

Scope and Sequence  
Science - 6th Grade Gen Ed

Unit : Scientific Method

<b>Vocabulary Terms:</b>	<b>Scientific Method, Research, Hypothesis, Data, Analysis, Observation, Conclusion, Inference, Metric System, Graduated Cylinder, Beaker, Mass, Volume, Density, Meter, Liter, Gram, SI Units, Kelvin, Absolute Zero</b>				
<b>IEP Student Terms:</b>	<b>Scientific Method, Hypothesis, Data, Analysis, Inference, Metric System, Graduated Cylinder, Beaker, Mass, Volume, Density, Meter, Liter, Gram, SI Units, Kelvin, Absolute Zero</b>				
<b>Timeline:</b>	Day "A"	Day "B"	Day "C"	Day "D"	Day "E"
1st Week	Journal; complete in Google Docs, send to your teacher - 10 min	Bell Work; complete in Google Docs, send to your teacher - 5 min	Bell Work; complete in Google Docs, send to your teacher - 5 min	Bell Work; complete in Google Docs, send to your teacher - 5 min	Journal; complete in Google Docs, send to your teacher - 10 min
	Watch "Scientific Method for Kids   Learn all about the Scientific Method Steps" on YouTube (9:26 min) and discuss: what is the purpose of the Scientific Method? What happens if one part of it isn't inline with the other parts? How is "observation" possibly the first step? What is a hypothesis? Why are they important to the rest of the scientific method? - 15 min	"Scientific Thinking Handbook", <i>Predicting and Hypotheizing, Page R3</i> - Read aloud and discuss: what is the difference between a hypothesis and a prediction? Students in pairs, teacher to assign a topic (What liquid makes plants grow best?) and students will create a hypothesis and predictions about that topic; as a class, review responses and why - 20 min	Watch "Inference and Observation" on YouTube (4:36 min) and discuss: what is the difference between observations and inferences? Teacher to create a mock-experiment about a fake "Crime Science" and students to discuss potential observations and inferences from them; what may be seen that would lead to specific false conclusions? - 20 min	"Scientific Thinking Handbook", <i>Identifying Cause and Effect, Page R5</i> - Read aloud and discuss: how does Cause and Effect relate to hypothesis? How about Inferences? Teacher to review content understanding to create questions based upon the reading for review of material - 15 min	Watch "Science Project - 7. Create Graphs & Charts, then Analyze the Data" on YouTube (5:41 min) and discuss: why should you keep a journal (data log) when you conduct experiments? Why should you display data on a graph? How does this video recommend that you create your graphs? - 10 min
	"Scientific Thinking Handbook", <i>Making Observations, Page R2</i> - Read aloud and discuss: what is the difference between quantitative observations and qualitative observations? Using Table 1, explain the differences; teacher to create examples and students will analyze which category they fit into - 10 min	Students in pairs, answer and discuss: Using Google Docs, answer and submit to your teacher the following - Review "More About Hypothesis" on page R3; students will respond via Google Docs why each of those three statements must be valid when conducting the experiment that they just discussed previously (liquid for plant growth); after students submit, teacher to discuss responses aloud - 10 min		"Scientific Thinking Handbook", <i>Identifying Cause and Effect, Pages R28-29</i> - Read aloud and discuss: why should you conduct research about your topic BEFORE you begin an experiment? Review the example experiment on pages R28-R29 and discuss hypotheses and inferences from it - 15 min	Teacher to create a mini-lab with stations; using "Scientific Thinking Handbook", pages R12-R19 as a guide, students will review the different equipment and gather measurements; they will create a data log in a journal of the measurements of the variables

	<p>"Scientific Thinking Handbook", <i>Recognizing Bias</i>, Page R6 - Read aloud and discuss: what is bias? How may you already know that word? What are ways that people can be bias towards a product, such as food, designers, or store? Why is it important to have a large sample size? - 10 min</p>	<p>"Scientific Thinking Handbook", <i>Inferring</i>, Page R4 - Read aloud and discuss: what are inferences? Why are they both helpful and harmful for experiments? What are observations? Teacher to use the previous mock-experiment and discuss possible observations and inferences - 15 min</p>	<p>Teacher-provided worksheet about five potential experiments or situations; students in pairs, reply in Google Docs to the scenarios by making hypothesis, predictions, and inferences about them; submit to your teacher, then review responses as a class - 20 min</p>	<p>Teacher to show lab equipment and discuss its use; teacher to review how to measure using beakers, scales, balances, and cylinders; students volunteer to assist in gathering data - 10 min</p>	<p>measurements of the various beakers, test tubes, weights of items on a scale, weights of items on a balance, etc. Teacher to collect data logs as students will graph this data later in this unit - 25 min</p>
Daily Journal or Bell Work:	Write everything that you know about the Scientific Method	Define a hypothesis in your own terms	What are "observations" during a science experiment? How are they different than a final review?	What is an Inference? How are they helpful and harmful to science experiments?	In a science experiment, what is a data log and why is it important?
Daily Homework:	Written Response: How can the Scientific Method relate to everyday and real-life scenarios? Provide an example and use the steps to outline your thoughts (one paragraph or a list)	Written Response: How is a hypothesis different than a prediction? How much analyzing is done when making a hypothesis? Why is that? (one paragraph)	Written Response: Why are observations an important part of your science experiment? How can they be misleading? (one paragraph)	Written Response: Why is conducting research on your topic best to do before making a hypothesis? What would happen if you were uninformed about a general topic? (one paragraph)	Written Response: Why is keeping a data log important during an experiment? Why should experiments be done several times in order to ensure accuracy? How do data logs support accuracy? (one paragraph)
Timeline:	Day "A"	Day "B"	Day "C"	Day "D"	Day "E"
2nd Week	Journal; complete in Google Docs, send to your teacher - 10 min	Bell Work; complete in Google Docs, send to your teacher - 5 min	Bell Work; complete in Google Docs, send to your teacher - 5 min	Bell Work; complete in Google Docs, send to your teacher - 5 min	Journal; complete in Google Docs, send to your teacher - 5 min
	Teacher to review the previous lab experiment and how things were measured; teacher to introduce the metric system; what are SI Units? Read aloud and review "Scientific Thinking Handbook", <i>The Metric System and SI Units</i> , Pages R20-R21 - 20 min	(Part I of III) Teacher to review the Metric System and provide examples of how to convert from one base to another; refer to the bases specifically (Kilo, hector, deka, meter, deci, centi, milli); create sample problems for students to solve - 15 min	(Part II of III) Teacher to review the Metric System and provide examples of how to convert from one base to another; refer to the bases specifically (Kilo, hector, deka, meter, deci, centi, milli); create sample problems for students to solve - 15 min	(Part III of III) Teacher to review the Metric System and provide examples of how to convert from one base to another; refer to the bases specifically (Kilo, hector, deka, meter, deci, centi, milli); create sample problems for students to solve - 15 min	Teacher to review tools used in science (rulers, meter sticks, graduated cylinders, balance, gram scale); reflect upon SI Units and how they relate to each item - 15 min
	Teacher to provide examples of graphs based upon data in an experiment; teacher to create (make-up) data and plot it on various graphs (bar graph, line graph, pie chart); students to assist to show understanding; use SI Units on your graphs - 15 min	Students to use Google Sheets to tabulate their data from the lab last week; create line graphs from this data; save and share with their teacher - 20 min	Students to use Google Sheets to tabulate their data from the lab last week; create either a pie chart or bar graph from this data; save and share with their teacher - 20 min	Students to finish their data and graphing from the previous two days using Google Sheets; they should have two graphs from this data; save and share with their teacher - 20 min	Lab using balance and spring scale; estimate and then measure mass; accurately use & measure with meter sticks - 25 min

Daily Journal or Bell Work:	If you had false data or bad data in your experiment, would should you do? Why should you do it?	What did you find easy about the lab that we recently conducted? What was difficult? Why?	In your opinion, is the Metric System easier or harder to use than the English standard system? Why?	Imagine if the USA changed to the metric system. What specific things would we need to update in our country to reflect this change? Create a list.	Consider that a ruler is 30 cm long. Estimate how long your pencil, Chromebook, textbook, and your shoe are in centimeters
Daily Homework:	Written Response: Why is it important to conduct a science experiment three times? Relate your answer to collecting data (one paragraph)	Teacher-created worksheet of five problems converting bases in the metric system to other bases	Teacher-created worksheet of ten problems converting bases in the metric system to other bases	Teacher-created worksheet of fifteen problems converting bases in the metric system to other bases	Written Response: Why do you think that people in the United States use a different standard of measuring than the rest of the world? Shouldn't we all measure the same? Why or why not?
Timeline:	Day "A"	Day "B"	Day "C"	Day "D"	Day "E"
3rd Week	Journal; complete in Google Docs, send to your teacher - 10 min	Bell Work; complete in Google Docs, send to your teacher - 5 min	Bell Work; complete in Google Docs, send to your teacher - 5 min	Bell Work; complete in Google Docs, send to your teacher - 5 min	Test on Scientific Method, density, and metric system - 30 min
	Teacher to introduce: what is density? Formula for density ( $D = m/v$ ); demonstrate how to solve for it, provide example of testing items in beakers to calculate density (prep for lab tomorrow) - 20 min	Teacher to continue to review density and solving for it; review SI Units and Kelvin; teacher to create sample problems to review it - 15 min	Lab: using graduated cylinders to correctly measure volume; placing small items inside graduated cylinders to calculate density; students to record all data in a journal; teacher to collect journals, students will graph data during upcoming science class - 35 min	Review study guide on Scientific Method, converting metric units from one base to another, and calculating density - 40 min	
	Watch "Density Practice Problems" on YouTube (8:55 min) and discuss; provide additional examples of density and how to solve - 15 min	Students in pairs, answer and discuss: teacher to provide Metric System base conversion and density problems to solve; students solve together and share results, verify for accuracy - 25 min			
Daily Journal or Bell Work:	Consider that a ruler is 30 cm long. Estimate how long your classroom, hallway, and each set of lockers are in meters	Teacher to create two density problems, solve and review for accuracy	Teacher to create two density problems, solve and review for accuracy	Teacher to create two density problems, solve and review for accuracy	None
Daily Homework:	Teacher-created worksheet of five problems converting density	Teacher-created worksheet of ten problems converting density	Teacher-created worksheet of fifteen problems converting density	Study for Test tomorrow on Scientific Method, density, and the Metric System!	None

