway); students in pairs, complete "Practice #'s 19-22" together; Teacher to visit each pair for assistance; review work together as a class - 15 min	<i>Sadlier Math, Chapter Fourteen, Page 318</i> - Teacher to model how to complete "Practice #'s 1-3"; students to individually complete "Practice #'s 4-6" and discuss aloud as a class; Teacher to review each problem for accuracy; Teacher to demonstrate how to convert cups to ounces and quarts to cups; create problems to discuss - 15 min	<i>Sadlier Math, Chapter Fourteen, Page 319</i> - Students in pairs, complete "Practice #'s 20-25" together; Teacher to come to each pair to assist and discuss results; students to work together to solve through each conversion - 10 min		

Bellwork Topic:	What units of measurement are you familiar with? How does each unit relate to other ones that you know of?	Watch "Inches, Feet and Yards Song Measurement Song Customary Units" on YouTube (2:10 min) and discuss how inches, feet, and yards relate; provide examples of each	Teacher-created examples (three) of converting feet to yards and miles and vice versa	Watch "Capacity Song Customary Units of Liquid Measurement Song" on YouTube (2:56 min) and discuss units of liquid measurement; provide examples to review	Teacher-created examples (three) of converting ounces to cups and gallons and vice versa
Suppliment Extra Time With:	Teacher guided instruction on samples of converting inches to feet and feet to yards	Additional time dedicated to converting feet to a mile	Review conversions from one unit to another including partial measurements	Teacher-created questions regarding converting liquid volume to other units	Additional review questions of converting distance and volume
Daily Homework:	<i>Sadlier Math, Chapter Fourteen, Pages 316-317</i> - Complete "Practice #'s 10-15"; due tomorrow!	<i>Sadlier Math, Chapter Fourteen, Page 317</i> - Complete "Problem Solving #'s 23-27"; due tomorrow!	<i>Sadlier Math, Chapter Fourteen, Pages 318-319</i> - Complete "Practice #'s 7-12"; due tomorrow!	<i>Sadlier Math, Chapter Fourteen, Page 319</i> - Complete "Practice #'s 26-30"; due tomorrow!	Find five items at how that include volume as a unit of measurement; list those items and their volume; convert that volume to two different units of measurement; due tomorrow!
Timeline:	Day "A"	Day "B"	Day "C"	Day "D"	Day "E"
Week 2	Bellwork - 10 min	Bellwork - 10 min	Bellwork - 10 min	Bellwork - 10 min	Bellwork - 10 min
	<i>Sadlier Math, Chapter Fourteen, Page 320</i> - Teacher to provide a balance scale and spring scale; display ounces by measuring various items with them; students to assist in measuring process; present 16 ounces so that students know one pound looks like - 15 min	Students to assist Teacher in measuring various items using a gram scale and a spring scale; Teacher to allow students to lead the process and have enough items and scales so that as many students may partake as possible; Teacher to review measuring in distance and volume with examples of each as well - 15 min	Teacher to review measuring in distance, volume, and weight by providing tools for measurement (graduated cylinder, scale, and yard stick); students to come up to practice measuring with each and seated students will practice converting to different units of the same type - 15 min	Teacher to review measuring units in weight, volume, and distance; Teacher to have items to measure with a scale, graduated cylinder, and yard stick; students to come up to practice; students who are seated to convert to measurements that the Teacher specifies - 15 min	<i>Sadlier Math, Chapter Fourteen, "Check Your Progress", Pages 324-325</i> - Students in pairs, complete any five problems (twenty total problems to complete) between #'s 33-40, #'s 41-58, #'s 59-66, and #'s 67-71; Teacher to rotate to each pair and assist as needed, students to randomly alternate between going to the board to complete problems and complete at their seats; Teacher to choose which students go at which time to the board and which problems to complete; Teacher to assist at the board or in pairs as needed - 25 min
	<i>Sadlier Math, Chapter Fourteen, Page 320</i> - Teacher to demonstrate how to convert ounces to pounds and pounds to tons; students may use a calculato to assit but NEVER in math class; Teacher to model how to convert "Practice #'s 1-3" and discuss how to convert; students to follow along and come to the board to assist - 15 min	<i>Sadlier Math, Chapter Fourteen, Page 321</i> - Students to work in groups of 3 or 4, complete "Practice #'s 18-23" together and discuss; Teacher to travel to each group to assist as necessary; students will come to the board when complete to work out solutions and demonstrate - 20 min	<i>Sadlier Math, Chapter Fourteen, Page 322</i> - Teacher to demonstrate how to solve for subtracting or adding a value of customary units from (or to) another value of customary units; Model how to complete "Practice #'s 1-4"; students to approach the board to assist; Teacher to lead but allow students to take an active role in computation - 15 min	<i>Sadlier Math, Chapter Fourteen "Check Your Progress", Page 324</i> - Students to individually complete #'s 1-10 privately and quietly; bring your work to your Teacher after every three problems for review and discussion about accuracy and processing - 15 min	

	<i>Sadlier Math, Chapter Fourteen, Pages 320-321</i> - Students to come to the board and work with the Teacher before the class to convert "Practice #'s 4-8"; students to follow along and work at their seats; individually, students will complete "Practice #'s 9-10" and review as a class - 15 min	<i>Sadlier Math, Chapter Fourteen, Page 321</i> - Students to individually and privately complete "Practice 24-28"; Teacher to circle around to each child to review work and assist as needed - 10 min	<i>Sadlier Math, Chapter Fourteen, Page 323</i> - Divide the class into three groups; one group will work independently, one group will work in pairs, and one group will work together with the Teacher; complete as instructed "Practice #'s 5-10" and review as a class when complete - 15 min	<i>Sadlier Math, Chapter Fourteen "Check Your Progress", Page 324</i> - Students in pairs, complete #'s 17-25 together; after every fifth problem completed, write the correct answer and process of how to solve one problem on the board; do not write the same as other students - 15 min	Quiz on "Terms to Know from Week One" and converting Customary Units of Measurement - 20 min
Bellwork Topic:	Teacher-created examples (four) of converting units based upon their volume and distance	Watch "Ounces , Pounds, & Tons Song ★ Customary Units of Measurement" on YouTube (2:07 min) and discuss examples of materials and their weight	Students to estimate the weight of three items by prediction; Teacher to take the actual weight using a spring scale or balance scale	<i>Sadlier Math, Chapter Fourteen, Page 323</i> - Complete any four problems in "Problem Solving #'s 18-23" and discuss	<i>Sadlier Math, Chapter Fourteen, "Check Your Progress", Page 324</i> - Complete #'s 11-16 and discuss
Suppliment Extra Time With:	Teacher to include other items to practice measuring with and convert those items to different measurements	Teacher-created examples of how to solve for converting customary units of weight	Teacher to lead review of how to solve CU conversion	Additional discussion on how to convert specifically for length, width, and distance	Review and practice on converting areas that are troublesome prior to the quiz
Daily Homework:	<i>Sadlier Math, Chapter Fourteen, Page 321</i> - Complete "Practice #'s 11-17"; due tomorrow!	<i>Sadlier Math, Chapter Fourteen, Page 321</i> - Complete "Problem Solving #'s 29-32"; due tomorrow!	<i>Sadlier Math, Chapter Fourteen, Page 323</i> - Complete "Practice #'s 11-19"; due tomorrow!	Study for quiz tomorrow on "Terms to Know from Week One" and converting Customary Units of Measurement!	Define any ten of the fifteen "Terms to Know from Week One" in your own words; due tomorrow!

Unit: Waves, Sound, and Light

Terms to Know:	<i>Wave, Medium, Mechanical Wave, Transverse Wave, Longitudinal Wave, Crest, Trough, Amplitude, Wavelength, Frequency, Reflection, Refraction, Diffraction, Interference, Sound, Vibration, Vacuum, Pitch, Hertz, Ultrasound, Resonance, Doppler Effect, Intensity, Decibel, Amplification, Acoustics, Echolocation, Sonar,</i>				
<i>STUDENTS MUST KNOW HOW TO CORRECTLY SPELL AS WELL AS THE DEFINITION OF EACH OF THE "Terms to Know" EVERY WEEK!</i>					
Timeline:	Day "A"	Day "B"	Day "C"	Day "D"	Day "E"
	Bellwork - 10 min	Bellwork - 10 min	Bellwork - 10 min	Bellwork - 10 min	Bellwork - 10 min
	<i>ML Science, Waves, Sound, & Light, Pages 2-5</i> - Read aloud as a class and discuss how waves are all around us; how can waves assist us in medicine? What animals can you think of that use waves for motion (ex. jellyfish)? What animals use echolocation (ex. bats)? - 20 min	<i>ML Science, Waves, Sound, & Light, Pages 9-12 (stop at "Waves can be classified...")</i> - Using a "Four Square Diagram" read aloud and outline the terms "wave" and "medium"; using Google Images, Teacher to display images of waves (or their effects) on the CLEVER Board; discuss what creates waves and how they move - 25 min	<i>ML Science, Waves, Sound, & Light, Pages 12-14</i> - Read aloud and discuss transverse waves; what does "transverse" mean? What other words include "trans" in it? What do those words mean? Use "Google" to assist in locating those words if needed - 15 min	Watch "What Causes A Tsunami?" on YouTube (3:08 min) and discuss what causes tsunamis to occur? How does the Earth's shifting plates make a tsunami? What else do you think could create a tsunami? Discuss and share ideas - 10 min	<i>ML Science, Waves, Sound, & Light, Pages 16-18 (stop at "Graphing Wave Properties")</i> - Read aloud and discuss; create a "Four Square Diagram" for the terms tsunami and wave properties; share and discuss "Four Square Diagrams" with the class - 20 min