Unit : Cells

<b>Vocabulary Terms:</b>	<b><i>Cell, Prokaryotic, Eukaryotic, Organelle, Nucleus, Cytoplasm, Cell Wall, Chloroplast, Vacuole, Mitochondria, Osmosis, Active Transport, DNA, Double Helix</i></b>
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<b>IEP Student Terms:</b>	<b>Cell, Prokaryotic, Eukaryotic, Organelle, Nucleus, Cytoplasm, Cell Wall, Chloroplast, Osmosis, DNA,</b>				
Timeline:	Day "A"	Day "B"	Day "C"	Day "D"	Day "E"
<b>4th Week</b>	Bell Work; complete in Google Docs, send to your teacher - 5 min	Bell Work; complete in Google Docs, send to your teacher - 5 min	Bell Work; complete in Google Docs, send to your teacher - 5 min	Bell Work; complete in Google Docs, send to your teacher - 5 min	<i>ML Science, Cells and Heredity, Pages 16-17</i> - Using these pages as a guide, students will take a drop of pond water and look under a microscope to see unicellular life; students should illustrate what they see and compare it to those on page 17; answer #'s 1-5 under "Conclude" on page 17; make sure to classify each organism seen by movement, sketch, and what magnification power that you used to see it - 30 min
	<i>ML Science, Cells and Heredity, Pages 9-12</i> - Read aloud and discuss: use a Main Idea Web to diagram the basic concepts of a cell: what are the characteristics of life? What are needs of life? Define unicellular and multicellular - 20 min	<i>ML Science, Cells and Heredity, Pages 13-15</i> - Read aloud and discuss: what is bacteria? Who is Louis Pasteur? How did his experiment help mankind's overall health? How do bacteria show each of the four characteristics of living things? - 20 min	<i>ML Science, Cells and Heredity, Pages 18-21</i> - Use a Main Idea Web to explain the importance of a microscope; What is the difference between a prokaryotic cell vs a eukaryotic cell? What features are found in both? Teacher to use a Venn Diagram on the board to compare and contrast both - 25 min	(Part I of III) Students in pairs, using poster board divide the page in half; on the left side create a table that lists three columns, listing the organelles in a Eukaryotic cell in one column, their function in the second column, and if a Prokaryotic cell has that organelle in the third column; on the right side, illustrate, color, and label BOTH a Eukaryotic plant cell and an animal cell; students should list and define all organelles listed on page 22 and explained in this section - 45 min	
	Discuss a microscope and the proper method to use one; Watch "Using a microscope The parts and how to focus" on YouTube (5:51 min) and discuss the parts of the microscope and their importance - 15 min	<i>ML Science, Cells and Heredity, Pages 13-15</i> - Review "Pasteur's Experiments" on page 15; How did he follow the Scientific Method in each step? Teacher to review the six steps and relate to Pasteur's experiment - 20 min	Teacher to Google images of "Prokaryotic Cells" and "Eukaryotic Cells" to show the students; note the differences in each and how some move on their own; why do you think they are so diverse? - 10 min		
	<i>ML Science, Scientific Thinking Handbook, R14</i> - Provide students with a microscope; students to use this page as a reference as to the parts of the microscope and how to properly view items under the lens; if prepared slides are available, students may view them - 15 min	Watch "Introduction to Cells: The Grand Cell Tour" on YouTube (9:26 min) and discuss: what is the cell theory? What is unicellular? What is multicellular? What are some things that are found inside a cell? What are some ways that all cells are the same? - 15 min	<i>ML Science, Cells and Heredity, Pages 22-24</i> - Read aloud and discuss: What are chloroplasts? What are mitochondria? What are the ribosomes, cytoplasm, ER, and nucleus? What is the purpose of each organelle? - 15 min	Teacher to prepare students for the microscope lab tomorrow; provide instructions about what to do and why; explain to not dispose of the pond water down the drain as life should be returned to nature (not the drain) - 5 min	
Daily Journal or Bell Work:	What do you know about cells? Try to think of five things to list	Name three parts of a microscope and their purpose	What does unicellular mean? What does multicellular mean?	What are organelles? List three that you know without using your book	None

Daily Homework:	Written Response: What four characteristics are common to all living things?	<i>ML Science, Cells and Heredity, 1.1 Review, #'s 1-6, page 15</i> - Complete each question in complete sentences; due tomorrow!	Define cell membrane, cytoplasm, eukaryotic cell, nucleus, organelle, and prokaryotic cell for tomorrow!	<i>ML Science, Cells and Heredity, 1.2 Review, #'s 1-6, page 24</i> - Complete each question in complete sentences; due tomorrow!	Written Response: Reflect upon your lab today; what did you do well? What could you have done better? Why?
Timeline:	Day "A"	Day "B"	Day "C"	Day "D"	Day "E"
5th Week	Journal; complete in Google Docs, send to your teacher - 10 min	Bell Work; complete in Google Docs, send to your teacher - 5 min	Bell Work; complete in Google Docs, send to your teacher - 5 min	Bell Work; complete in Google Docs, send to your teacher - 10 min	Journal; complete in Google Docs, send to your teacher - 10 min
	<i>ML Science, Cells and Heredity, Pages 26-28</i> - Read aloud and discuss: use a Main Idea Web to diagram how organisms can be classified; what are Archaea, Bacteria, and Eukarya? What are paramecium? How do they move? - 20 min	(Part III of III) Finish your table of organelles and your illustration of the plant cell and animal cell; make sure that each organelle is labeled in your drawing, make sure that each organelle has their function labeled on your chart and if a Prokaryotic cell also has that organelle - 30 min	<i>ML Science, Cells and Heredity, Page 31</i> - Students in pairs, complete the Mini-lab on page 31 by creating a model of a cell; using the poster board as a base, label each organelle clearly with a marker; answer the questions and "Challenge" via Google Docs and submit to your teacher - 35 min	<i>ML Science, Cells and Heredity, Page 35</i> - Students in pairs, using Google Docs complete #'s 6-17 and submit to your teacher; one page per student - 20 min	<i>ML Science, Cells and Heredity, Page 44</i> - Students in pairs, complete Mini-lab on page 44; answer questions via Google Docs and submit to your teacher; how does this lab demonstrate how cells function? - 20 min
	Watch "How a Paramecium Eats!" on YouTube (1:46 min) and discuss: how does a paramecium eat? How does it move? What do the cilia do? Is a paramecium unicellular or multicellular? - 10 min			<i>ML Science, Cells and Heredity, Pages 41-45</i> - Read aloud and discuss: use a Word Triangle diagram for each vocab word; Define carbohydrates, lipids, proteins, and nucleic acids; how much of every cell is made up of water? Why are our bodies made up of 75% water? - 20 min	Students in pairs, using computer paper make a table comparing how carbohydrates, lipids, proteins, and nucleic acids are similar; include a drawing similar to the one used in the Word Triangle Diagram in the previous class on your table; present your table to the class; what features are in all four molecular groups? - 25 min
	<i>ML Science, Cells and Heredity, Pages 29-32</i> - Read aloud and discuss: how do cells work together for a common purpose? What is tissue? What is an organ? What is the relationship between tissue and organs? - 20 min	Discussion: Teacher to review each organelle and their function; teacher to review tissue, organs, and how they work together; teacher to review Prokaryotic cells vs Eukaryotic cells; what are parameciums? - 15 min	Students in pairs, create a Venn Diagram comparing and contrasting Prokaryotic Cells vs Eukaryotic Cells; have at least three statements in each section (total of nine statements); one diagram per group - 15 min		
Daily Journal or Bell Work:	Think of the lab from our previous class, what life was visible under the microscope? What does that tell you about God in our world? Where can you find God's work in our world?	Define tissue and organ; how do they relate to each other?	What is DNA? What does it have contained within it? Where do we find DNA in a cell?	<i>ML Science, Cells and Heredity, Page 33</i> - Read the comparison and draw connections; complete "Make Comparisons"	<i>ML Science, Cells and Heredity, Page 36</i> - Complete #'s 26-27

Daily Homework:	Written Response: Reflect upon the paramecium seen in the video; in what ways does it show the four characteristics of life?	<i>ML Science, Cells and Heredity, 1.3 Review, #'s 1-6, page 32</i> - Complete each question in complete sentences; due tomorrow!	<i>ML Science, Cells and Heredity, Chapter One Review, Page 35</i> - Complete #'s 1-5; due tomorrow!	<i>ML Science, Cells and Heredity, Page 36</i> - Complete #'s 21-25, due tomorrow!	<i>ML Science, Cells and Heredity, 2.1 Review, #'s 1-6, page 45</i> - Complete each question in complete sentences; due tomorrow!
Timeline:	Day "A"	Day "B"	Day "C"	Day "D"	Day "E"
6th Week	Journal; complete in Google Docs, send to your teacher - 10 min	Bell Work; complete in Google Docs, send to your teacher - 5 min	Bell Work; complete in Google Docs, send to your teacher - 5 min	Bell Work; complete in Google Docs, send to your teacher - 5 min	Test on Plant and Animal Cells - 40 min
	<i>ML Science, Cells and Heredity, Pages 47-52</i> - Read aloud and discuss: Teacher to assist in creating an outline of important information in this section (use the format typically seen in MS Word with numbers and letters); what is photosynthesis? What is glucose? Why do all cells need energy? - 25 min	(Part II of II) Discussion: Teacher to compare the organelles of a cell to the features of a city or parts of a castle (king is the nucleus, city walls are the cell wall, cytoplasm is the courtyard, etc); students to assist in the comparison and illustrate, label and color - 25 min	<i>ML Science, Cells and Heredity, Page 53</i> - Students in pairs, complete the Mini-Lab and answer the questions via Google Docs, submit to your teacher and discuss what occurred within the bottle; teacher to note how the balloon slightly inflated due to cellular respiration in the yeast - 30 min	Students in pairs, create a T-chart comparing and outlining how cellular respiration and photosynthesis are similar; note that glucose (C <sub>6</sub> H <sub>12</sub> O <sub>6</sub> ) and Oxygen (6O <sub>2</sub> ) are used in each; notice that energy are used in each (sun and ATP); students to list differences such as which organelle they occur within; review with the class - 20 min	
	(Part I of II) Discussion: Teacher to compare the organelles of a cell to the features of a city or parts of a castle (king is the nucleus, city walls are the cell wall, cytoplasm is the courtyard, etc); students to assist in the comparison and illustrate, label and color - 25 min	Students to review their castle or city; where does cellular respiration fit into your city? Label where photosynthesis or cellular respiration occurs - 10 min	Students in pairs, using a Venn Diagram compare & contrast cellular respiration and photosynthesis in three ways for each section (nine total ways); discuss with class - 15 min	Teacher to review Study Guide for Test tomorrow on Plant and Animal Cells - 25 min	
Daily Journal or Bell Work:	What are lipids used to create? What do carbohydrates give to cells?	Teacher to list three organelles on the board; students indicate their purpose in the cell	Teacher to list three different organelles on the board from yesterday; students indicate their purpose in the cell	How are cellular respiration and photosynthesis similar? How are they different?	None
Daily Homework:	Make a list of five things at your home that could be compared to the parts of a cell? Who/what would be the nucleus? Who/what is the mitochondria? Etc	Students to compare the organelles of the cell to our school; who/what is the nucleus? Who/what is the nucleolus? Have at least ten organelles described	<i>ML Science, Cells and Heredity, 2.2 Review, #'s 1-6, page 54</i> - Complete each question in complete sentences; due tomorrow!	Study for Test on Plant and Animal Cells tomorrow! Review your "Terms to Know" from Week Four!	Written Response: Explain how cellular respiration and photosynthesis are similar yet different in three ways (one paragraph)

Unit : Anatomy & Physiology

<b>Project Theme:</b>	<i>Students will use poster board to illustrate, color, and correctly label one system of the human body. Students must include NO LESS THAN ten organs in this system and provide a "grade level appropriate" written statement of the function of EACH ORGAN. "Grade level appropriate" indicates at least two full sentences per description although more detail will likely be needed. The system is to be fully colored and the drawings must be hand-drawn (no computer images) and should cover as much of the poster board as possible (no small drawings).</i>				
<b>Project Breakdown:</b>	<i>Students will illustrate two of the six systems of the human body as provided below on poster board. Their illustration must be large and encompass most of the poster board; it is not to be a computer image or print out. The illustration must be fully-colored and neatly drawn/colored. The illustration must include no less than eight organs that appropriately and correctly operate in conjuncture with the selected system. For example, if students select the Circulatory System they should only illustrate organs that are in and work within that system. Students will write a caption (as the requirements indicate above) for each of their ten organs in their system. Research may need to be conducted to learn about additional organs in the system as we may only cover major organs in class.</i>				
<b>Project Options:</b>	<i>Skeletal System, Muscular System, Digestive System, Central Nervous System, Circulatory System, Respiratory System; Students MAY NOT use the Endocrine or Reproductive Systems</i>				
<b>Vocabulary Terms:</b>	<i>Anatomy, Cell, Tissue, Muscle, Organ, System, Tendon, Ligament, Aorta, Circulatory System, Skeletal System, Muscular System, Bi, Tri, Quad, Minor, Major, Homeostasis</i>				
<b>IEP Student Terms:</b>	<i>Cell, Tissue, Muscle, Organ, System, Aorta, Circulatory System, Skeletal System, Muscular System, Bi, Tri, Quad, Minor, Major,</i>				
<b>Timeline:</b>	Day "A"	Day "B"	Day "C"	Day "D"	Day "E"
7th Week	Journal; complete in Google Docs, send to your teacher - 10 min	Bell Work; complete in Google Docs, send to your teacher - 5 min	Bell Work; complete in Google Docs, send to your teacher - 5 min	Bell Work; complete in Google Docs, send to your teacher - 5 min	Journal; complete in Google Docs, send to your teacher - 10 min
	Teacher to review photosynthesis and the steps involved; students MUST memorize the formula for photosynthesis (NO EXCUSES!) and be able to mathematically match up what happens to the molecules on the left side of the formula verses the right side (converted from water and carbon dioxide to glucose and oxygen) - 20 min	<i>ML Science, Cells and Heredity, Pages 56-59 - Read aloud and discuss; use a Word Triangle to help define and picturize diffusion, passive transport, and osmosis; teacher to demonstrate the mini-lab to the students on page 56; discuss how diffusion would work in your body with salt, sugar, or other elements - 25 min</i>	<i>ML Science, Cells and Heredity, Pages 60-63 - Read aloud and discuss what active transport, endocytosis, and exocytosis are; use a Word Triangle to illustrate a picture and list facts about them; compare each to the castle/city relation for a continued connection to understanding - 20 min</i>	<i>ML Science, Cells and Heredity, Page 62 - (Part I of II) Students to conduct the first part of this lab today and the second part in the next class period; students to work in pairs to examine and record results; submit answers via Google Docs to your teacher - 25 min</i>	<i>ML Science, Cells and Heredity, Page 62 - (Part II of II) Students to complete the second part of the previous day's lab in today's class period; students to work in pairs to examine and record results; submit answers via Google Docs to your teacher - 15 min</i>

	<p>Teacher to review cellular respiration and the formula for it; note the similarities to the formula for photosynthesis; students must explain what happens in the process and what happens to the molecules on both sides of the arrow - 15 min</p>	<p>Teacher to review passive transport; discuss what would happen if oxygen movement into cells required energy? Compare cells to the concept of a city or castle; what is passive transport like in that comparison? - 15 min</p>	<p>(Part I of III) Students to illustrate, color, and label how materials enter/exit a cell through passive transport, active transport, osmosis, endocytosis, and exocytosis; students must label what specifically is occurring in each process to demonstrate their understanding of the material; artwork and coloring should be clearly done to indicate what each process is specifically doing; especially note which processes REQUIRE ENERGY and which DO NOT - 25 min</p>	<p>(Part II of III) Students to illustrate, color, and label how materials enter/exit a cell through passive transport, active transport, osmosis, endocytosis, and exocytosis; students must label what specifically is occurring in each process to demonstrate their understanding of the material; artwork and coloring should be clearly done to indicate what each process is specifically doing; especially note which processes REQUIRE ENERGY and which DO NOT - 25 min</p>	<p>(Part III of III) Students to illustrate, color, and label how materials enter/exit a cell through passive transport, active transport, osmosis, endocytosis, and exocytosis; students must label what specifically is occurring in each process to demonstrate their understanding of the material; artwork and coloring should be clearly done to indicate what each process is specifically doing; especially note which processes REQUIRE ENERGY and which DO NOT - 25 min</p>
	<p>In Google Docs, students to explain what specifically happens to the molecules in photosynthesis in the chloroplasts and to the molecules in the mitochondria in cellular respiration; submit to your teacher - 15 min</p>	<p>Teacher to review and discuss Osmosis; how would it relate to the city/castle description? Watch "Osmosis and Water Potential (Updated)" on YouTube (9:57 min) and discuss how osmosis works and would connect to the city/castle correctly - 15 min</p>			
Daily Journal or Bell Work:	<p>What is cellular respiration? How is it different than photosynthesis?</p>	<p>What is osmosis? What do you know about it?</p>	<p>What is passive transport? Describe how it works</p>	<p>What is active transport? Describe how it works</p>	<p>What do you think would happen if osmosis required energy? How would it effect plants?</p>
Daily Homework:	<p>Written Response: How do plants help clean the air for humans and animals to breathe? Explain your answer (one paragraph)</p>	<p>Written Response: What are two ways that you could test osmosis at home to watch it occur?</p>	<p>Use a Venn Diagram to compare and contrast Active Transport and Passive Transport in six ways total</p>	<p><i>ML Science, Cells and Heredity, 2.3 Review, #'s 1-6, page 63</i> - Complete each question in complete sentences; due tomorrow!</p>	<p><i>ML Science, Cells and Heredity, Page 67</i> - Complete #'s 11-17; due tomorrow!</p>
Timeline:	Day "A"	Day "B"	Day "C"	Day "D"	Day "E"
	<p>Journal; complete in Google Docs, send to your teacher - 10 min</p>	<p>Bell Work; complete in Google Docs, send to your teacher - 5 min</p>	<p>Bell Work; complete in Google Docs, send to your teacher - 5 min</p>	<p>Bell Work; complete in Google Docs, send to your teacher - 5 min</p>	<p>Journal; complete in Google Docs, send to your teacher - 10 min</p>
	<p><i>ML Science, Human Biology, Pages 9-12</i> - Read aloud and review previous knowledge about cells, tissues, and organs; how does each work together to create a system? Use a "Main Idea Web" graphic organizer to outline how they connect to each other - 25 min</p>	<p><i>ML Science, Human Biology, Pages 14-16</i> - Read aloud and use a "Four Square Diagram" to connect four statements about bones; refer to the mini-lab discussion on page 14 and complete together as a class; how do bones act as a lever? What other areas are similar to simple machines? - 25 min</p>	<p>Teacher to provide a blank print-out of the human skeleton; review the twenty bones to know in the human body and their correct location - 10 min</p>	<p>Using the previously provided blank skeleton print-out, review the twenty bones to know in the human body and their correct location - 10 min</p>	<p>Using the previously provided blank skeleton print-out, review the twenty bones to know in the human body and their correct location - 10 min</p>

8th Week	<i>ML Science, Human Biology, Page 10</i> - Students in pairs, complete the mini-lab on page 10 together; make a list of five everyday activities and which systems are used in each; record you answers and be prepared to share them with the class - 25 min	<i>ML Science, Human Biology, Page 17</i> - Refer to the diagram of the various bones listed; students MUST KNOW (NO EXCEPTIONS) twenty bones and their correct location in the body; those bones are: cranium, ribs, vertebrae, scapula, humerus, ulna, radius, clavicle, patella, femur, tibia, fibula, tarsals, metatarsal, phalanges, carpals, metacarpals, mandible, pelvis, sacrum	<i>ML Science, Human Biology, Pages 18-20</i> - Read aloud and discuss the three types of joints in the human body and provide an example of each by location - 15 min	<i>ML Science, Human Biology, Pages 22-25</i> - Read aloud and discuss; use a "Main Idea Web" to organize four statements about muscles; complete the mini-lab on page 22 as a class and discuss; what are the three types of muscles? - 20 min	Teacher to Google images of the skeleton and muscular system of animals and humans; how do they compare and contrast? How similar are animal skeletons and muscular system to ours? Discuss at least three ways for each - 20 min
			<i>ML Science, Human Biology, Page 19</i> - Students in pairs, complete the mini-lab on page 19 via Google Docs and share your responses with your teacher - 20 min	Discussion: Introduce Latin conjugates (bi, tri, quad, minor, major) and their meaning; teacher to lead the creation of a chart of various muscles, their locations, and what type they are - 20 min	<i>ML Science, Human Biology, Pages 26-27</i> - Read aloud and discuss how muscles develop; what is the importance of exercise for your body? - 15 min
Daily Journal or Bell Work:	Define: cell, tissue, and organ	What is homeostasis? Provide an example of how your body regulates it.	What are compact bone? What are spongy bone?	Correctly locate the following bones: radius, ulna, tibia, fibula	Correctly locate the following bones: cranium, pelvis, patella, clavicle
Daily Homework:	<i>ML Science, Human Biology 1.1 Review, #'s 1-6, page 12</i> - Complete each question in complete sentences; due tomorrow!	<i>ML Science, Human Biology, "Think Science", Page 13</i> - Read and complete the questions under "Make Inferences" and "Challenge"; due tomorrow!	<i>ML Science, Human Biology 1.2 Review, #'s 1-6, page 20</i> - Complete each question in complete sentences; due tomorrow!	Written Response: Compare and contrast the three types of muscles (cardiac, smooth, and skeletal)	Written Response: Create a T-chart of five smooth muscles and five skeletal muscles
Timeline:	Day "A"	Day "B"	Day "C"	Day "D"	Day "E"
9th Week	Bell Work; complete in Google Docs, send to your teacher - 5 min	Bell Work; complete in Google Docs, send to your teacher - 10 min	Bell Work; complete in Google Docs, send to your teacher - 5 min	Bell Work; complete in Google Docs, send to your teacher - 5 min	Quiz: Human skeleton (twenty bones to know) - 20 min
	Using the previously provided blank skeleton print-out, review the twenty bones to know in the human body and their correct location - 10 min	<i>ML Science, Human Biology, Page 39</i> - Students in pairs, complete the lab on page 39 together and record your observations; submit your responses via Google Docs to your teacher - 20 min	<i>ML Science, Human Biology, Page 40-43</i> - Read aloud and discuss how the respiratory system works to remove water and gas from your body - 20 min	(Part II of II) Students will complete their illustration, coloring, and labeling of the respiratory system as indicated yesterday - 20 min	Students to go to the following website and play " <a href="http://www.vocabulary.com/signup/">www.vocabulary.com/signup/</a> "; students may need to create an account the first time that they play and can sign in with their Google account; make sure to indicate that you are part of our school and search by zip code (44104); after you sign-in, go to "Play" to begin - 20 min
	Watch "Bones   The Dr. Binocs Show   Learn Videos For Kids" on YouTube (4:17 min) and discuss the tips provided to help you remember the bones; review as needed - 10 min		Teacher to introduce project, discuss details as outlined above; reference the respiratory system as an example, but do not provide too much knowledge - 10 min	Using the previously provided blank skeleton print-out, review the twenty bones to know in the human body and their correct location - 10 min	