Week 3	Students in pairs, create a list of the different types of waves that you can think of (have a goal of ten different types per list); share your lists with the class; discuss each type whether you think it is a sound, light, or energy wave - 15 min	<i>ML Science, Waves, Sound, & Light, Page 9</i> - Students to use ribbon, twine, string, or another material to tie to a chair and simulate waves; students in pairs, answer the questions in the mini-lab; share and discuss as a class - 15 min	<i>ML Science, Waves, Sound, & Light, Page 13</i> - Students in groups of 3 or 4, use a Slinky, spring, or thick rope to synthesize a wave as per the mini-lab on this page; using Google Docs, answer the questions and submit to your teacher - 20 min	<i>ML Science, Waves, Sound, and Light, "Math in Science", Page 15</i> - Read aloud and discuss wave heights and how to solve for mean, median, and mode; Teacher to lead discussion and solve together; Teacher to create two additional weeks of data; students in pairs, solve the two Teacher-created weeks and discuss as a class aloud - 25 min	Students to illustrate, color, and label a scene at the beach; students will include a tsunami coming towards the beach; label the following terms in your diagram: amplitude, wavelength, trough, crest, frequency, and fixed point; on the back of the illustration, define each term in your own words; provide to Teacher when completed - 25 min
	As a class, go to the website " https://www.discoverwildlife.com/animal-facts/mammals/what-is-echolocation/ " and read about echolocation; if time permits watch the videos on how bats and some humans use it - 10 min	<i>ML Science, Waves, Sound, & Light, Page 12</i> - Students to simulate the motion of a wave similar to as displayed on this page or also seen at baseball games - 10 min	<i>ML Science, Waves, Sound, & Light, Page 14</i> - As a class, complete "#6 Challenge" together and discuss how waves operate over a large length; what are two ways that the waves could be effected? - 10 min	<i>ML Science, Waves, Sound, and Light, "Reviewing Vocabulary, #'s 1 & 4", Page 31</i> - As a class, complete a "word triangle" for #1; students to individually complete a "word triangle" for #4; discuss and share as a class - 15 min	
Bellwork Topic:	What are waves? Try to write a definition for what a wave is	Define echolocation; think of three animals that use it	Why do you think ocean waves, or the waves at a beach, move? What makes them move?	What is a tsunami? How does it relate to a transverse wave? Use Google to research it if needed	Create three questions (and their answers) about waves that you may see on a quiz
Daily Homework:	Try using echolocation to walk around your home; describe your experience in one paragraph	Define mechanical wave; list three examples of them and why they are mechanical waves	<i>ML Science, Waves, Sound, and Light, 1.1 Review, Page 14</i> - Complete #'s 1-3 in complete sentences or as requested; due tomorrow!	<i>ML Science, Waves, Sound, and Light, 1.1 Review, Page 14</i> - Complete #'s 4-5 in complete sentences or as requested; due tomorrow!	Complete your illustration, coloring, labeling, and definitions if you did not complete it in class today; due tomorrow!
Timeline:	Day "A"	Day "B"	Day "C"	Day "D"	Day "E"
Week 4	Bellwork - 10 min	Bellwork - 10 min	Bellwork - 10 min	Bellwork - 10 min	Bellwork - 10 min
	<i>ML Science, Waves, Sound, & Light, Pages 18-21</i> - Read aloud and discuss how to graph wave properties; what is the difference between high and low frequency? Teacher to provide examples of each by asking and illustrating both high and low frequency and having students decipher - 20 min	Students in pairs, using a Venn Diagram compare & contrast longitudinal waves and transverse waves; list at least two statements for each section (six total statements); share with the class - 20 min	<i>ML Science, Waves, Sound, and Light, Page 20</i> - Students in groups of 3 or 4, complete the lab together and answer the questions via Google Docs; submit to your Teacher when complete; discuss and share thoughts when complete - 30 min	Teacher to use Google Images to display real-life images of reflection and refraction in water; students to use their Chromebooks to find additional images - 10 min	Teacher to provide examples of the Speed formula and how to "combine waves together" using it - 20 min
	<i>ML Science, Waves, Sound & Light, Page 20</i> - Using very basic numbers, Teacher to provide examples of solving for speed of a wave by solving wavelength multiplied by frequency; introduce pre-algebra by having students try to solve for either wavelength or frequency by dividing for a variable - 15 min	<i>ML Science, Waves, Sound, and Light, "Chapter One Review, Using Math in Science, #'s 29-32", Page 32</i> - Students in groups of 3 or 4, solve each problem together; Teacher to circle to each group to assist in solving; discuss results as a class - 20 min		Students to write a four line poem about reflection or refraction; the poem can be about any school-appropriate subject; lines can rhyme in whatever pattern students would like (ex. ABAB, AABB, or ABCB); Teacher to provide examples as needed; students to share poems with the class as desired - 20 min	<i>ML Science, Waves, Sound, and Light, "Connecting Sciences", Page 29</i> - Read aloud about tsunamis and their causes; read about how waves are changed due to many factors undersea; students in pairs, solve "Explore #'s 1-2" together

	Teacher to provide several examples of solving for speed, wavelength, or frequency; students to solve independently; Teacher to travel to each child to assist; review as a class - 10 min	Teacher to create additional problems to solve for speed, wavelength, and frequency to ensure content knowledge; complete together as a class and discuss - 10 min	<i>ML Science, Waves, Sound, and Light, Pages 24-25</i> - Read aloud and discuss reflection and refraction; what is the difference? Teacher to provide examples of both using mirrors and clear glasses full of water - 10 min	<i>ML Science, Waves, Sound, and Light, Pages 26-28</i> - Read aloud and discuss how waves can effect each other; What is interference? What are some examples of interference that students can think of? How does it relate to waves? - 15 min	and share your findings with the class; discuss major tsunami events across the world - 25 min
Bellwork Topic:	What are longitudinal waves? Provide two examples	Teacher-created problems solving for speed, wavelength, or frequency; review together	Illustrate a wave including the crest, trough, wavelength, fixed point, and amplitude	What is the difference between reflection and refraction?	How can you use the formula for speed to demonstrate two waves adding together? Create an example
Daily Homework:	Teacher to create a worksheet of five problems solving for speed, wavelength, or frequency; complete and show work; due tomorrow!	<i>ML Science, Waves, Sound, and Light, 1.2 Review, Page 21</i> - Complete #'s 1-3 in complete sentences or as requested; due tomorrow!	<i>ML Science, Waves, Sound, and Light, 1.2 Review, Page 21</i> - Complete #'s 4-5 in complete sentences or as requested; due tomorrow!	Find three examples of reflection and three examples of refraction after school today; write a list of all six items and their type; due tomorrow!	<i>ML Science, Waves, Sound, and Light, 1.3 Review, Page 28</i> - Complete #'s 1-3 in complete sentences or as requested; due tomorrow!
Terms to Know:	<i>Sound, Vibration, Vacuum, Pitch, Hertz, Ultrasound, Resonance, Doppler Effect, Intensity, Decibel, Amplification, Acoustics, Echolocation, Sonar,</i>				
<i>STUDENTS MUST KNOW HOW TO CORRECTLY SPELL AS WELL AS THE DEFINITION OF EACH OF THE "Terms to Know" EVERY WEEK!</i>					
Timeline:	Day "A"	Day "B"	Day "C"	Day "D"	Day "E"
Week 5	Bellwork - 10 min	Bellwork - 10 min	Bellwork - 10 min	Bellwork - 10 min	Quiz on waves, properties of waves, and the formula for speed - 20 min
	<i>ML Science, Waves, Sound, and Light, "Standardized Test Practice", Page 33</i> - As a class, read aloud and analyze the image; as a class solve #'s 1-4 and discuss why each answer is correct AS WELL AS why the others are incorrect - 15 min	Watch "What is Sound? The Dr. Binocs Show Learn Videos For Kids" on YouTube (3:54 min) and discuss what a vacuum is, how your body hears sound, and how sound travels; what are hertz? What is ultrasound? Where may you know these terms? - 10 min	Students in groups of 3 or 4, brainstorm a list of three things that could happen to someone if they are born deaf or are losing their hearing; use what you've learned about the human ear to help guide you; share your thoughts with the class - 20 min	<i>ML Science, Waves, Sound, and Light, Page 41</i> - Students in groups of five, complete the mini-lab together; answer the questions via Google Docs and share with the Teacher when complete - 20 min	
	<i>ML Science, Waves, Sound, and Light, "Standardized Test Practice", Page 33</i> - Students in pairs, complete #'s 5-6 together via Google Docs; share your responses with your Teacher; discuss as a class your responses - 15 min	<i>ML Science, Waves, Sound, and Light, Page 39</i> - Illustrate, color, and label the human inner ear as depicted on page 39; include the terms cochlea, hammer, anvil, stirrup, eardrum, outer ear, inner ear, and vibrations; on the back of your illustration, define each term in your own words - 35 min	<i>ML Science, Waves, Sound, and Light, Pages 40-43</i> - Students in Literacy Circles, read this section aloud to your group; create a list of five important facts in the reading; groups to share facts with the class; Teacher to guide sharing and assist with questions - 20 min		
	<i>ML Science, Waves, Sound, and Light, Pages 37-39</i> - Read aloud and discuss how your body hears sound; what are the bones in your ear that help you to hear? What happens that allow us to talk? What does vibrate mean? - 15 min		Teacher to Google images of the inside of the human ear, human larynx, and how sound travels to and from them - 10 min	Review for quiz tomorrow on waves, parts of the wave, their properties, and the formula for speed - 20 min	Watch "S Airplane's Breaking SPEED OF SOUND! (Best Sonic Boom)" on YouTube (5:35 min) and discuss how the sound barrier has been broken by planes; could this happen on the ground? What is seen behind the plane when the sound barrier is broken? Why do you think that is? - 10 min