	<i>ML Science, Human Biology, Pages 37-39</i> - Read aloud and discuss the role of the respiratory system in your body; complete the mini-lab on page 37 together as a class; review & discuss cellular respiration - 20 min	Teacher to review the formula for photosynthesis and its components; demonstrate that cellular respiration is the opposite of photosynthesis by showing the equation and how the molecules move throughout it; students to MEMORIZE the formula for cellular respiration - 15 min	(Part I of II) Students will illustrate, color, and label on computer paper the respiratory system as presented on pages 41-42; label the five major organs and write a sentence about their role - 15 min	Students in pairs, correctly create a sequence chain of the correct organs in order that are required to make you cough, sneeze, or laugh; students should demonstrate each to feel what their body does when these occur - 15 min	<i>ML Science, Human Biology, Pages 45-47</i> - Read aloud and discuss the basics of the digestive system; what is the difference between mechanical digestion and chemical digestion? - 15 min
Daily Journal or Bell Work:	Correctly locate the following bones: ribs, vertebrae, scapula, mandible	<i>ML Science, Human Biology, Page 31</i> - Complete #'s 1, 3, 4, & 5	What is cellular respiration?	Name three organs in the respiratory system	None
Daily Homework:	<i>ML Science, Human Biology 1.3 Review, #'s 1-5, Page 27</i> - Complete each question in complete sentences; due tomorrow!	<i>ML Science, Human Biology, Page 31</i> - Complete #'s 7-15; due tomorrow!	Study for quiz on the human skeleton in two days!	Teacher to provide a print-out of a human skeleton; students will identify all twenty bones to know on the diagram	<i>ML Science, Human Biology 2.1 Review, #'s 1-5, Page 43</i> - Complete each question in complete sentences; due tomorrow!
<b>Vocabulary Terms:</b>	<b><i>Digestive System, Central Nervous System, Circulatory System, Endocrine System, Liver, Pancreas, Skin, Intestines, Stomach, Brain, Disease</i></b>				
<b>IEP Student Terms:</b>	<b><i>Digestive System, Central Nervous System, Circulatory System, Liver, Skin, Intestines, Stomach, Brain</i></b>				
Timeline:	Day "A"	Day "B"	Day "C"	Day "D"	Day "E"
10th Week	Journal; complete in Google Docs, send to your teacher - 10 min	Bell Work; complete in Google Docs, send to your teacher - 5 min	Bell Work; complete in Google Docs, send to your teacher - 5 min	Bell Work; complete in Google Docs, send to your teacher - 5 min	Bell Work; complete in Google Docs, send to your teacher - 5 min
	Teacher to review how digestion works and two types; what would mechanical digestion specifically take place? Where would chemical digestion specifically take place? - 10 min	<i>ML Science, Human Biology, Page 45</i> - Students in groups of 3 or 4, complete the mini-lab on page 45 together; make a table in Google Sheets to record your data and answer the questions; share that table with your teacher; one table per group - 25 min	<i>ML Science, Human Biology, Page 51</i> - Read aloud and discuss as a class; students to answer #'s 1-3 and "Challenge" via Google Docs and submit to your teacher - 20 min	Watch "How the Urinary System Works" on YouTube (5:14 min) and discuss the role of the different organs in your urinary system - 10 min	<i>ML Science, Human Biology, Pages 56-57</i> - Students in groups of 3 or 4, complete the lab together with <u>one chart per group</u> but ONE PAPER answering the questions PER CHILD; teacher to use juice, soda pop, and gatorade as solutions A, B, and C; students will test the amount of sugar, salt, and protein in each as instructed in the lab; how does this
	<i>ML Science, Human Biology, Pages 48-50</i> - Read aloud about the digestive system and the organs; what job does each do? - 20 min		In-class time to work on your Human Body project - 25 min	<i>ML Science, Human Biology, Pages 52-55</i> - Using an outline to gather main ideas and a statement about them, read about the urinary system and its organs; what is the role of each organ? How do they assist the process? - 25 min	

	Students in pairs, using a T-chart compare how the respiratory system and digestive system overlap; how are they different? Share your thoughts with the class - 15 min	Students in groups of 3 or 4, use a Venn Diagram to outline the differences and similarities between the large and small intestines; share your diagrams with the class - 20 min	human body project - 25 min	<i>ML Science, Human Biology, Page 52</i> - Students in pairs, complete the mini-lab on page 52 and answer the questions via Google Docs, submit to your teacher - 10 min	process resemble the work of the kidneys? - 45 min
Daily Journal or Bell Work:	Describe how digestion works from the mouth the gut	What are villi? What role do they play in digestion?	What is the pancreas? What role does this organ play in the digestive system?	What could happen if your large intestine became blocked with food or an object? How would this effect you directly?	Do you think that you could live with only one kidney? Why or why not?
Daily Homework:	Written Response: What part does your mouth play in digestion? How does your mouth chemically and mechanically break down food?	<i>ML Science, Human Biology 2.2 Review, #'s 1-5, Page 50</i> - Complete each question in complete sentences; due tomorrow!	List six organs in the digestive system and explain their purpose in the human body	Written Response: What do you think changes the color of urine? What problem could blood in urine represent?	<i>ML Science, Human Biology 2.3 Review, #'s 1-4, Page 55</i> - Complete each question in complete sentences; due tomorrow!
Timeline:	Day "A"	Day "B"	Day "C"	Day "D"	Day "E"
11th Week	Bell Work; complete in Google Docs, send to your teacher - 5 min	Bell Work; complete in Google Docs, send to your teacher - 5 min	Bell Work; complete in Google Docs, send to your teacher - 5 min	Bell Work; complete in Google Docs, send to your teacher - 5 min	Journal; complete in Google Docs, send to your teacher - 10 min
	<i>ML Science, Human Biology, Page 61</i> - As a class review the graph (discuss the titles of the X-axis and Y-axis) and answer #'s 1-5 together; how does smoking harm your body based upon this data presented? - 15 min	<i>ML Science, Human Biology, Pages 65-69 (stop at "Blood Vessels")</i> - Using a Concept Map, read aloud and take notes on the heart, blood, and processes of the circulatory system - 25 min	Teacher to present a model of the heart (or use the actual pig heart if you choose) to show the arteries, aorta, chambers, and its presumed functionality - 10 min		<i>ML Science, Human Biology, Pages 74-76</i> - Read aloud about the Immune System; teacher to compare this system to defense in a city or castle; what are cilia? Why do we sneeze? - 20 min
	<i>ML Science, Human Biology, Page 61</i> - Students in pairs, using	<i>ML Science, Human Biology, Page 65</i> - Using Google Sheets and the necessary tools, complete the mini-lab on page 65 and record your	Watch "Exploring the Heart - The Circulatory System!" on YouTube (6:12 min) and discuss how blood is pumped throughout the body from the lungs and throughout - 15 min	<i>ML Science, Human Biology, Pages 72-73</i> - Students in pairs, one graph and paper per student; complete using Google Docs to write your answers and Google Sheets to record your answers; create a bar or line graph to	Students in pairs, using a "Cause and Effect" Diagram explain how the respiratory, digestive, circulatory, and integumentary (skin) systems each protect the body from foreign elements; one diagram for each system; one set per pair of students - 20 min

	computer paper answer #7 by creating an add that discourages smoking and has a slogan; refer to your knowledge of the respiratory system while completing this section - 35 min	use on page 65 and use your data in the table; students will ask for the heartrate of at least ten other students in the class and create a graph (line, bar, or pie) demonstrating the rates of the ten different students; compare and contrast them together - 20 min	<i>ML Science, Human Biology, Pages 69-71</i> - Using a Concept Map, read aloud and take notes on the types of blood vessels and the four types of blood; what blood type is the "universal donor"? Which blood type is the "universal recipient"? Why are they called these names? - 25 min	create a bar or line graph to present your data; share with your teacher when completed - 45 min	Quick Write: Students individually to write their opinion to this question - which body system that we have studied so far is the most important to your body? Why do you believe that? (one paragraph minimum) - 10 min
Daily Journal or Bell Work:	What is homeostasis? How can you best maintain it?	What does your heart do? How often does it work? Does it ever rest?	What are red blood cells? What role do they have in the body?	Should you have a higher heart rate when you're resting or exercising? Why is that?	What do you think would happen if you had a blood vessel swell up and blood couldn't go through? Why do you think this?
Daily Homework:	<i>ML Science, Human Biology, page 62</i> - Students to answer ANY THREE questions between #19-26 in complete sentences; due tomorrow!	Illustrate the heart and the four chambers, include the aorta; label what each section of the heart does	What are the arteries, veins, and capillaries? What does each blood vessel specifically do for the body?	<i>ML Science, Human Biology 3.1 Review, #'s 1-5, Page 71</i> - Complete each question in complete sentences; due tomorrow!	Written Response: Think about the last time that you were ill (sick); how did your body try to rid itself of the foreign materials? Explain your answer using organs, systems, and processes (one paragraph)
Timeline:	Day "A"	Day "B"	Day "C"	Day "D"	Day "E"
12th Week	Bell Work; complete in Google Docs, send to your teacher - 5 min	Bell Work; complete in Google Docs, send to your teacher - 5 min	Bell Work; complete in Google Docs, send to your teacher - 5 min	Bell Work; complete in Google Docs, send to your teacher - 5 min	Journal; complete in Google Docs, send to your teacher - 10 min
	<i>ML Science, Human Biology, Pages 77-79</i> - Read aloud and discuss antigens, specific and nonspecific responses, and phagocytes - 15 min	Teacher to provide permission slip for "Super Size Me" movie; some adult content including a private medical exam, some swearing (F-bomb included), and others - 5 min	<i>ML Science, Human Biology, Pages 83-86</i> - Read aloud and discuss the layers of skin and its purpose; how do sweat and oil glands help your body? - 20 min	<i>ML Science, Human Biology, Pages 87-88</i> - Students in pairs, read together and discuss how injuries are healed by the skin and how your skin can be damaged by the weather; discuss as a class - 20 min	<i>ML Science, Human Biology, Page 85</i> - Students in pairs, complete the mini-lab on page 85 and answer questions including "Challenge" portion - 15 min
	Discussion: Teacher to compare the immune system to police or the military; how does each section that we've discussed relate? Discuss antigen, phagocytes, specific responses, nonspecific responses, T-cells, antibodies, B-cells, and pathogens - 20 min	Students in pairs, answer these two questions by incorporating specific organs, pathogens, and illness prevention: 1. why should you cover your mouth when you sneeze? 2. why should you wash your hands when you finish in the restroom? Discuss responses as a class when complete - 25 min	<i>ML Science, Human Biology, Page 84</i> - Illustrate, color, and label the layers and features within skin as depicted on		Lab: Students to use cotton swabs to extract cheek cells; they will prep a slide with the swab, place one drop of dye on it, place the cover slip atop the dye, and place the slide under the microscope; use the microscope

	<i>ML Science, Human Biology, Page 79</i> - Simulate the mini-lab by using containers and lids (or another paired object) as a class; teacher to lead the mini-lab and discussion - 15 min	<i>ML Science, Human Biology, Pages 80-81</i> - Read aloud and discuss how medical science is working to protect against illnesses; what are vaccines? How do they work in your body? - 20 min	page 84; include the epidermis, dermis, fatty tissue, sweat gland, oil gland, hair, blood vessels, and nerves - 30 min	Mini-Lab: teacher to have microscopes prepared with slides ready with examples of bone, blood, hair, cheek, skin, and muscle cells; students to review and illustrate what they observe; label the nucleus of each cell - 30 min	the microscope, use the microscope at various magnifying degrees to locate cheek cells; illustrate the cells in your drawing including the nucleus and any parts that you may see; color it for clarity - 30 min
Daily Journal or Bell Work:	What are allergies? How do they disrupt your immune system? Think of specific organs or preventions that we've discussed	Why is it important for your body to store B-cells?	Comparing your Immune System to the military or police, what would vaccines, antibiotics, and immunities each relate closest to?	What are the functions of oil glands?	Define: epidermis, dermis, and Integumentary System
Daily Homework:	Written Response: What is hayfever? How does this disrupt your immune system?	<i>ML Science, Human Biology 3.2 Review, #'s 1-5, Page 81</i> - Complete each question in complete sentences; due tomorrow!	Work on your Human Body Systems project! It is due in seven days!	Written Response: Think about what you learned today about skin; what do you think a pimple is? What area do you think the pimple exists within?	Human Body project is due in five days!
Timeline:	Day "A"	Day "B"	Day "C"	Day "D"	Day "E"
13th Week	Bell Work; complete as requested - 5 min	Bell Work; complete in Google Docs, send to your teacher - 5 min	Bell Work; complete in Google Docs, send to your teacher - 5 min	Bell Work; complete in Google Docs, send to your teacher - 5 min	Bell Work; complete in Google Docs, send to your teacher - 5 min
	<i>ML Science, Human Biology, Page 92</i> - Students in groups of 3 or 4, complete ANY THREE of the questions between #'s 20-27 in groups; one page per student; discuss results with the class - 25 min	<i>ML Science, Human Biology, Pages 101-103</i> - Using a Main Idea Web, read aloud and discuss the how the nervous system works; how do the eye and ear function? - 25 min	Teacher to review the human ear and eye and parts in them; how do they each work together? How does an image actually appear on the retina of your eye? What are the three small bones in your ear called? - 20 min	Teacher to review the parts of the eye and ear; how do they gather sensations? How is this method similar to your skin? - 10 min	Students in pairs, use a T-chart to list each body system that we have discussed so far (left side) and if it is controlled by the voluntary or autonomic nervous system (right side); discuss results when complete with the class - 15 min
	<i>ML Science, Human Biology, Page 92</i> - Divide the class in half with one student acting as the teacher for each half; complete #'s 28-33 together BUT ALSO ADD one disease for each system; students may use their Chromebooks for help if necessary; present your results to the class - 25 min	<i>ML Science, Human Biology, Page 102</i> - Illustrate, color, and label the different parts of the human eye as depicted on page 102; teacher to provide students with the models of the eye if available - 25 min	<i>ML Science, Human Biology, Page 103</i> - Illustrate, color, and label the different parts of the human ear as depicted on page 103; teacher to provide students with the models of the ear if available - 25 min	<i>ML Science, Human Biology, Pages 104-107</i> - Using a description wheel, read aloud and discuss the CNS, neurons, and parts of the brain; explain how your body receives impulses and messages across your body - 25 min	Teacher to visit " <a href="http://www.ducksters.com/science/brain.php">www.ducksters.com/science/brain.php</a> " and review the parts of the brain with the class; presume that a bus of people were in a bad accident and many had damage to their brain; what areas would be effected if the people had the following symptoms: loss of vision? loss of memory? loss of the ability to walk? loss of taste and smell? fell into a coma? loss of short-term memory? - 25 min
				Watch "Nervous System   Animation explained" on YouTube (2:15 min) and explain the difference between the two areas - 10 min	

Daily Journal or Bell Work:	<i>ML Science, Human Biology, "Timelines in Science", Pages 94-97</i> - Read privately	What are the five senses?	Define what each does for the eye: retina, lens, pupil, cornea	What are the three bones in the inner-ear called? Why are they given these names?	What is the "fight or flight" response?
Daily Homework:	Work on your Human Body Systems project! It is due in five days!	Work on your Human Body Systems project! It is due in four days!	Work on your Human Body Systems project! It is due in three days!	Work on your Human Body Systems project! It is due in two days!	Complete your Human Body project; it is due tomorrow!
Timeline:	Day "A"	Day "B"	Day "C"	Day "D"	Day "E"
14th Week	Journal; complete in Google Docs, send to your teacher - 10 min	Bell Work; complete in Google Docs, send to your teacher - 5 min	Bell Work; complete in Google Docs, send to your teacher - 5 min	Bell Work; complete in Google Docs, send to your teacher - 5 min	Test on Human Body and its functions - 40 min
	(Part I of III) Debate & Movie: Over the next three days, students will watch the movie "Super Size Me" on YouTube (1:38:41 min); The man in the film, Morgan Spurlock, eats McDonalds for every meal for 30 days straight; he goes from healthy to very ill quickly to prove that fast food is harmful to your health; MALE NUDITY at 7:35 seconds and F-bomb at 26:44 min, please EDIT! Students will debate whether it is our right as humans to eat whatever we want, or should we take better care of ourselves and our families? Watch movie the first two days (98 total minutes for the movie), then debate the third day with the time remaining - 50 min	(Part II of III) Debate & Movie: Over the next three days, students will watch the movie "Super Size Me" on YouTube (1:38:41 min); The man in the film, Morgan Spurlock, eats McDonalds for every meal for 30 days straight; he goes from healthy to very ill quickly to prove that fast food is harmful to your health; MALE NUDITY at 7:35 seconds and F-bomb at 26:44 min, please EDIT! Students will debate whether it is our right as humans to eat whatever we want, or should we take better care of ourselves and our families? Watch movie the first two days (98 total minutes for the movie), then debate the third day with the time remaining - 50 min	(Part III of III) Debate & Movie: Over the next three days, students will watch the movie "Super Size Me" on YouTube (1:38:41 min); The man in the film, Morgan Spurlock, eats McDonalds for every meal for 30 days straight; he goes from healthy to very ill quickly to prove that fast food is harmful to your health; MALE NUDITY at 7:35 seconds and F-bomb at 26:44 min, please EDIT! Students will debate whether it is our right as humans to eat whatever we want, or should we take better care of ourselves and our families? Watch movie the first two days (98 total minutes for the movie), then debate the third day with the time remaining - 50 min	Review study guide on human body - 30 min	
Daily Journal or Bell Work:	What is the difference between the voluntary and autonomic nervous systems?	Name three systems controlled by the autonomic nervous systems.	Explain how your nervous system is responding to this question as it is being provided to you currently. How are you perceiving and responding to the question?	What area of your brain would fear come from? Why do you think that?	None
Daily Homework:	<i>ML Science, Human Biology 4.1 Review, #'s 1-6, Page 107</i> - Complete each question in complete sentences; due tomorrow!	Written Response: What part of your brain is responsible for you crying? Would it depend on the reason for you crying? Why or why not?	Written Response: Why do you think that you dream? Connect your response to parts of the brain.	Study for Test tomorrow on the Human Body and its functions!	None

Unit : Periodic Table, Atoms, and Molecules

<b>Vocabulary Terms:</b>	<b>Proton, Neutron, Nucleus, Electron, Atomic Number, Atomic Mass, Isotope, Ion, Periodic Table, Group, Period, Reactive, Metal, Nonmetal, Metalloid, Radioactivity, Half-Life,</b>
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<b>IEP Student Terms:</b>	<b>Proton, Neutron, Nucleus, Electron, Atomic Number, Atomic Mass, Isotope, Ion, Group, Period, Reactive, Metal, Nonmetal</b>
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**Teacher to ensure that the Explore Learning Gizmos Account is activated prior to this week as students will use Gizmos daily for several weeks.**