Bellwork Topic:	Solve two formulas for speed of a wave	How do human vocal cords produce sound waves?	What are two things that you can think of that would cause someone to lose their voice? Think of what we learned about sound	What are three cities on Earth that sound will travel FASTER than in Cleveland? How do you know this?	None
Daily Homework:	<i>ML Science, Waves, Sound, and Light, 1.3 Review, Page 28</i> - Complete #'s 4-6 in complete sentences or as requested; due tomorrow!	<i>ML Science, Waves, Sound, and Light, "Chapter One Review, Reviewing Key Concepts, #'s 11-19"</i> - Select the letter that best answers each question; due tomorrow!	<i>ML Science, Waves, Sound, and Light, 2.1 Review, Page 43</i> - Complete #'s 1-3 in complete sentences or as requested; due tomorrow!	Study for your quiz tomorrow on waves, properties of waves, formula for speed, and "Terms to Know for Week Three"!	<i>ML Science, Waves, Sound, and Light, 2.1 Review, Page 43</i> - Complete #'s 4-6 in complete sentences or as requested; due tomorrow!
Timeline:	Day "A"	Day "B"	Day "C"	Day "D"	Day "E"
Week 6	Bellwork - 10 min	Bellwork - 10 min	Bellwork - 10 min	Bellwork - 10 min	Bellwork - 10 min
	<i>ML Science, Waves, Sound, and Light, Pages 45-47</i> - Read aloud and use a "Word Wheel" to outline characteristics of the terms "pitch", "hertz", and "ultrasound"; Teacher to review the characteristics of high & low frequencies; which animals on the chart on page 47 can hear sounds that humans cannot? Which animals on the chart CANNOT hear sounds that humans can? - 25 min	(Part II of II) Finish the bar chart from the previous lesson of the sounds heard by animals and their frequencies measured in hertz, plus five additional ones that students select; share with Teacher when completed - 20 min	<i>ML Science, Waves, Sound, and Light, Page 48</i> - Students in groups of five, complete the mini-lab together and answer the questions via Google Docs; submit to your Teacher when complete; discuss results as a class - 25 min	<i>ML Science, Waves, Sound, and Light, "Standardized Test Practice", Page 69</i> - As a class, read the experiment aloud; answer & discuss #'s 1-4 together incorporating why some answers are incorrect - 15 min	<i>ML Science, Waves, Sound, and Light, Page 53</i> - Students in groups of 3 or 4, complete the mini-lab together on this page and answer the questions via Google Docs; share with your Teacher when complete - 15 min
		<i>ML Science, Waves, Sound, and Light, Page 45</i> - Students in pairs, complete the mini-lab and answer questions via Google Docs; share with your Teacher when complete - 10 min	Using computer paper and crayons or markers, students will write an acoustic using either of the terms Pitch, Hertz, Doppler Effect, or Resonance; writing should describe the term or examples of it; students to share with the class - 25 min	<i>ML Science, Waves, Sound, and Light, "Standardized Test Practice", Page 69</i> - Students in pairs, complete via Google Docs #'s 5-6 together (one paper per pair); include the provided terms in your responses; share with Teacher when complete - 15 min	<i>ML Science, Waves, Sound, and Light, Page 54</i> - Review the illustration on this page; students to use their Chromebooks to explore the sound intensities in decibels of other common noises and share with the class - 15 min
(Part I of II) Using Google Sheets and their Chromebooks, students will create a bar graph of the animals on page 47 and the frequency measured by hertz that they can hear; students will then research five other animals and the highest level frequency (in hertz) that they can hear and graph them on their created table; share with Teacher when completed - 20 min	<i>ML Science, Waves, Sound, and Light, Pages 48-51</i> - Read aloud and discuss "resonance", sound quality, and the "Doppler Effect"; create a list as a class of things that would create a Doppler Effect; what do you notice about each item on the list? What is a requirement of the Doppler Effect for it to work properly? - 15 min	<i>ML Science, Waves, Sound, and Light, Pages 52-54</i> - Read aloud and discuss how intensity determines how loud a sound is; use a "Main Idea & Supporting Statements" graphic organizer to outline this section including the terms "intensity, decibel, amplification, & acoustics" when you arrive at them in the reading - 15 min	<i>ML Science, Waves, Sound, and Light, Pages 55-56</i> - Read aloud and continue using the "Main Idea & Supporting Statements" graphic organizer from the previous lesson outlining the requested terms with supporting statements - 15 min		
Bellwork Topic:	What is a sonic boom? What does it mean to break the sound barrier?	Define pitch, hertz, and ultrasound in your own words	<i>ML Science, Waves, Sound, and Light, Page 50</i> - Create a "word wheel" for the term "Doppler Effect"	List two examples of the Doppler Effect that you can hear or observe	Define decibel and intensity
Daily Homework:	What do you think may be specifically different in the ear of a dog, bat, or porpoise that they can hear sounds that humans cannot? Provide an example	Draw a sketch of the Doppler Effect occurring; label where you would hear the highest pitch and would you'd hear the lowest pitch	<i>ML Science, Waves, Sound, and Light, 2.2 Review, Page 51</i> - Complete #'s 1-3 in complete sentences or as requested; due tomorrow!	<i>ML Science, Waves, Sound, and Light, 2.2 Review, Page 51</i> - Complete #'s 4-6 in complete sentences or as requested; due tomorrow!	Think of and write a list of three jobs in which you should wear ear protection due to noise; what do you predict the decibel levels to be at these jobs (use page 54 to help)? Go online to assist you if needed
Timeline:	Day "A"	Day "B"	Day "C"	Day "D"	Day "E"

Week 7	Bellwork - 10 min	Bellwork - 10 min	Bellwork - 10 min	Bellwork - 10 min	Quiz on sound, frequencies, and "Terms to Know from Week Five" - 20 min	
	<i>ML Science, Waves, Sound, & Light, Page 57</i> - Read aloud and discuss what audiogram's do; ask students if they've ever had a hearing test; what was it like? Teacher to review the graph, including the title of the graph, the titles of each axis, which axis is the "X" and "Y" axis, and the interval of each axis - 15 min	Students in pairs, using a "Cause and Effect" graphic organizer discuss how sonar operates; share your results with the class and review - 20 min	Students to teach the class about their topic from the previous lesson; Teacher to review and discuss each segment to ensure content knowledge - 25 min	<i>ML Science, Waves, Sound, & Light, "Chapter Two Review, Reviewing Vocabulary & Reviewing Key Concepts" #'s 5-10 & 11-19, Page 67</i> - Students in pairs, using notebook paper complete "Frame Game" graphic organizers for		
	<i>ML Science, Waves, Sound, & Light, Page 57</i> - Students in pairs, complete #'s 1-3 and CHALLENGE via Google Docs; share with the Teacher when complete; discuss responses as a class - 20 min	Watch "How SONAR Works" on YouTube (3:22 min) and discuss how sonar works for submarines and bats; what does sonar actually do for submarines that allow objects to be seen? Share and discuss thoughts as a class - 10 min	<i>ML Science, Waves, Sound, & Light, Page 58</i> - Students in groups of 3 or 4, complete the mini-lab together and answer the questions via Google Docs; share with Teacher when complete; try the activity with other students to see if you have the same results - 15 min	THREE of the six vocabulary terms provided as well as complete the multiple choice and short answer questions; share responses as a class to review and share knowledge to ensure accuracy - 30 min		Illustrate, color, and label a picture of a bat in a cave and using sonar (technically echolocation) to locate objects; students will include the waves moving to and from the object from the bat; students to write an explanation of their picture on the back to demonstrate knowledge of the concept - 30 min
	<i>ML Science, Waves, Sound, & Light, Pages 58-60 (stop at "Sound Waves can Produce Music")</i> - Read aloud and discuss echolocation and sonar; use a "Sequence" graphic organizer to outline how an echo wave leaves a bat to find food and then retrieve it - 15 min	<i>ML Science, Waves, Sound, & Light, Pages 60-63</i> - Divide students into three groups, each group will read EITHER "Medical Uses of Ultrasound", "Sound waves can Produce Music", or "Sound can be recorded and reproduced"; students will do the material in their groups and prepare to teach their section to the class in the next lesson - 20 min	Teacher and students to go to the following website "www.factmonster.com/culture-entertainment/music/musical-instruments" to review how instruments work and how they make sound; share and discuss thoughts for each section; how do electronic instruments work versus those requiring air? How do sound waves relate in both? - 10 min	Review for quiz tomorrow on sound, frequency, and "Terms to Know from Week Five" - 20 min		
Bellwork Topic:	What are acoustics? How do they relate to amplification?	Describe in your own words how a bat uses echolocation to find food, locate the food, and be able to catch the food to eat	Describe sonar and how it works; how does a submarine use sonar to find objects at sea	If you had to select one instrument to play, what would it be? Why is that? How do sound waves travel from that instrument to make music?	None	
Daily Homework:	<i>ML Science, Waves, Sound, and Light, 2.3 Review, Page 56</i> - Complete #'s 1-3 in complete sentences or as requested; due tomorrow!	<i>ML Science, Waves, Sound, and Light, 2.3 Review, Page 56</i> - Complete #'s 4-6 in complete sentences or as requested; due tomorrow!	<i>ML Science, Waves, Sound, and Light, 2.4 Review, Page 63</i> - Complete #'s 1-3 in complete sentences or as requested; due tomorrow!	Study for quiz tomorrow on sound, frequency, and "Terms to Know from Week Five"!	<i>ML Science, Waves, Sound, and Light, 2.4 Review, Page 63</i> - Complete #'s 4-6 in complete sentences or as requested; due tomorrow!	
Terms to Know:	<i>Electromagnetic Wave, Radiation, Electromagnetic Spectrum, Radio Waves, Microwaves, Visible Light, Infrared Light, Ultraviolet Light, X-Rays, Gamma Rays, Incandescence, Luminescence, Bioluminescence, Fluorescence, Transmission, Absorption, Scattering, Polarization, Prism, Primary Colors, Primary Pigments,</i>					
STUDENTS MUST KNOW HOW TO CORRECTLY SPELL AS WELL AS THE DEFINITION OF EACH OF THE "Terms to Know" EVERY WEEK!						
Timeline:	Day "A"	Day "B"	Day "C"	Day "D"	Day "E"	
	Bellwork - 10 min	Bellwork - 10 min	Bellwork - 10 min	Bellwork - 10 min	Bellwork - 10 min	

Week 8	<p><i>ML Science, Waves, Sound, & Light, Pages 73-74</i> - Read aloud and discuss EM Waves; discuss the types of waves that may be "all around you" right now, what types of waves may you be perceiving? What are the two types of waves that make up EM waves? What are EM waves? - 15 min</p>	<p><i>ML Science, Waves, Sound, & Light, Pages 75-77</i> - Students in pairs, read together and write six important notes about the material that you read; Teacher to assist as needed; share your notes and thoughts with the class in a classwide discussion - 25 min</p>	<p><i>ML Science, Waves, Sound, & Light, Pages 79-83</i> - Read aloud and use a "Main Ideas & Supporting Ideas" graphic organizer to outline this section; discuss the electromagnetic spectrum; what type of relationship does wavelength and frequency have in this spectrum (indirect)? - 25 min</p>	<p><i>ML Science, Waves, Sound, & Light, Pages 84-86</i> - Read aloud and continue using a "Main Ideas & Supporting Ideas" graphic organizer from the previous lesson to outline this section; discuss the various types of EM waves; what is visible light? How does it appear to us? What is ROYGBIV? - 25 min</p>	<p>Students to illustrate, color, and label the Electromagnetic Spectrum in order from the lowest frequency to the highest frequency; use your textbook, your previously made sketch, or Chromebooks to assist you; include a drawing of a use of each type of EM wave as provided in your textbook; label the frequency and wavelengths in the correct order for each wave as if they were a number line - 30 min</p> <p>Students in pairs, use a Venn Diagram to compare & contrast two different types of EM waves; Teacher to select the waves at random to provide to the student pairs to compare & contrast; students must have two statements per section (six total); share & discuss as a class when complete - 20 min</p>
	<p><i>ML Science, Waves, Sound, & Light, Pages 73-74</i> - Students in pairs, create a "Frame Game" graphic organizer for the term "electromagnetic wave" and the word "disturbance"; share your graphic organizers with the class and discuss - 20 min</p>	<p>Teacher to review the difference between transverse waves and mechanical waves; if mechanical waves move items around them, do they exist in outer space? Is there sound in space? Why or why not? - 10 min</p>	<p>Students to sketch the electromagnetic spectrum (save this illustration); Teacher to review how the higher the wavelength, the lower the frequency (indirect relationship) and vice versa; discuss radio waves and AM / FM; what does AM and FM stand for? - 15 min</p>	<p><i>ML Science, Waves, Sound, & Light, Pages 80-81</i> - Review the Electromagnetic Spectrum on these pages and how each type of wave is used by humans; what are some uses for each? Students in pairs, discuss how can these waves be harmful to humans? Teacher to assign different types of waves to different student pairs, use Google to research this topic and present your findings to the class - 25 min</p>	
	<p>Students to go outside with pocket mirrors or hand-held reflective devices; locate the sun and try to reflect the image of the sun onto another image such as a bullseye on a paper; try reflecting it twice onto two mirrors or reflective devices, does this change the image at all? What observations do you notice about EM waves through this exercise? - 15 min</p>	<p><i>ML Science, Waves, Sound, & Light, Page 77</i> - Review as a class how a microwave works and what radiation is; how does a microwave oven cook food? Based upon this concept, is it safe to stand in front of microwaves when they're on? Why or why not? - 10 min</p>	<p>Watch "KS3 Electromagnetic Spectrum" on YouTube (4:41 min) and discuss the difference in various types of EM waves; what are the uses for the various types of waves? - 10 min</p>		
Bellwork Topic:	<p>What are electromagnetic waves? If you don't know, what does it sound like they are based upon the name?</p>	<p>What are two sources of EM waves on Earth?</p>	<p>Draw a sketch of an EM wave compared to a traditional wave; how are they different?</p>	<p>What is the electromagnetic spectrum? List at least three of the seven types of EM waves in it</p>	<p>What are the colors of visible light in order? How do humans perceive infrared radiation?</p>
Daily Homework:	<p>Use a flashlight to shine light at mirrors at your home, how can you bend or manipulate the light? Shine it through water, how does water change the flashlight rays?</p>	<p><i>ML Science, Waves, Sound, and Light, 3.1 Review, Page 77</i> - Complete #'s 1-3 in complete sentences or as requested; due tomorrow!</p>	<p><i>ML Science, Waves, Sound, and Light, 3.1 Review, Page 77</i> - Complete #'s 4-6 in complete sentences or as requested; due tomorrow!</p>	<p><i>ML Science, Waves, Sound, and Light, 3.2 Review, Page 86</i> - Complete #'s 1-3 in complete sentences or as requested; due tomorrow!</p>	<p><i>ML Science, Waves, Sound, and Light, 3.2 Review, Page 86</i> - Complete #'s 4-6 in complete sentences or as requested; due tomorrow!</p>
Timeline:	Day "A"	Day "B"	Day "C"	Day "D"	Day "E"
	Bellwork - 10 min	Bellwork - 10 min	Bellwork - 5 min	Bellwork - 5 min	Bellwork - 5 min
	<p><i>ML Science, Waves, Sound, & Light, Pages 88-92</i> - Read aloud and discuss; use a "letters & numbers" outline as</p>	<p>Watch "Bioluminescence on Camera National Geographic" on YouTube (3:57 min) and discuss creatures that use bioluminescence in the Caribbean Sea from the video; why does a giant squid have such a large eye? What is bioluminescence? How does it work? Why does the water glow? - 10 min</p>	<p>Students in groups of 3 or 4, using Google Sheets create a table to outline research on how LED, incandescent, and fluorescent light bulbs are different from each other in at least three ways each; share your spreadsheet with Teacher when complete; discuss ideas and findings with the class - 25 min</p>	<p><i>ML Science, Waves, Sound, & Light, Pages 96-99</i> - Read aloud and discuss how color appears; why do we see colors of different things? Why is the sky blue? Why is grass green? What could possibly happen if blue was not reflected by the sky? - 20 min</p>	<p><i>ML Science, Waves, Sound, & Light, "Chapter Three Review, Thinking Critically, #'s 25-31", Page 104</i> - Students in groups of five, complete #'s 25-31 together as a group via Google Docs; share your response with Teacher; discuss and review as a class - 20 min</p>