Timeline:	Day "A"	Day "B"	Day "C"	Day "D"	Day "E"
	Bellwork - 10 min	Bellwork - 10 min		Bellwork - 10 min	Bellwork - 10 min
	<i>ML Science, Chemical Interactions, Pages 2-5</i> - Read aloud and discuss how plants can be used to cure many deadly illnesses; Teacher to create an outline (Letters & Numbers Format) on the Clever Board to help students see how this information relates together; what are some plants that the text mentions help with medical issues? Do you know any plants with medical relief (aloe vera, ginseng, garlic) - 30 min	<i>ML Science, Chemical Interactions, Pages 9-12 (stop at "Atomic Numbers")</i> - Read aloud using a "Main Idea Web" graphic organizer for "atom", "nucleus", and "symbols used"; teacher to discuss each section with the students to ensure content and quality; what are protons? Neutrons & electrons? How do they relate to each other? Why do we use symbols for elements? - 30 min	<i>ML Science, Chemical Interactions, Pages 12-15</i> - Read aloud and discuss protons, neutrons, electrons, and isotopes; What are isotopes and ions? How do they form? Teacher to illustrate an example of both isotopes and ions on the Clever Board by using circles to symbolize protons & neutrons in the nucleus; what creates a positive ion? a negative ion? - 30 min	Students to go to the following website on their Chromebooks: " <a href="https://phet.colorado.edu/sims/html/build-an-atom/latest/build-an-atom_en.html">https://phet.colorado.edu/sims/html/build-an-atom/latest/build-an-atom_en.html</a> "; begin with "Atom" then move on to "Symbol" and "Game"; complete each section step-by-step to learn the material and reinforce what it is that you're reviewing - 20 min	<i>ML Science, Chemical Interactions, Pages 17-21</i> - Read aloud and discuss how elements are organized; use a "Concept Map" to organize information on the Periodic Table; who was Dmitri Mendeleev? How did he organize the table originally? How do you read the table to understand it? - 25 min
15th Week	Students to use their Chromebooks to go to the following website: " <a href="http://www.healthline.com/health/most-powerful-medicinal-plants">www.healthline.com/health/most-powerful-medicinal-plants</a> " and review how plants can help cure many illness; teacher to lead discussion on the site; students to select one plant from this list and	<i>ML Science, Chemical Interactions, Page 10</i> - Review the pie charts on this page; what elements are found in both humans and the Earth's crust? Why do you think that this is so? What elements do humans have in us frequently that ensure our survival? Use Google to help answer those questions if needed - 10 min	<i>ML Science, Chemical Interactions, Page 13</i> - Students in groups of 3 or 4, complete the mini-lab on this page as indicated; complete the "What Do You Think?" questions as requested via Google Docs and share with your teacher - 20 min	Teacher to review "Atomic Number" and "Mass Number"; what makes up each of these? What would a change in one of these totals alter within the atom? What are isotopes & ions? How do they form? - 10 min	<i>ML Science, Chemical Interactions, Pages 20-21</i> - Teacher to lead students in solving to complete the following: write the number of protons, neutrons, and electrons in each of the following elements: Hydrogen, Helium, Lithium, and Beryllium; what pattern are you noticing in the atomic number and mass? - 15 min

	select one plant from this list and write a paragraph about it in their own words via Google Docs; submit to your teacher when complete - 15 min	Watch "What Is An Atom?   Educational Videos for Kids" on YouTube (3:02 min) and discuss the parts of the atom, the periodic table, and what makes up atoms; review content as needed - 10 min	Teacher to review protons, neutrons, electrons, and related terms - 5 min	<i>ML Science, Chemical Interactions, "Connecting Sciences", Page 16</i> - Read aloud and discuss how elements are found in your body and create change within you; answer all questions together as a class, then discuss - 10 min	Watch "The Periodic Table Song (2018 UPDATE!)" on YouTube (3:05 min) and discuss how each element has a use; reshoot the video if needed to breakdown the uses of some elements listed; which do you recognize? - 10 min
Daily Journal or Bell Work:	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	None	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
Daily Homework:	Written Response: Why do you think people are cutting down trees and destroying forests if plants have medical properties that help us?	Create a list of as many elements as you can think of; try to have at least eight; due tomorrow! It's okay to guess!	<i>ML Science, Chemical Interactions 1.1 Review, #'s 1-5, Page 15</i> - Complete each question in complete sentences; due tomorrow!	None	<i>ML Science, Chemical Interactions, Pages 20-21</i> - Write the number of protons, neutrons, and electrons in each of the following elements: Boron, Carbon, Nitrogen, and Oxygen
Timeline:	Day "A"	Day "B"	Day "C"	Day "D"	Day "E"
16th Week	Bellwork - 10 min	Bellwork - 10 min			Bellwork - 10 min
	Teacher to provide students with three different colors of Play-Doh!; students will use one color to symbolize protons, another color to symbolize neutrons, and a third color to symbolize electrons; teacher to inform students what element they are to create by reviewing the Periodic Table and making connections; teacher will inform students to add/remove particles to create ions or isotopes as applies - 20 min	Teacher to review protons, neutrons, nucleus, electrons, and other terms; how does the Periodic Table reflect the number of each of these? Students to discuss concerns at this time - 10 min	<i>ML Science, Chemical Interactions, Pages 29-30</i> - Read aloud and continue creating the table from the previous lesson; what are metalloids? What are Halogens and Noble Gases? - 20 min	<i>ML Science, Chemical Interactions, Pages 31-32</i> - Read aloud and review half-lives; teacher to discuss how half-lives are calculated and provide several examples - 15 min	Teacher to review previous content from this unit including ions, isotopes, and how to discover the number of neutrons or protons from the Periodic Table - 10 min
		<i>ML Science, Chemical Interactions, Pages 26-28</i> - Read aloud and make a table indicating which elements and their characteristics are found in specific groups; what are Alkali Metals and Alkali Earth Metals? What is specific about them? - 20 min	<i>ML Science, Chemical Interactions, Page 31</i> - Students in groups of 3	Teacher to go to the following website and play the video: " <a href="http://www.glencoe.com/sites/common_assets/science/virtual_labs/E18/E18.html">www.glencoe.com/sites/common_assets/science/virtual_labs/E18/E18.html</a> "; discuss the information and address questions about how atoms breakdown - 10 min	<i>ML Science, Chemical Interactions, Page 35</i> - As a class complete #'s 1-7; teacher to lead the conversion and assist in responses - 15 min

	<i>ML Science, Chemical Interactions, Pages 22-23</i> - Read aloud and discuss how there are similarities found throughout the Periodic Table; where are the metals, nonmetals, and metalloids found? What do elements that touch each other generally share? - 20 min	Watch "Alkali metals in water, accurate!" on YouTube (2:22 min) and discuss how quickly the elements react with air and water; what is in the air and water that is quickly causing the reaction? Notice on the Periodic Table how many protons/electrons there are? Could there be a connection in the reactivity? - 10 min	<i>Page 31</i> - Students in groups of 3 or 4, complete the lab on this page following each step in order; answer all questions via Google Docs and submit to your teacher - 30 min	Students to go to the following website on their Chromebooks: "www.glencoe.com/sites/common_assets/science/virtual_labs/E18/E18.html" to complete a simulation about half-lives; open the "Journal", "Table", and "Calculator" to help with the process; you cannot print your data but you can "screenshot" and email it to your teacher - 20 min	<i>ML Science, Chemical Interactions, Page 35</i> - Students in pairs, complete #'s 8-22; discuss responses as a class afterwards to review; why are these the best answers? - 25 min
Daily Journal or Bell Work:	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	None	None	Students to go to "Gizmos" in the Explore Learning website and work for ten minutes
Daily Homework:	Define in your own words: Metal, Nonmetals, and Metalloids	<i>ML Science, Chemical Interactions 1.2 Review, #'s 1-5, Page 23</i> - Complete each question in complete sentences; due tomorrow!	Written Response: How can an atom of one element change into an atom of a different element?	<i>ML Science, Chemical Interactions 1.3 Review, #'s 1-5, Page 32</i> - Complete each question in complete sentences; due tomorrow!	None
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
	(Part I of III) Students in pairs, using	<i>ML Science, Chemical Interactions, "Interpreting Tables", Page 37</i> - Review the table provided as a class and discuss connections in the groups & elements; as a class, solve privately #'s 1-6, then review responses for accuracy - 20 min	(Part III of III) Complete your poster board illustration, coloring, and labeling of the Periodic Table of Elements with and example atom - 20 min	<i>ML Science, Chemical Interactions, Pages 41-44 (stop at "Same Elements, Different Compounds")</i> - Read aloud and discuss how elements bond; use a "Word Wheel" graphic organizer to outline chemical formulas; what part of the atom actually creates the bond? - 20 min	<i>ML Science, Chemical Interactions, Page 44</i> - Review the table of chemical formulas illustrating HCl, Water, and others; teacher to illustrate how the bonds connect together by showing the atoms' outermost electron orbits connecting to share electrons - 20 min

17th Week	poster board students will illustrate, color, and label the Periodic Table of Elements; students will color each group a different color and label it, students MUST fill in the symbol, atomic number, and atomic mass of each element; students will write a statement about each group that discusses their characteristics, students will illustrate, color, and label an atom of Oxygen on their poster board correctly labeling the parts of the atom including the nucleus and electron cloud - 45 min	(Part II of III) Work on your illustration, coloring, and labeling of the Periodic Table of Elements with all required work completed - 25 min	Students in groups of 3 or 4, correctly create positive and negative ions, as well as isotopes for the following elements: Carbon, Boron, Potassium, Sodium, and Fluorine; you may color the different parts of the atom if you choose or use +, N, and - signs to indicate charges - 25 min	Teacher to discuss how electrons travel the electron cloud in orbitals; the formula for calculating the maximum number of electrons in each orbital is $2(n)^2$ , or "two times N-squared" in that "N" represents the orbital number; teacher to demonstrate how the formula works and illustrate elements to show which electrons end up in which orbital - 15 min	<i>ML Science, Chemical Interactions, Pages 44-45</i> - Read aloud and discuss how the same elements can combine in different ways to make different things; explain that ice, water, and water vapor are NOT examples of this because those are changed in states of matter; teacher to show hydrogen & oxygen combining to make water, hydrogen peroxide, and ozone; teacher to model how to properly write the formula for various compounds - 25 min
Daily Journal or Bell Work:	Students to go to "Gizmos" for ten minutes and complete the practice in Half-Lives	Define any six terms from the "Terms to Know for Week Twenty-Four" in your own words	Define any six terms from the "Terms to Know for Week Twenty-Four" in your own words; must be different than the previous lesson	Illustrate a positive ion of Chlorine and Lithium; label all parts of the atom	Students to go to "Gizmos" in the Explore Learning website and work for ten minutes
Daily Homework:	<i>ML Science, Chemical Interactions, Page 36</i> - Complete #'s 23-25; due tomorrow!	<i>ML Science, Chemical Interactions, Page 36</i> - Complete #'s 26-28; due tomorrow!	<i>ML Science, Chemical Interactions, Page 36</i> - Complete #'s 29-32; due tomorrow!	Students will attempt to show how sodium & chlorine bond together to make table salt	<i>ML Science, Chemical Interactions 2.1 Review, #'s 1-5, Page 45</i> - Complete each question in complete sentences; due tomorrow!
<b>Vocabulary Terms:</b>	<b><i>Chemical Formula, Subscript, Compound, Ionic Bond, Covalent Bond, Molecule, Polar Covalent Bonds</i></b>				
<b>IEP Student Terms:</b>	<b><i>Chemical Formula, Compound, Ionic Bond, Covalent Bond, Molecule</i></b>				
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