Week 9	commonly seen in MS Word, Google Docs, and other word processing software to outline this section; Teacher to assist in this process but allow students to take active role in indicating what is important to outline - 30 min	<i>ML Science, Waves, Sound, & Light, Pages 88-92</i> - Students to use markers and computer paper to create an acrostic of one of the four vocabulary terms from this section; knowledge of the term is required and the acrostic does not need to rhyme, not provide clear understanding of the subject matter; share with the class if desired - 30 min	<i>ML Science, Waves, Sound, & Light, Pages 93-96 (stop at "Wavelengths determine color")</i> - Read aloud and discuss as a class how different materials can transmit light; where on our campus do you believe you may see examples of transparent, translucent, and opaque glass? What is scattering? Where may this be seen? Where may polarizing occur on our campus? - 20 min	<i>ML Science, Waves, Sound, & Light, Pages 93-99</i> - Students in pairs, create a "Concept Map" outlining the terms in this section and a definition of them; provide examples of each term in your maps; share with the class and discuss - 20 min	<i>ML Science, Waves, Sound, & Light, Page 98</i> - Students in groups of five, complete the lab together using Google Docs to submit your responses to the Teacher; record all data and answer questions below your recorded data; during downtime in the lab Teacher to review for quiz during the next lesson; submit Google Doc page to Teacher when complete - 30 min
	Imagine that you are able to provide bioluminescence; write a series of haikus or a poem about your new ability; share with the class if desired - 20 min		<i>ML Science, Waves, Sound, & Light, Page 93</i> - Teacher to demonstrate the mini-lab on this page; students to follow up and respond to various items throughout; Complete as a class and discuss - 10 min	Teacher to demonstrate prisms and how they work; shine a light through one and demonstrate how light is divided by one; allow students to test it as well; what other materials will provide similar results? How may an icicle provide similar results? Could other beverages provide similar results? Research why or why not? - 10 min	
Bellwork Topic:	Which EM waves from the Electromagnetic Spectrum have you encountered in your life? Provide an example for each	Why does little light reach Earth from stars other than the Sun? What is bioluminescence?	What is the difference between an LED versus an incandescent or fluorescent light bulb?	What is the difference between transmission and absorption? Provide examples	What are the Primary Colors? What are the Secondary Colors? What color is made when all Primary Colors are mixed together? What color is made when Primary Pigments are mixed together?
Daily Homework:	What is the difference between luminescence and incandescence? Provide an example of each	<i>ML Science, Waves, Sound, and Light, 3.3 Review, Page 92</i> - Complete #'s 1-3 in complete sentences or as requested; due tomorrow!	<i>ML Science, Waves, Sound, and Light, 3.3 Review, Page 92</i> - Complete #'s 4-6 in complete sentences or as requested; due tomorrow!	<i>ML Science, Waves, Sound, and Light, 3.4 Review, Page 99</i> - Complete #'s 1-3 in complete sentences or as requested; due tomorrow!	<i>ML Science, Waves, Sound, and Light, 3.4 Review, Page 99</i> - Complete #'s 4-6 in complete sentences or as requested; due tomorrow!
Terms to Know:	<i>Optics, Law of Reflection, Regular Reflection, Diffuse Reflection, Image, Convex, Concave, Focal Point, Lens, Focal Length, Cornea, Pupil, Retina, Laser, Fiber Optics</i>				
<i>STUDENTS MUST KNOW HOW TO CORRECTLY SPELL AS WELL AS THE DEFINITION OF EACH OF THE "Terms to Know" EVERY WEEK!</i>					
Timeline:	Day "A"	Day "B"	Day "C"	Day "D"	Day "E"
Week 10	Bellwork - 10 min	Quiz on Electromagnetic Waves and "Terms to Know from Week Eight" - 25 min	Bellwork - 10 min	Bellwork - 10 min	Bellwork - 10 min
	<i>ML Science, Waves, Sound, & Light, "Standardized Test Practice", Page 105</i> - As a class, read aloud and assess the diagram on this page; answer all questions together by interpreting the data - 15 min		<i>(Part II of II) ML Science, Waves, Sound, & Light, "Timelines in Science", Pages 106-109</i> - Read aloud and discuss the history of how light was first introduced into science and studied; how did the study of light and reflected light allow other studies to begin in science? What other sciences were invented because of these studies? - 20 min	<i>(Part II of II) ML Science, Waves, Sound, & Light, "Timelines in Science", Pages 106-109</i> - Students in pairs, complete your recreation of this timeline plus five additional events that occurred since the year 2000; one timeline per pair; students to color and decorate; Teacher to assist as needed; share when complete - 30 min	Students in groups of 3 or 4, teacher to provide a flashlight and a set of small mirrors; practice trying to reflect the light off of several mirrors to test angles; students to observe closely, does the amount of light seem to fade at all from start to finish? Why do you think this is so? Discuss as a class - 15 min

	<p><i>ML Science, Waves, Sound, & Light, "Standardized Test Practice", Page 105</i> - Students in pairs, complete "Extended Response, #'s 5-6" together via Google Docs; submit answers to your Teacher; review and discuss as a class - 15 min</p>	<p>Teacher to lead an in-class spelling bee for each of the words from the "Terms to Know" for Weeks Three, Five, and Eight; highest achieving students will receive extra credit on their quiz - 25 min</p>	<p><i>(Part I of II) ML Science, Waves, Sound, & Light, "Timelines in Science", Pages 106-109</i> - Students in pairs, use computer paper to create a timeline of all ten events in this timeline PLUS five additional events since the year 2000 related to using microscopes, telescopes, and space exploration; use Google to research this by entering "recent discoveries with telescope since 2000" in the search bar - 25 min</p>	<p><i>ML Science, Waves, Sound, & Light, Pages 113-114</i> - Read aloud and use a "Four Square" graphic organizer to outline the terms "optics" and "Law of Reflection"; discuss concepts as a class to promote understanding; what does it mean to reflect something? There may be more than one definition - 15 min</p>	<p><i>ML Science, Waves, Sound, & Light, Page 115</i> - Students in groups of 3 or 4, complete the mini-lab together and answer the questions via Google Docs; Teacher to travel around the room to assist as needed; submit to your Teacher when complete; review and discuss when complete - 30 min</p>
	<p>Review for quiz tomorrow on Electromagnetic Waves and "Terms to Know from Week Seven" - 20 min</p>				
Bellwork Topic:	<p><i>ML Science, Waves, Sound, & Light, "Chapter Three Review, Reviewing Key Concepts, #'s 11-18", Page 103</i> - Circle the best choice that answers each question; review as a class</p>	None	<p>What do you know about light waves? Are they more closely related to sound waves or EM waves? Why do you think that?</p>	<p>What does it mean to reflect? What are two possible meanings for this term?</p>	<p>How can you change the direction of light? What tools or objects in your home may do this? Try to think of three of them</p>
Daily Homework:	<p>Study for quiz tomorrow on Electromagnetic Waves and "Terms to Know from Week Eight"! Study how to spell your "Terms to Know" from Weeks Three, Five, and Eight</p>	<p><i>ML Science, Waves, Sound, & Light, "Chapter Three Review, Reviewing Key Concepts, #'s 19-24", Page 103</i> - Answer each question in complete sentences; due tomorrow!</p>	<p>Conduct research on five events that happened since the year 2000 using a telescope to add to your timeline; they are due in class tomorrow!</p>	<p>Find three examples in your home that reflect images; what are they? Look for objects other than mirrors although mirrors also count towards these assignment</p>	<p>Describe how an image is reflected by using the concept of light waves and how they are bounced back at various angles</p>
Timeline:	Day "A"	Day "B"	Day "C"	Day "D"	Day "E"
Week 11	<p>Bellwork - 10 min</p>	<p>Bellwork - 10 min</p>	<p>Bellwork - 10 min</p>	<p>Bellwork - 10 min</p>	<p>Bellwork - 10 min</p>
	<p><i>ML Science, Waves, Sound, & Light, Pages 115-117</i> - Read aloud about flat mirrors, concave mirrors, and convex mirrors; Teacher to illustrate how both reflect the light differently; what is the focal point? How does this change with each of the three types of mirrors? - 20 min</p>	<p>Watch "Concave and Convex Mirrors" on YouTube (1:59 min) and discuss how concave and convex mirrors work; how do the light waves work? What do they also transmit in addition to light (heat)? What type of mirror is used in a telescope? - 10 min</p>	<p>Students in pairs, use a Venn Diagram to compare & contrast concave and convex mirrors; students to have two statements per section (six total statements); share and discuss as a class when complete - 20 min</p>	<p>Students in groups of 3 or 4, Teacher to provide each group with a white piece of paper, a prism, and a flashlight; students will try to create a rainbow using the prism and shine it upon the white paper; turn the light out and turn the paper at different angles to see how the rainbow appears differently; Teacher to assist as needed, discuss results as a class when complete - 15 min</p>	<p>Students and Teacher to go to the following website "www.ducksters.com/science/physics/lenses_and_light.php"; students in pairs, read through the site and review about different lenses; there are a few different types of lenses on this site that we don't review, what are the benefits of those types of lenses? How could a meniscus lens be useful? Why would you need a plano lens paired with a concave or convex lens? Create a list of potential uses; Teacher to circle the room to assist as needed; share and discuss as a class when complete - 30 min</p>
	<p>Students to illustrate, color, and label all three types of mirrors including the flat, concave, and convex; create an image of anything that is school appropriate that you choose and use the three different</p>	<p>Students to read the lyrics to the song "Man in the Mirror" by Michael Jackson; what is the purpose of this song? What is the author trying to say about himself and others based upon these lyrics? What type of mirror may he be using? How may the song be different if he used a different type of mirror? - 20 min</p>	<p><i>ML Science, Waves, Sound, & Light, Pages 119-120</i> - Read aloud and discuss how light is scattered by a window; review how waves travel and pass through a medium; how do waves travel through space, air, glass, and water? How do rainbows form? - 15 min</p>	<p><i>ML Science, Waves, Sound, & Light, Pages 121-123</i> - Read aloud and discuss; use a "Word Wheel" graphic organizer to outline the terms "Lens" and "focal length" as a class; discuss each term and how it applies - 20 min</p>	