18th Week	<p><i>ML Science, Chemical Interactions, Pages 47-51 (stop at "Polar Covalent Bonds")</i> - Read aloud and use a "Main Idea &amp; Details" graphic organizer to outline chemical bonds as ionic bonds and covalent bonds; teacher to explain the difference between transferring and sharing electrons; draw models to illustrate - 25 min</p>	<p>Teacher to review previous content to ensure understanding and competency including the formula for electrons in various orbitals - 20 min</p>	<p>Teacher to review previous content to ensure understanding and competency including illustrating covalent, ionic, and polar covalent bonds - 10 min</p>	<p><i>ML Science, Chemical Interactions, Page 56</i> - Students in pairs, complete the lab on this page by testing which items are best conductors; answer all questions via Google Docs and share with your teacher - 25 min</p>	<p><i>ML Science, Chemical Interactions, Pages 58-59</i> - Read aloud and discuss how elements take different appearances in different substances; use Carbon as an example - 15 min</p>
	<p>Teacher to provide students with a dollop of shaving cream; spread the shaving cream across the desk; illustrate in the shaving cream two atoms to bond together; try using Halogens bonding with Alkaline metals or Oxygen's Group with Alkaline Earth Metals; teacher to check bonds before "okaying" student work - 20 min</p>	<p><i>ML Science, Chemical Interactions, Pages 51-54</i> - Read aloud and review covalent and ionic bonds; reintroduce polar covalent bonds; teacher to model how to illustrate covalent and ionic bonds as well as polar covalent bonds; students to practice writing covalent, ionic, and polar covalent bonds as well - 20 min</p>	<p><i>ML Science, Chemical Interactions, Pages 56-58 (stop at "Bonds can make the...")</i> - Read aloud and use a "Word Wheel" graphic organizer to outline the term "metallic bonds"; what three properties do all metals have? - 20 min</p>	<p>Teacher to introduce "Electron Dot Diagrams" and how to illustrate them; teacher to show how Electron Dot Diagrams illustrate the number of electrons in the outermost orbital and are to be used when appropriately illustrating bonding (polar, covalent, ionic); teacher to model how to complete this - 20 min</p>	<p>Students in pairs, use styrofoam balls and toothpicks to create models of molecules; students to color the styrofoam balls different colors with magic markers to represent different atoms; the toothpicks will represent the bonding; glue your molecules to construction paper, write a caption on a notecard and glue to the construction paper neatly; students to write the Electron Dot Diagram for their molecules on a notecard and adhere it to the construction paper as well - 30 min</p>
Daily Journal or Bell Work:	<p>Use the formula for orbitals to calculate the maximum number of electrons in the first five orbitals of an atom</p>	<p>Students to go to "Gizmos" in the Explore Learning website and work for ten minutes</p>	<p>Students to go to "Gizmos" in the Explore Learning website and work for ten minutes</p>	<p>Define any three terms from the "Terms to Know for Week Twenty-Seven"</p>	<p>Students to go to "Gizmos" in the Explore Learning website and work for ten minutes</p>
Daily Homework:	None	<p>Students to illustrate the polar covalent bonds for Nitrogen gas, Oxygen gas, and water</p>	<p><i>ML Science, Chemical Interactions 2.2 Review, #'s 1-5, Page 54</i> - Complete each question in complete sentences; due tomorrow!</p>	<p><i>ML Science, Chemical Interactions, Page 63</i> - Complete #'s 7-13; due tomorrow!</p>	<p><i>ML Science, Chemical Interactions 2.3 Review, #'s 1-5, Page 59</i> - Complete each question in complete sentences; due tomorrow!</p>
<b>Vocabulary Terms:</b>	<p><b><i>Law of Conservation of Mass, Coefficient, Formula, Balanced Equations, Bond Energy, Exothermic Reaction, Endothermic Reaction, Photosynthesis, Products, Reactants, Yields</i></b></p>				
<b>IEP Student Terms:</b>	<p><b><i>Coefficient, Formula, Bond Energy, Photosynthesis, Products, Reactants, Yields</i></b></p>				
Timeline:	Day "A"	Day "B"	Day "C"	Day "D"	Day "E"

19th Week	Bellwork - 10 min	Bellwork - 10 min	Bellwork - 10 min	Bellwork - 10 min	Teacher to review balancing equations with coefficients; review the terms affiliated with formulas and balancing equations - 10 min
	Teacher to review Electron Dot Diagrams, how to draw them as bonds, and provide several examples - 10 min	<i>ML Science, Chemical Interactions, "Interpreting Tables", Page 65</i> - Review the table as a class and discuss the types of bonds, melting points, and properties of each; complete #'s 1-3 as a class, then in pairs complete #'s 4-6 and review your responses for accuracy - 20 min	Teacher to review how to balance equations and how to correctly count what is located on each side (reactants & products); what is the Law of Conservation of Mass? What does it state about changing materials? - 15 min	<i>ML Science, Chemical Interactions, Pages 82-84</i> - Read aloud and discuss; use a "Main Ideas & Supporting Ideas" graphic organizer to outline balancing equations, coefficients, and how to ensure the Law of Conservation of Mass; Teacher to lead discuss and review of content - 20 min	<i>ML Science, Chemical Interactions, Page 86-89 (stop at "Endothermic Reactions...")</i> - Read aloud and discuss how some reactions absorb or release energy; teacher to provide examples of those that give off energy; teacher to demonstrate these reactions or show them online (Magnesium ribbon burning, Sodium in water) - 25 min
	Students to create a wordsearch, crossword, or other puzzle using all of the "Terms to Know from Week Fifteen AND Week Seventeen"; students may use graph paper, computer paper, or the following website to create their puzzle: "www.puzzle-maker.com/CW"; when complete, provide your puzzle to your teacher to pass out to another student to solve; teacher to make photocopies of student work before passing out - 35 min	<i>ML Science, Chemical Interactions, Pages 78-81</i> - Read aloud and use a "Concept Map" graphic organizer to outline how to balance equations, what are reactants, products, and yields; teacher to provide examples of balancing equations - 25 min	<i>ML Science, Chemical Interactions, Page 79</i> - Students in groups of 3 or 4, complete the lab as directed; record answers in Google Docs and share with your teacher; Teacher to assist as needed and provide direction to groups - 35 min	Teacher to review several formulas and modeled how to balance them - 10 min	Watch "How to Balance a Chemical Equation EASY" on YouTube (8:54 min) and discuss how to balance both sides; what are the reactants & products? What are coefficients? - 10 min
Daily Journal or Bell Work:	<i>ML Science, Chemical Interactions, Page 64</i> - Complete #'s 18-19	<i>ML Science, Chemical Interactions, Page 64</i> - Complete #'s 22-23	Students to go to "Gizmos" in the Explore Learning website and work for ten minutes	Illustrate the Electron Dot Diagrams for the following atoms: Lithium, Magnesium, Boron, Carbon, Oxygen, and Neon	None
Daily Homework:	<i>ML Science, Chemical Interactions, Page 64</i> - Complete #'s 20-21; due tomorrow!	<i>ML Science, Chemical Interactions, Page 64</i> - Complete #'s 24-25; due tomorrow!	Teacher to create three formulas of equations; students to balance each formula correctly; due tomorrow!	<i>ML Science, Chemical Interactions 3.2 Review, #'s 1-5, Page 84</i> - Complete each question in complete sentences; due tomorrow!	None
Timeline:	Day "A"	Day "B"	Day "C"	Day "D"	Day "E"
	Bellwork - 10 min	Bellwork - 10 min	Bellwork - 10 min	Bellwork - 10 min	

20th Week	<i>ML Science, Chemical Interactions, Page 89-91</i> - Read and review the box on Endothermic Reactions; what are processes require energy to make a reaction occur? Name a few types of energy to help think of examples - 20 min	Teacher to review Electron Dot Diagrams and provide examples of them; students to use the to illustrate bonds and outline formulas with endothermic & exothermic reactions - 25 min	Teacher to review Electron Dot Diagrams, illustrating bonds, and outline formulas with endothermic & exothermic reactions; create a T-chart of examples of both types of reactions - 20 min	Review Study Guide on Periodic Table, Atoms, and Types of Bonds - 25 min	Test on Periodic Table, Atoms, and Types of Bonds - 35 min
	Teacher to provide several examples of formulas that require balancing on both sides; identify reactants and products; teacher to assist in helping to balance equations; what is a coefficient? Students may work in pairs to assist eachother after practicing individually several times; practice illustrating Electron Dot Diagrams with the formulas to show ionic & covalent bonds - 25 min	<i>ML Science, Chemical Interactions, Pages 94-97</i> - Read aloud and discuss how respiration and photosynthesis are opposites by formula; how do we rely on chemical reactions? Teacher to make a T-chart outlining reasons as students read aloud and launch discussions - 20 min	<i>ML Science, Chemical Interactions, Pages 97-99</i> - Review page 97 and how catalytic converters work in cars; how do they filter out toxins from the environment? In your opinion, should all cars have these? Teacher to discuss "Ohio E-check Law" about vehicle testing for road safety; review and Google what products are found in materials that you have at home or in your classroom - 25 min	Play a "Kahoot!" on Ionic and Covalent Bonds, Atoms, and the Periodic Table; the following are recommended for this unit "Ionic bonding & covalent bonding, 16 questions, 20 seconds", "Ionic and Covalent Bonding, 13 questions, 20 seconds", and "Chemistry: Periodic Table, 15 questions, 30 seconds" - 20 min	Students to go to "Gizmos" in the Explore Learning website and work quietly on an assigned topic
Daily Journal or Bell Work:	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	None
Daily Homework:	Teacher to create six equations with exothermic or endothermic energy; students to balance each formula correctly; due tomorrow!	<i>ML Science, Chemical Interactions 3.3 Review, #'s 1-5, Page 91</i> - Complete each question in complete sentences; due tomorrow!	<i>ML Science, Chemical Interactions 3.4 Review, #'s 1-5, Page 99</i> - Complete each question in complete sentences; due tomorrow!	Study for your test tomorrow on the Periodic Table, Atoms, and Types of Bonds	None