	you choose and use the three different types of mirrors to demonstrate how the light is reflected differently with each type of mirror; label the focal point for each mirror as well as the type of mirror displayed; Teacher to assist as needed - 25 min	<i>ML Science, Waves, Sound, & Light, "Math in Science", Page 118</i> - Read aloud and discuss how a mirror could save your life one day if you're in trouble; use the images to help simulate getting a plane's attention; as a class use a protractor to calculate the angles of the sun to the angle in #'s 1-4; and CHALLENGE - 15 min	<i>ML Science, Waves, Sound, & Light, Page 119</i> - Teacher to demonstrate the mini-lab for the class; students to predict what they think will happen and discuss results; answer the questions as a class - 15 min	Students in pairs, Teacher to provide each pair with a set of concave and convex lenses to test how light is distorted by them; students to look through them, attempt to magnify items, read through them, and shine light through them; discuss what discoveries are made - 10 min	Students to take the ten-question quiz at the bottom of the page on the Ducksters website; it can be found directly at "www.ducksters.com/science/quiz/lenses_and_light_questions.php"; review each question as a class afterwards to discuss the correct answers and share - 15 min
Bellwork Topic:	Describe the difference between regular reflection and diffuse reflection	What are the three types of mirrors? What is the focal point?	Illustrate and briefly explain the difference between a concave and convex mirror	Explain how a rainbow forms	When will an image formed by a convex lens be upside down? Illustrate this concept
Daily Homework:	Illustrate and describe why your image appears differently when you're close and far away from a concave mirror	<i>ML Science, Waves, Sound, and Light, 4.1 Review, Page 117</i> - Complete #'s 1-3 in complete sentences or as requested; due tomorrow!	<i>ML Science, Waves, Sound, and Light, 4.1 Review, Page 117</i> - Complete #'s 4-6 in complete sentences or as requested; due tomorrow!	What type of lens is used in the following items found in many homes: contact lenses, eye glasses, TV screen, and a magnifying glass?	<i>ML Science, Waves, Sound, and Light, 4.2 Review, Page 123</i> - Complete #'s 1-3 in complete sentences or as requested; due tomorrow!
Timeline:	Day "A"	Day "B"	Day "C"	Day "D"	Day "E"
Week 12	Bellwork - 10 min	Bellwork - 10 min	Bellwork - 10 min	Bellwork - 10 min	Bellwork - 10 min
	<i>ML Science, Waves, Sound, & Light, Page 124-125</i> - Students in groups of 3 or 4, complete the lab as directed in the text; use Google Sheets to create a table and log your data; answer all questions in "Observe and Analyze", "Conclude", and "Investigate Further" below your data table; share your spreadsheet with Teacher when completed - 35 min	Teacher to show students a model of a human eye (see science lab) and an actual sheep/cow eye (also in science lab); discuss how the eye works and how the images are focused by the eye to view images correctly - 15 min	<i>ML Science, Waves, Sound, & Light, Pages 128-130</i> - Read aloud and use a "Cause and Effect" graphic organizer to outline as a class someone who is nearsighted and someone who is farsighted (the effect is nearsightedness or farsightedness); how can eye glasses or contact lenses help correct this issue? - 20 min	(Part II of II) Complete your illustration, coloring, and labeling of the nearsighted and farsighted people with corrective lenses; due in class today; provide to Teacher when complete - 20 min	<i>ML Science, Waves, Sound, & Light, "Standardized Test Practice", Page 143</i> - Review the illustration and discuss what each location on the image represents; as a class, complete #'s 1-5 and discuss why specific responses are not correct with the class - 15 min
	As a class, discuss the lab and review what was learned; review struggles and how they were overcome - 10 min	<i>ML Science, Waves, Sound, & Light, Pages 126-127</i> - Students in pairs, read together and discuss how the human eye works; write two notes about how it works; share and discuss as a class - 15 min	(Part I of II) Illustrate, color, and label a nearsighted person and a farsighted person; label the cornea, lens, and retina as well as the focal point showing where the image distortion occurs; then illustrate, color, and label two additional images below the previous two images displaying how corrective lenses (eye glasses or contacts lenses) fix the issue and the person to see correctly - 25 min	As a class, students and Teacher go to the website "http://benjaminfranklinbio.com/bifocals-benjaminfranklin/122/" to read about how Founding Father Benjamin Franklin helped to create bifocals; how do bifocals work? What is the benefit of them? - 15 min	<i>ML Science, Waves, Sound, & Light, "Standardized Test Practice", Page 143</i> - Students in pairs, use the supplied vocabulary words to answer #'s 6-7 via Google Docs; share with Teacher when complete and discuss as a class - 20 min
	Students and Teacher to go to the following website "https://kidshealth.org/en/kids/glasses.html" to read aloud and review about how the human eye works and parts of it; what is the purpose of the cornea, lens, and retina? How does each of these function as a handheld lens that we used in class? - 15 min		Watch "How Lenses Function" on YouTube (3:29 min) and discuss how concave and convex lenses work; review how light is scattered or focused by each and where the focal points are located - 10 min	<i>ML Science, Waves, Sound, & Light, Pages 131-133</i> - Read aloud and discuss the differences between telescopes and microscopes; how can lenses be combined to make more complex machines? - 10 min	

Bellwork Topic:	Prepare for lab today, gather supplies as directed by Teacher	How is your eye a lens? What type of lens do you have in your eye?	Define cornea, pupil, and retina	What is the function of the rods and cones in the retina?	How bifocals work? Who is credited with inventing them?	
Daily Homework:	<i>ML Science, Waves, Sound, and Light, 4.2 Review, Page 123</i> - Complete #'s 4-6 in complete sentences or as requested; due tomorrow!	<i>ML Science, Waves, Light, & Sound, Page 126</i> - Complete the mini-lab on this page at home; write your answers down on notebook paper; due tomorrow!	What type of cell in the retina detects color? What do you think happens when people are colorblind?	<i>ML Science, Waves, Sound, and Light, 4.3 Review, Page 130</i> - Complete #'s 1-3 in complete sentences or as requested; due tomorrow!	<i>ML Science, Waves, Sound, and Light, 4.3 Review, Page 130</i> - Complete #'s 4-6 in complete sentences or as requested; due tomorrow!	
Timeline:	Day "A"	Day "B"	Day "C"	Day "D"	Day "E"	
Week 13	Bellwork - 10 min	Bellwork - 10 min	Bellwork - 10 min	Bellwork - 10 min	Quiz on Light and Optics and "Terms to Know from Week Ten" - 25 min Teacher to lead an in-class spelling bee for each of the words from the "Terms to Know" for Weeks Three, Five, Eight, and Ten; highest achieving students will receive extra credit on their quiz - 25 min	
	As a class, use a T-Chart to compare microscopes & telescopes; focus upon their lenses, the lens placements, and overall structure; Teacher to begin but students to take the lead; use Google to assist in researching if needed - 15 min	<i>(Part II of II) ML Science, Waves, Sound, & Light, Page 133</i> - Complete your illustration, coloring, and labeling of the parts of a microscope and both telescopes as displayed in the text; make sure to correctly label the parts and types of lenses - 20 min				
	<i>ML Science, Waves, Sound, & Light, Page 131</i> - Teacher to demonstrate the mini-lab for the class with reliable students assisting; students to lead in answering the questions as you proceed; how is this exercise similar to microscope and telescopes? - 10 min	<i>ML Science, Waves, Sound, & Light, Pages 134-138</i> -				
	<i>(Part I of II) ML Science, Waves, Sound, & Light, Page 133</i> - Illustrate, color, and label the parts of a microscope and both telescopes as displayed in the text; make sure to correctly label the parts and types of lenses - 20 min					
Bellwork Topic:	Which types of images do the lenses in a microscope form?				None	
Daily Homework:	How is a reflecting telescope different from a refracting telescope?	<i>ML Science, Waves, Sound, and Light, 4.4 Review, Page 138</i> - Complete #'s 1-3 in complete sentences or as requested; due tomorrow!	<i>ML Science, Waves, Sound, and Light, 4.4 Review, Page 138</i> - Complete #'s 4-6 in complete sentences or as requested; due tomorrow!	Study for quiz tomorrow on light and optics and "Terms to Know from Week Ten"!	None	

Unit: SI Units and Geometry

Terms to Know:	<i>Millimeter, Centimeter, Decimeter, Meter, Kilometer, Convert, Metric System, Milliliter, Centiliter, Deciliter, Liter, Kiloliter, Milligram, Centigram, Decigram, Gram, Kilogram, Metric Ton, Mass, Compare</i>
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STUDENTS MUST KNOW HOW TO CORRECTLY SPELL AS WELL AS THE DEFINITION OF EACH OF THE "Terms to Know" EVERY WEEK!

Timeline:	Day "A"	Day "B"	Day "C"	Day "D"	Day "E"
Week 14	Bellwork - 10 min	Bellwork - 10 min	Bellwork - 10 min	Bellwork - 10 min	Bellwork - 10 min
	<i>Sadlier Math, Chapter Fourteen, Page 332 - Review the Metric System and how it is converted to other values; the book is confusing although the math still holds true; Teacher to create examples of how to convert using the processes shown in the text - 15 min</i>				
Bellwork Topic:	Teacher to provide four examples of converting customary units to another measurement; students to complete, then discuss	Students to go to "Gizmos" in the Explore Learning website and work for ten minutes	Students to go to "Gizmos" in the Explore Learning website and work for ten minutes	Students to go to "Gizmos" in the Explore Learning website and work for ten minutes	Students to go to "Gizmos" in the Explore Learning website and work for ten minutes
Suppliment Extra Time With:					
Daily Homework:					
Timeline:	Day "A"	Day "B"	Day "C"	Day "D"	Day "E"
Week 15	Bellwork - 10 min	Bellwork - 10 min	Bellwork - 10 min	Bellwork - 10 min	Bellwork - 10 min

Bellwork Topic:					
Suppliment Extra Time With:					
Daily Homework:					
Timeline:	Day "A"	Day "B"	Day "C"	Day "D"	Day "E"
Week 16	Bellwork - 10 min				
Bellwork Topic:					
Suppliment Extra Time With:					
Daily Homework:					
Timeline:	Day "A"	Day "B"	Day "C"	Day "D"	Day "E"
	Bellwork - 10 min				

Week 17					
Bellwork Topic:					
Suppliment Extra Time With:					
Daily Homework:					

Unit: Motion and Forces

Terms to Know:					
<i>STUDENTS MUST KNOW HOW TO CORRECTLY SPELL AS WELL AS THE DEFINITION OF EACH OF THE "Terms to Know" EVERY WEEK!</i>					
Timeline:	Day "A"	Day "B"	Day "C"	Day "D"	Day "E"
Week 18	Bellwork - 10 min				

Bellwork Topic:					
Suppliment Extra Time With:					
Daily Homework:					
Timeline:	Day "A"	Day "B"	Day "C"	Day "D"	Day "E"
Week 19	Bellwork - 10 min				
Bellwork Topic:					
Suppliment Extra Time With:					
Daily Homework:					
Timeline:	Day "A"	Day "B"	Day "C"	Day "D"	Day "E"
	Bellwork - 10 min				

Week 20					
Bellwork Topic:					
Suppliment Extra Time With:					
Daily Homework:					
Timeline:	Day "A"	Day "B"	Day "C"	Day "D"	Day "E"
Week 21	Bellwork - 10 min				
Bellwork Topic:					
Daily Homework:					
Timeline:	Day "A"	Day "B"	Day "C"	Day "D"	Day "E"
	Bellwork - 10 min				

Week 22					
Bellwork Topic:					
Daily Homework:					

Unit: Diversity of Life

Terms to Know:	<i>Organism, Cell, Environment, Interaction, Biodiversity, Species, Extinction, Adaptation, Microorganism, Kingdom, Binary Fission, Virus, Nucleus, DNA, Chomosomes, Bacteria, Archaea, Producer, Decomposer, Parasite</i>
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STUDENTS MUST KNOW HOW TO CORRECTLY SPELL AS WELL AS THE DEFINITION OF EACH OF THE "Terms to Know" EVERY WEEK!

Timeline:	Day "A"	Day "B"	Day "C"	Day "D"	Day "E"
Week 23	Bellwork - 10 min <i>ML Science, Diversity of Living Things, Pages xv-xxi</i> - Read aloud and discuss the "What it Means" and "Why It's Important" sections on each page; what do you think Life Science is? How is it different than any other type of science? What do you know about diversity? - 20 min	Bellwork - 10 min <i>ML Science, Diversity of Living Things, Pages 2-5</i> - Read aloud and discuss how various types of animals adapt to the weather changes, specifically the cold; what do you do to adjust to the cold? Name a few animals that typically live outside in NE Ohio, how do they adjust to the winter? - 20 min	Bellwork - 10 min As a class, go to the following website " www.coolantarctica.com/Antarctica%20fact%20file/science/cold_all_animals.php " and briefly discuss the organisms and their adaptations on this page; students in pairs, create a Venn Diagram comparing & contrasting any two of these organisms against each other with two statements per section (six total statements); focus upon how they're similar but their own individual adaptations; review and discuss as a class when complete - 25 min	Bellwork - 5 min <i>ML Science, Diversity of Living Things, Page 11</i> - Review the section titled "Living Things Share Common Characteristics"; as a class, outline this section; what are the major important facts from it to know? How many cells are in bacteria? What make up bacteria? Do bacteria grow in size? - 15 min	Bellwork - 10 min Watch "What is a virus? - Viruses for children - Science for Kids" on YouTube (4:45 min) and discuss what viruses are made up of; how similar are they to bacteria cells? What can bacteria cells do that viruses cannot do (binary fission)? Why do viruses need to live inside someone (called a "host")? What are vaccines? Why do they work? - 10 min
	Bellwork - 10 min <i>ML Science, Diversity of Living Things, Pages xv-xxi</i> - As a class review the bold-faced terms in this section, specifically "organism, cell, environment, interaction, biodiversity, species, extinction" and "adaptation"; as a class, create "Word	As a class, students to go to the following website " www.businessinsider.com/animals-able-survive-extreme-cold-2016-4 " and explore animals that thrive in cold weather; what adaptations do each of these animals have that allows them to live easily in the cold? How are we similar to each of them in terms of human adaptations? - 20 min	<i>ML Science, Diversity of Living Things, Pages 9-11</i> - Read aloud and discuss what bacteria are; how many cells make up one single bacteria? Are bacteria alive? What are microorganisms? Why are living things organized into kingdoms? - 15 min	Students and Teacher go to the following website " https://askabiologist.asu.edu/explore/building-blocks-life " and read aloud about cells; how do they create other organisms? Can cells life all by themselves? What are single-celled organisms called? What are the small "organs" found inside of cells? Why do you think cells are called the building blocks of life? - 15 min	Students to research three different types of viruses in the world today: Rotavirus, influenza virus, and the SARS-CoV-2 virus; what does each of them cause? Illustrate a sketch of what each of them looks like; what organelles make them up? Share your research and illustrations with the class - 20 min

	adaptation, as a class, create "Word Wheel" graphic organizers for each of these terms using previous knowledge and the information from the text - 25 min	Students in pairs, as a class but students working together create a T-chart on the board (and at your seats) to compare humans to two different organisms on the list from the previous website; what similarities are common as good adaptations? - 10 min	Students in pairs, as a class use a "Frame Game" graphic organizer to outline and define the term "microorganisms"; Teacher to lead the process as students assist by providing information - 10 min	<i>ML Science, Diversity of Living Things, Pages 12-14</i> - Read aloud and discuss binary fission? What are the organelles found inside bacteria (ans. DNA and maybe a nucleus)? What are viruses? Are they alive? Why are they more dangerous than harmful bacteria? - 15 min	Students will continue to research the three different viruses with a focus on how all three of them reproduce; students should Google "how does _____ reproduce?" with the blank as the name of the virus; students should look at Google Images as well for easy to read diagrams and infection rates; share and review information with the class - 15 min
Bellwork Topic:	What is Life Science? What does it focus upon? What do you think that we will be studying in this unit?	Define the terms "adaptation, species" and "extinction" in your own words	Teacher to lead students in how to create a Venn Diagram of something that they're familiar with, such as sports, TV shows, or music groups	Bacteria are single-celled organisms. What does that mean?	What is binary fission? What are the organelles found inside bacteria? Are bacteria viruses?
Daily Homework:	Write the definition of the terms "cell, organism, environment" and "biodiversity" in your own words	Think of any three animals that typically live outside; what are three ways that EACH OF THEM has adapted to live in its environment?	Create a list of ten places at your home that you think you'd find bacteria	<i>ML Science, Diversity of Living Things, 1.1 Review, Page 14</i> - Complete #'s 1-3 in complete sentences or as requested; due tomorrow!	<i>ML Science, Diversity of Living Things, 1.1 Review, Page 14</i> - Complete #'s 4-6 in complete sentences or as requested; due tomorrow!
Timeline:	Day "A"	Day "B"	Day "C"	Day "D"	Day "E"
Week 24	Bellwork - 10 min	Bellwork - 5 min	Bellwork - 10 min	Bellwork - 5 min	Quiz on Bacteria and "Terms to Know from Week Twenty-Three" - 20 min
	Students in pairs, use a Venn Diagram to compare & contrast binary fission to how viruses reproduce; three statements per section (nine total statements); share with the class when complete; Teacher to circle the room to assist as needed - 20 min	<i>ML Science, Diversity of Living Things, Page 18</i> - Illustrate, color, and label the differences between Methanogens, Halophiles, and Thermophiles; illustrate bacteria living in the different regions explained as in the text; could be one scene or several small ones - 25 min	<i>ML Science, Diversity of Living Things, Pages 20-21</i> - Read aloud and discuss how bacteria can be both helpful and harmful; Teacher to create a T-Chart outlining the aspects of helpful (left) and harmful (right) bacteria; which are producers, decomposers, and parasites? Do you see patterns in their characterization? - 10 min	<i>ML Science, Diversity of Living Things, "Chapter One Review, Reviewing Vocabulary, #'s 1-2", Page 37</i> - Students working independently, complete the word triangle for each term provided on notebook paper; share and discuss with the Teacher when complete - 15 min	
	<i>ML Science, Diversity of Living Things, Pages 16-19</i> - Read aloud and use a "Main Idea & Supporting Ideas" graphic	Students in groups of 3 or 4, think of examples of producers, decomposers, and parasites; make a table in Google Sheets listing them and share your spreadsheet with the Teacher; discuss your examples as a class - 15 min	Watch "Cell vs. virus: A battle for health - Shannon Stiles" on YouTube (3:59 min) and discuss how cells organize to defeat viruses when they attack; what does the video compare cells and your body to? Thinking abstractly, how is this accurate? What are some things that you recall that cells do to defeat viruses? - 10 min	<i>ML Science, Diversity of Living Things, "Chapter One Review, Reviewing Vocabulary, #'s 5-7", Page 37</i> - Students in groups of 3 or 4, complete this section together using Google Docs; submit your answers to Teacher when complete - 15 min	

	organizer to outline the characteristics of bacteria; work together as a class and discuss as you proceed; as the Teacher sees ready, students may be divided into pairs to work together to further outline this section - 30 min	Students to individually write a set of haikus or a short poem on being a producer, decomposer, or parasite; students can rhyme or not rhyme and may use any pentameter but suggested ones are ABAB, ABCB, or AABB; share with the class if desired - 15 min	<i>ML Science, Diversity of Living Things, "Standard Test Practice", Page 39</i> - Analyze the graph together as a class; using graph paper, recreate the graph as a bar graph including the same intervals, titles, and graph tile but with a new color scheme; answer #'s 1-6 together as a class but use Google Docs to complete #'s 7-8 independently - 25 min	Review for the quiz tomorrow on bacteria and "Terms to Know from Week Twenty-Three" tomorrow! - 20 min	<i>ML Science, Diversity of Living Things, Pages 24-25</i> - Read aloud and discuss how Louis Pasteur found a way to remove bacteria from milk; what are two reasons why viruses are not alive? How do humans fulfill the requirements of life? - 15 min
Bellwork Topic:	Describe how a virus reproduces; use a sketch to assist if needed	What could happen if bacteria were NOT decomposers? Think of two situations that could occur	What are Methanogens, Halophiles, and Thermophiles? Where does each live?	Think of two ways that bacteria can be helpful and two ways that it could be harmful	None
Daily Homework:	Define producers, decomposers, and parasites	Complete your poem or series of haikus if they are not completed yet and turned in today in class	<i>ML Science, Diversity of Living Things, 1.2 Review, Page 21</i> - Complete #'s 1-3 in complete sentences or as requested; due tomorrow!	Study for quiz tomorrow on bacteria and "Terms to Know From Week Twenty-Three"!	<i>ML Science, Diversity of Living Things, 1.2 Review, Page 21</i> - Complete #'s 4-6 in complete sentences or as requested; due tomorrow!

Terms to Know: *Host Cell, Algae, Plankton, Protozoa, Amoeba, Paramecium, Cilia, Flagella, Pseudopods, Slime Molds*

STUDENTS MUST KNOW HOW TO CORRECTLY SPELL AS WELL AS THE DEFINITION OF EACH OF THE "Terms to Know" EVERY WEEK!

Timeline:	Day "A"	Day "B"	Day "C"	Day "D"	Day "E"
Week 25	Bellwork - 5 min	Bellwork - 5 min	Bellwork - 10 min	Bellwork - 10 min	Bellwork - 5 min
	<i>ML Science, Diversity of Living Things, Page 24</i> - Teacher to demonstrate mini-lab of how bacteria and viruses are different in size; students to answer questions and discuss as lab proceeds - 15 min	Students and Teacher to go to the following website "www.claytonschoools.net/cms/lib/MO01000419/Centricity/Domain/498/6%20characteristics%20of%20living%20things.pdf" and read aloud to discuss the six characteristics of all living organisms; which ones do viruses NOT do? - 15 min	<i>(Part II of II) ML Science, Diversity of Living Things, Page 27</i> - Illustrate, color, and label the five stages of virus reproduction; use the text to assist you; Teacher to assist as needed - 25 min	<i>ML Science, Diversity of Living Things, Pages 33-35</i> - Read aloud and discuss algae, plankton, and protozoa; how do algae and protozoa differ in the way that they obtain energy? What could you compare algae and protozoa to that we are more commonly familiar with? - 20 min	<i>ML Science, Diversity of Living Things, Page 31</i> - Students in groups of 3 or 4, use the microscopes and notebook paper to complete the lab on this page; one paper PER PERSON, complete all work together to help each other but you are responsible for your own work; view the Protists that came from pond water under the microscope and sketch them as seen; Teacher to assist as needed - 40 min
	<i>ML Science, Diversity of Living Things, Pages 26-28</i> - Read aloud and analyze the steps that viruses use to reproduce; Teacher to go to Google Images to locate images of viruses reproducing and their subsequent infection of a cell or organism - 20 min	<i>ML Science, Diversity of Living Things, Page 27</i> - Students in pairs, discuss how viruses reproduce; use a T-Chart to outline the pros (left) and cons (right) of this style of reproducing; provide to Teacher when complete - 15 min	<i>ML Science, Diversity of Living Things, Pages 30-32</i> - Read aloud and discuss what protists are; why are they such a diverse Kingdom? What is seaweed? What is algae? What parts of a cell do most protists have? - 15 min	Watch "What Is A Protist?" on YouTube (1:58 min) and discuss how protists move; what are pseudopods, cilia, and flagella? Why is Kingdom Protista referred to as a "scientific junk drawer"? Students may need to see this video more than once - 10 min	

	Students in pairs, use a "Sequence" graphic organizer to outline how viruses reproduce; what is a host cell? What happens to it when the virus injects its DNA? Discuss and review as a class when complete - 10 min	<i>(Part I of II) ML Science, Diversity of Living Things, Page 27</i> - Illustrate, color, and label the five stages of virus reproduction; use the text to assist you; Teacher to assist as needed - 15 min	Teacher to use Google Images to show photos of "diatoms", "euglena", "algae", "amoeba", and "paramecium"; Discuss what each organism looks like and what they may use their individual structures for - 10 min	Teacher to review the parts of the microscope and how to properly use one in preparation for the lab tomorrow - 10 min	As a class, review and discuss the lab together; what went well? What was problematic? What did you see under the lens? - 10 min
Bellwork Topic:	What are two ways that viruses are not alive?	How do viruses reproduce?	<i>ML Science, Diversity of Living Things, "Extreme Science", Page 29</i> - Read privately; be prepared to discuss together	What is a Protist? How is it different from a bacteria? Use a T-Chart to compare both organisms	Listen to your Teacher for instructions on setting up for the lab
Daily Homework:	Do you think that a virus intends to kill its host? Or do you think that is something that just sometimes happens? Provide an example for your reasoning	<i>ML Science, Diversity of Living Things, 1.3 Review, Page 28</i> - Complete #'s 1-3 in complete sentences or as requested; due tomorrow!	<i>ML Science, Diversity of Living Things, 1.3 Review, Page 28</i> - Complete #'s 4-6 in complete sentences or as requested; due tomorrow!	<i>ML Science, Diversity of Living Things, "Chapter One Review, Reviewing Key Concepts, #'s 9-17", Page 37-38</i> - Choose the letter that best answers best question; due tomorrow!	<i>ML Science, Diversity of Living Things, 1.4 Review, Page 35</i> - Complete #'s 1-3 in complete sentences or as requested; due tomorrow!
Mini-Project Breakdown:	<i>Students will use poster board to display their research on this information. Students will illustrate and color four different types of Protists: Ameoba, Paramecium, Slime Molds, and Algae. Students will present their research as a table with the information listed in rows and columns to answer the various requirements. Students will research the following information: what type of Protist is it? How does this Protist move? How many cells make up this Protist? How does this Protist obtain energy? Is it classified as a parasite, decomposer, or consumer? What organelles are usually found in this Protist? Where is this Protist most-commonly found?</i>				
Timeline:	Day "A"	Day "B"	Day "C"	Day "D"	Day "E"
Week 26	Bellwork - 10 min	Bellwork - 5 min	Bellwork - 10 min	In-class time to work on mini-project on Protists - 25 min	Quiz on Viruses, Protists, and "Terms to Know from Week Twenty-Five" - 20 min
	Teacher to introduce mini-project and the requirements of it - 10 min	In-class time to work on mini-project on Protists - 20 min	In-class time to work on mini-project on Protists - 20 min		
	Teacher to Google Image each type of Protist in the mini-project to display them for students, but also play the video "protist movement" on YouTube (2:05 min) and discuss each type of Protist involved; Protists with psuedopods, cilia, and flagella are shown but the presenter is a bit boring; assist students with general questions on each type and review the three types of Protists (animal-like, plant-like, and fungus-like) - 15 min	<i>ML Science, Diversity of Living Things, Pages 43-45</i> - Read aloud and discuss; use a "Four Square" graphic organizer to outline the terms "organ" and "tissue"; what does multicellular? What is a system? What systems can you think of in your body? What task does each system complete for your body? Why is specialization of tasks more efficient than one organ doing many jobs? - 20 min	<i>ML Science, Diversity of Living Things, Pages 46-47</i> - Read aloud and review the adaptations made by the different breeds of fox; what specifically have been done to allow the fennec to live in the desert, the arctic fox to live in the cold, and the red fox to live across the northern hemisphere? - 10 min	Teacher to review adaptations and discuss how some Protists have adapted to live in various areas; how have humans adapted to live in deserts, the arctic, and in rainforests? Think of specific changes in the human body, not added clothing or new tools that were invented - 10 min	Teacher to conduct an in-class spelling bee on the "Terms to Know from Week Twenty-Three and Twenty-Five"; winning students will receive extra credit on their quiz today! - 20 min
In-class time to work on mini-project on Protists - 25 min	<i>ML Science, Diversity of Living Things, Page 44</i> - Students in groups of three, complete the mini-lab together; answer the questions including "CHALLENGE" together as a class - 10 min	Teacher and students to go to the following website " www.theschoolrun.com/homework-help/animal-adaptation " and read about how various animals adapt to different areas to live; how have some marine animals adapted? How have some desert animals adapted? - 15 min	Review for quiz tomorrow on viruses, Protists, and "Terms to Know from Week Twenty-Five" - 20 min	In-class time to work on mini-project on Protists - 15 min	

Bellwork Topic:	How did the lab in the previous lesson help you to better understand Protists?	After viewing Protists in a microscope and learning about them, can you name any that you specifically saw in the lab? If so, which ones?	Define organ, tissue, and multicellular	None	None
Daily Homework:	<i>ML Science, Diversity of Living Things, 1.4 Review, Page 35</i> - Complete #'s 4-5 in complete sentences or as requested; due tomorrow!	Work on mini-project; conduct research from home; project due in four days!	Work on mini-project; conduct research from home; project due in three days!	Study for quiz tomorrow on viruses, Protists, and "Terms to Know from Week Twenty-Five" !	Finish mini-project on Protists, due tomorrow!
Terms to Know:	<i>Multicellular, Tissue, Organ, Adaptation, Photosynthesis, Autotroph, Cellular Respiration, Stimulus, Consumer, Heterotroph, Behavior, Predator, Prey, Migration, Hibernation, Herbivore, Carnivore, Omnivore</i>				
<i>STUDENTS MUST KNOW HOW TO CORRECTLY SPELL AS WELL AS THE DEFINITION OF EACH OF THE "Terms to Know" EVERY WEEK!</i>					
Timeline:	Day "A"	Day "B"	Day "C"	Day "D"	Day "E"
Week 27	Bellwork - 5 min	Bellwork - 10 min	Bellwork - 5 min	Bellwork - 5 min	Bellwork - 5 min
	<i>ML Science, Diversity of Living Things, "Math in Science", Page 50</i> - Read aloud and discuss the information presented in the graph; as a class, discuss what each increment represents; answer #'s 1-6 aloud and try to convert to percents - 20 min	Students in pairs, discuss and analyze how bears have adapted to living in various areas of the Earth; think of arctic, desert, and rainforest climates, what adaptations have they made in each environment? Share and discuss your thoughts with the class - 20 min	Students in pairs, discuss and analyze how apes (gorilla, chimpanzee, orangutan, bonobo) have adapted to living in various areas of the Earth; think of arctic, desert, and rainforest climates, what adaptations have they made in each environment? Share and discuss your thoughts with the class - 15 min	Students in pairs, discuss and analyze how Great Cats (lions, tigers, jaguars, cheetahs, panthers) have adapted to living in various areas of the Earth; think of arctic, desert, and rainforest climates, what adaptations have they made in each environment? Share and discuss your thoughts with the class - 15 min	Students in pairs, discuss and analyze how canines (wolves, dogs, coyotes) have adapted to living in various areas of the Earth; think of arctic, desert, and rainforest climates, what adaptations have they made in each environment? Share and discuss your thoughts with the class - 15 min
	<i>ML Science, Diversity of Living Things, "Math in Science", Page 50</i> - Students to individually use Google Sheets to complete "CHALLENGE"; Share with your Teacher when complete - 20 min	<i>ML Science, Diversity of Living Things, Pages 51-53 (stop at "Plants are adapted to different environments")</i> - Read aloud and discuss how plants make food for themselves; where do they capture energy from to do this? What does autotroph mean? Define cellular respiration - 20 min	<i>ML Science, Diversity of Living Things, Pages 53-57</i> - Read aloud and discuss how plants adapt to stimulus in the environment; what are three stimulus that plants relate to? What are some plants adaptations that plants have that protect them or provide specific needs? - 20 min	Illustrate, color, and label plants adapting to the three different stimulus described in the text (gravity, touch, and light); student illustrations should clearly display knowledge of the effect that the stimulus created and how the plant adapted to it; students labels should include a brief description of the stimulus and how the plant adapted - 35 min	(Part I of IV) Teacher to prepare mini-lab in which three sets of two celery stalks are submerged in clear beakers; each beaker to be filled with water about 3/4 of the way up with different colored food coloring (blue, red, and yellow) mixed in; leave the sets of celery stalks in the solution for several days to witness changes; students to illustrate and color changes each day - 15 min
	Teacher to review adaptations and discuss how some Protists have adapted to live in various areas; how have plants adapted to live in deserts, the arctic, and in swamps? Think of specific changes that they've made or additions to their structures - 10 min	Watch "Photosynthesis Educational Video for Kids" on YouTube (4:11 min) and discuss how photosynthesis works; what is the name of the sugar made by plants in photosynthesis? What element (molecule) do plants "breathe in" and "breathe out" during this process? How does photosynthesis directly effect us? - 10 min	Students in pairs, use a "Sequence" graphic organizer to outline how specific plants adapt to different stimulus; BE SPECIFIC and include details in your sequence including what the stimulus was, how the plant responded, and the eventual change; share your organizers with the class and discuss - 15 min		Students and Teacher to go to the following website www.nps.gov/grsa/learn/nature/plants.htm ; view three different plants as a class and discuss the adaptations that it made to survive based upon the different stimulus in the text; students in groups of 3 or 4, choose three more plants from this website and review together the adaptations to the stimulus that your selected plants made; share and discuss as a class - 20 min

Bellwork Topic:	Define adaptation; how have giraffes adapted to living on the African Savanna?	What adaptations can you think of that plants have made to living across the Earth? Think of three plants and their adaptations	What is photosynthesis? What are the three things needed for it to occur?	Name two different types of adaptations that plants have	Define autotroph and cellular respiration
Daily Homework:	Humans walk upright on two legs, are highly intelligent, and have developed speech; how have EACH of these adaptations ensured our survival on Earth?	<i>ML Science, Diversity of Living Things, 2.1 Review, Page 49</i> - Complete #'s 1, 2, & 6 in complete sentences or as requested; due tomorrow!	If plants did not exist on Earth, would there be any other life? Why or why not? Provide examples to support your thoughts	<i>ML Science, Diversity of Living Things, 2.2 Review, Page 57</i> - Complete #'s 1-3 in complete sentences or as requested; due tomorrow!	<i>ML Science, Diversity of Living Things, 2.2 Review, Page 57</i> - Complete #'s 4-5 in complete sentences or as requested; due tomorrow!
Mini-Project Breakdown:	<p><i>Students will work in pairs, in groups of three, or independently to present information on how food chains function. Each group must have EITHER a poster board to present their information from, Google Slides to show a presentation, or a list of accurate notes and a script to act out and demonstrate their food chains. Each participant must have an active and equal role in the group and those that do not will lose points on their grade. Food chains must include the terms autotroph, heterotroph, producer, consumer, and an identification of that consumer as an herbivore, carnivore, or omnivore. Food chains must include at least four organisms and each must begin at the sun (so each chain is FIVE ITEMS LONG including the sun). Students MUST have photos included in their presentations! Groups that use poster boards may illustrate their organisms, but those groups using Google Slides or acting out a script must have printed photos or linked photos in their presentation. Research must be conducted to ensure that food chains are accurate in terms of energy flow and consumption.</i></p>				
Timeline:	Day "A"	Day "B"	Day "C"	Day "D"	Day "E"
Week 28	Bellwork - 10 min	Bellwork - 10 min	Bellwork - 10 min	Bellwork - 10 min	Quiz on plants and animals and "Terms to Know from Week Twenty-Seven" - 20 min
	<i>ML Science, Diversity of Living Things, Pages 58-60</i> - In Literacy Circle of 3 or 4 students, read these pages together and discuss as a student group; students to write down six important facts from the reading; as a class, review these pages and discuss the notes written; Teacher to fact check and relay what to know - 25 min	As a class, use a "Concept Map" to outline the terms discussed so far in this Chapter including heterotroph, autotroph, consumer, producer, herbivore, carnivore, and omnivore; include examples and discuss how these examples may relate to each other; Teacher to model how a food chain or web may link together based upon this "Concept Map" - 15 min	Teacher to model how to create a simple food chain from four organisms; students to include the terms producer, consumer, herbivore, omnivore, carnivore, predator, and prey; Teacher to provide four additional organisms to the students; individually students will create a food chain from those four new organisms; Teacher to review and discuss - 15 min	Students in pairs, go to the following website " https://kidactivities.net/animals-that-hibernate/ " and select two animals from the list of fifteen; students will read about the two selected organisms and how they hibernate; what reasons may an organism have for hibernating? Share your thoughts and information with the class - 20 min	
	Students to go to the following website " www.sheppardsoftware.com/content/animals/kidcorner/games/animaldietgame2.htm ", read the directions, and select PLAY; when they finish the game, go to the link that says "Read more about Herbivores, Carnivores, and Omnivores"; read about each to learn examples - 15 min	<i>ML Science, Diversity of Living Things, Pages 61-64</i> - Read aloud and use the previously used "Concept Map" to continue outlining this section; Teacher to emphasize that food chains track energy flow, NOT what each organism eats; what is a predator and prey? - 20 min	Students and Teacher to go to the following website " https://kids.kiddle.co/Migration " and read aloud to understand migration; study the map about bird migration; track the routes of various birds, which continents do they cross over? Why do some animals migrate? What may follow them when they migrate? - 15 min		Teacher to conduct an in-class spelling bee on the "Terms to Know from Weeks Twenty-Three, Twenty-Five, and Twenty-Seven"; winning students will receive extra credit on their quiz today! - 20 min
Teacher to introduce mini-project regarding food chains and the requirements for it - 5 min	Students in pairs, Teacher to provide the following organisms to the pairs and students will create a food chain from them: grass, fox, grasshopper, bear, Sun, chipmunk, snake; students to put them in the correct order for the food chain and label them as herbivore, omnivore, and carnivore; share as a class and discuss - 10 min	As a class, create a T-Chart together listing the pros (left) and cons (right) of migration; what benefits may there be for birds to migrate south for the winter? As a class, create a set of food chains with new organisms being introduced to an ecosystem due to migration; how do they change what happens in an area? - 15 min	Review for the quiz tomorrow on plants and animals and "Terms to Know from Week Twenty-Seven" - 20 min	In-class time to work on mini-project on Protists - 15 min	

Bellwork Topic:	(Part II of IV) Review the sets of celery stalks to view changes or adaptations to the water & food coloring solutions; illustrate and color what you see	(Part III of IV) Review the sets of celery stalks to view changes or adaptations to the water & food coloring solutions; illustrate and color what you see	(Part IV of IV) For a final time, review the sets of celery stalks to view changes or adaptations to the water & food coloring solutions; illustrate and color what you see	Describe how herbivores, carnivores, and omnivores each get their energy	None
Daily Homework:	Create a list of three carnivores, what adaptations do each of them have to be successful in catching their food in the wild?	Create a list of three herbivores, what adaptations do each of them have to be successful at eating their food or finding food successfully in the wild?	<i>ML Science, Diversity of Living Things, 2.3 Review, Page 64</i> - Complete #'s 1-3 in complete sentences or as requested; due tomorrow!	Study for quiz tomorrow on animals, plants, and the "Terms to Know from Week Twenty-Seven"!	<i>ML Science, Diversity of Living Things, 2.3 Review, Page 64</i> - Complete #'s 4-6 in complete sentences or as requested; due tomorrow!
Timeline:	Day "A"	Day "B"	Day "C"	Day "D"	Day "E"
Week 29	Bellwork - 10 min	In-class time to work on mini-project on food chains - 30 min	In-class time to work on mini-project on food chains - 30 min	In-class time to work on mini-project about food chains - 55 min	Bellwork - 10 min
	In-class time to work on mini-project about food chains - 45 min				Presentation of your Food Chain Mini-Project - 45 min
Bellwork Topic:	Define hibernation; what are three animals that hibernate?	None	None	None	Prepare to present your Food Chain Mini-Project
Daily Homework:	Work on your mini-project; it is due in four days!	Work on your mini-project; it is due in three days!	Work on your mini-project; it is due in two days!	Work on your mini-project; it is due tomorrow!	None

Unit: Astronomy

Terms to Know:					
STUDENTS MUST KNOW HOW TO CORRECTLY SPELL AS WELL AS THE DEFINITION OF EACH OF THE "Terms to Know" EVERY WEEK!					
Timeline:	Day "A"	Day "B"	Day "C"	Day "D"	Day "E"
	Bellwork - 10 min				

Week 30					
Bellwork Topic:					
Daily Homework:					
Timeline:	Day "A"	Day "B"	Day "C"	Day "D"	Day "E"
Week 31	Bellwork - 10 min				
Bellwork Topic:					
Daily Homework:					
Timeline:	Day "A"	Day "B"	Day "C"	Day "D"	Day "E"
	Bellwork - 10 min				

Week 32					
Bellwork Topic:					
Daily Homework:					
Timeline:	Day "A"	Day "B"	Day "C"	Day "D"	Day "E"
Week 33	Bellwork - 10 min				
Bellwork Topic:					
Daily Homework:					
Timeline:	Day "A"	Day "B"	Day "C"	Day "D"	Day "E"
	Bellwork - 10 min				

Week 34					
Bellwork Topic:					
Daily Homework:					
Timeline:	Day "A"	Day "B"	Day "C"	Day "D"	Day "E"
Week 35	Bellwork - 10 min				
Bellwork Topic:					
Daily Homework:					
Timeline:	Day "A"	Day "B"	Day "C"	Day "D"	Day "E"
	Bellwork - 10 min				

Week 36					
Bellwork Topic:					
Daily Homework:					