Unit : Electricity and Magnetism

<b>Vocabulary Terms:</b>	<b><i>Atom, Electron, Proton, Joule, Electric Charge, Electric Field, Static Charge, Induction, Volt (Voltage), Conductor, Insulator, Resistance, Ohm, Grounding, Battery, Electric Current, Path of Least Resistance, Ampere (Amps), Ohm's Law, Electric Cell, Circuit, Resistor, Short Circuit, Electronic, Binary Code, Digital, Analog, Computer, Magnet, Magnetism, Poles, Magnetic Domain, Electromagnet, Electromagnetism, Motor</i></b>				
<b>IEP Student Terms:</b>	<b><i>Atom, Electron, Proton, Induction, Volt, Conductor, Insulator, Resistance, Ohm, Grounding, Battery, Ampere, Ohm's Law, Circuit, Resistor, Electronic, Digital, Analog, Computer, Magnet, Magnetism, Poles, Magnetic Domain, Electromagnet, Motor</i></b>				
Timeline:	Day "A"	Day "B"	Day "C"	Day "D"	Day "E"

	Bellwork - 5 min	Bellwork - 10 min	Bellwork - 5 min	Bellwork - 5 min	Bellwork - 10 min
21st Week	<i>ML Science, Electricity and Magnetism, Pages 9-12 (stop at "How Materials Affect Static Charging")</i> - Read aloud using a "Four Square" graphic organizer to outline electric charge and static charge; Teacher to review protons, electrons, and charges; how do charges of atoms relate directly to electricity? - 25 min	<i>ML Science, Electricity and Magnetism, Page 9</i> - Teacher to provide materials to students; students in groups of 3 or 4 complete the mini-lab together; answer questions via Google Docs and submit to your teacher - 15 min	<i>ML Science, Electricity and Magnetism, Page 14</i> - Students in groups of 3 or 4, complete the mini-lab together and answer all questions via Google Docs; Teacher to review results and reasoning for what occurred - 25 min	Teacher to review how lightning occurs and how electronic particles move throughout the sky; students to illustrate, color, and label a nature scene depicting lightning in the sky striking and surrounding a city, forest, or scene in general; quality work is expected; students MUST label the transfer of positive and negatively charged particles to display knowledge - 30 min	Teacher to review the terms conductor, insulator, resistance, Ohms, and grounding; Illustrate an example of this happening in nature and in machines; review homework and discuss where these features are found in the classroom - 10 min
	Watch "Electric Charge: Crash Course Physics #25" on YouTube (9:42 min) and discuss how electrons transfer to each other causing static electricity - 15 min	<i>ML Science, Electricity and Magnetism, Pages 12-16</i> - Read aloud and discuss induction and polarization; create a T-chart of machines/technology on the left and how you think they use induction or polarization on the right - 20 min	<i>ML Science, Electricity and Magnetism, Pages 18-21</i> - Read aloud and discuss how electricity is moving atoms and atomic particles; what is potential energy? What are volts (voltage)? Describe how lightning occurs - 15 min		<i>ML Science, Electricity and Magnetism, Page 22</i> - Students in groups of 3 or 4, complete the lab on this page together; test and retest items to see which works best and why; create theories; submit answer via Google Docs to your teacher - 25 min
	Teacher to review from previous lessons how the electrons travel from object to object (or atom to atom), thus creating bonds and valence electrons; illustrate on the board and students help outline together - 10 min	Teacher to Google Images of "how to paint car with electric spray gun"; discuss how the electric charges make the paint stick far better; show images of paint job WITHOUT using electric charges - 10 min	Teacher to Google Images of voltage to show how volts carry through a circuit; Teacher to Google Images of an electric car; students to discuss how they believe it operates - 10 min	<i>ML Science, Electricity and Magnetism, Pages 22-25</i> - Read aloud and discuss how conductors and insulators are necessary for electricity to be safely contained; what is resistance? What are Ohms? How does grounding prevent shock? - 15 min	As a class, create a T-chart of items that are good insulators (left side) and good conductors (right side); discuss how resistance is applied when these items are used in machines; discuss safety measures; what are superconductors? - 10 min
Daily Journal or Bell Work:	What parts of an atom bond together? How do you think that this may create electricity?	Students to go to "Gizmos" in the Explore Learning website and work for ten minutes	Think of three machines; how does static electricity effect them or make them work?	What two factors determine whether a static charge will move? Review as a class	Students to go to "Gizmos" in the Explore Learning website and work for ten minutes
Daily Homework:	Create a list of three pairs of items that static electricity will between; illustrate the motion of electrons from one item to another to show knowledge	<i>ML Science, Electricity and Magnetism 1.1 Review, #'s 1-5, Page 16</i> - Complete each question in complete sentences; due tomorrow!	None	Locate and write a list of three items at your home that use electricity; where is the insulator on each of these items? How are these items grounded?	<i>ML Science, Electricity and Magnetism 1.2 Review, #'s 1-6, Page 25</i> - Complete each question in complete sentences; due tomorrow!
Timeline:	Day "A"	Day "B"	Day "C"	Day "D"	Day "E"

	Bellwork - 5 min	Bellwork - 10 min	Bellwork - 10 min	Bellwork - 10 min	Bellwork - 10 min
22nd Week	<i>ML Science, Electricity and Magnetism, Pages 28-30</i> - Read aloud and use a "Word Wheel" to outline electric current; provide examples and features of current; what are amps? What is the "path of least resistance" and how does it relate to water and electricity? - 20 min	Teacher to review "Terms to Know From Week 21" and problems related to Ohm's law; Students to answer questions and provide feedback - 10 min	Watch "How batteries work - Adam Jacobson" on YouTube (4:20 min) and discuss how batteries first started, where they got their name, and why batteries function in the manner that they do - 10 min	<i>ML Science, Electricity and Magnetism, Pages 46-49</i> - Read aloud and discuss how circuits work; relate to the prior class's lab; what is a fuse? What in our school do circuits exist? Students to quietly work through the campus outlining where circuits are and try to find the fuse boxes? What is a GFCI outlet? - 30 min	<i>ML Science, Electricity and Magnetism, Pages 51-53</i> - Read aloud and discuss the two types of circuits; refer to the example of a kitchen parallel circuit for multiple wiring; Create a T-chart outlining the advantages and disadvantages of each type - 20 min
	Teacher to review Ohm's Law and the math formula for it ( $I = V/R$ ); Teacher to discuss examples of current in relation to voltage and resistance; use the examples provided in the text and create additional examples - 15 min	<i>ML Science, Electricity and Magnetism, Pages 31-34</i> - Read aloud and discuss what cells are and how they are constructed; review what makes a primary cell (typical battery) vs a storage cell (car battery); what facets do you see in each? - 20 min	<i>ML Science, Electricity and Magnetism, Pages 43-45</i> - Read aloud and use a "Frame Game" graphic organizer to outline the terms "circuit" and "resistor"; provide examples of each; what are the parts of a circuit? Teacher to illustrate the difference between an open and closed circuit - 20 min	<i>ML Science, Electricity and Magnetism, Page 50</i> - Students in pairs, illustrate and label the location in the hallway that their classroom is in of the circuits, open/closed switches, the source of power (fuse box), and any areas of resistance; what are some areas that are good conductors or insulators in the school? What may the walls have to help insulate? Refer to "Explore #'s 1-2" to help guide; Share illustrations with the class to help further knowledge - 15 min	Prior to class, Teacher to seek permission to complete this activity; take students to the kitchen of the school cafeteria; observe the different types of circuits in the kitchen; students to try to locate fuse boxes/panels, circuits, and indicators of how the parallel circuit is organized - 15 min
	<i>ML Science, Electricity and Magnetism, Page 31</i> - Prior to this lab, secure a multimeter from Mr. Smith; Teacher to demonstrate (students may assist) the mini-lab on this page; students to answer questions via Google Docs and submit to their teacher - 15 min	Students in pairs, use a Venn Diagram to compare and contrast a primary cell vs a storage cell; have three statements for each section (nine total statements); review as a class - 15 min	<i>ML Science, Electricity and Magnetism, Page 48</i> - Students in groups of 3 or 4, complete the mini-lab together and answer the questions via Google Docs, submit to your teacher - 15 min		Students to illustrate the possible outlay of the parallel circuit in the school's cafeteria kitchen; where does each machine (oven, warmer, freezer, etc.) fit into the circuit? Where is the electric panel? Where is the safety switch? - 10 min
Daily Journal or Bell Work:	List three good conductors and three good insulators	Teacher created examples (three) of solving for Ohm's Law	<i>ML Science, Electricity and Magnetism, Page 35</i> - Read privately and complete #'s 1-3; review as a class	<i>ML Science, Electricity and Magnetism, Page 37</i> - Complete "Reviewing Vocabulary #'s 9-11"; review together	<i>ML Science, Electricity and Magnetism, Page 37</i> - Complete "Reviewing Key Concepts #'s 12-18"; review together
Daily Homework:	Locate three electrical devices at home with volts and amps listed on them (usually on the packaging label); write these numbers down as well as the item and bring in tomorrow	<i>ML Science, Electricity and Magnetism, Page 37</i> - Complete "Reviewing Vocabulary #'s 1-8"; due tomorrow!	<i>ML Science, Electricity and Magnetism 1.3 Review, #'s 1-5, Page 34</i> - Complete each question in complete sentences; due tomorrow!	<i>ML Science, Electricity and Magnetism 2.1 Review, #'s 1-5, Page 49</i> - Complete each question in complete sentences; due tomorrow!	<i>ML Science, Electricity and Magnetism, Page 37</i> - Complete "Reviewing Key Concepts #'s 19-21"; due tomorrow!

Timeline:	Day "A"	Day "B"	Day "C"	Day "D"	Day "E"
23rd Week	Bellwork - 10 min	Bellwork - 10 min	Bellwork - 10 min	Bellwork - 10 min	Bellwork - 10 min
	<i>ML Science, Electricity and Magnetism, Pages 54-55</i> - Read aloud and discuss how circuits can convert energy; they do NOT create it! Review how household items may potentially work - 15 min	<i>ML Science, Electricity and Magnetism, Pages 57-60</i> - Read aloud and discuss what coding is; how does electricity relate to coding? What is binary code? Create a T-chart of what are electronic devices (left side) and what are NOT (right side) - 20 min	<i>ML Science, Electricity and Magnetism, Page 59</i> - Students in pairs, complete the lab together but each student MUST supply their own work; answer each question on notebook paper and submit to your Teacher - 30 min	Students to independently go to the following website " <a href="https://codecombat.com/">https://codecombat.com/</a> " and create an individual account to play; students will practice coding while playing a game; the coding that is entered controls the characters - 25 min	<i>ML Science, Electricity and Magnetism, Pages 79-82</i> - Read aloud and use a "Word Wheel" to outline the terms magnet and magnetic domain; how do items become magnetized? What are magnetic poles? How is the Earth a magnet? - 25 min
	Watch "The Power of Circuits #sciencegoals" on YouTube (4:42 min) and discuss how the circuit works; how are the models that were discussed in class relative to this? Teacher to review conductor, switch, and insulator in relation to a circuit - 10 min	<i>ML Science, Electricity and Magnetism, Page 57</i> - Use student to individually complete the mini-lab using a notebook and pen; write your answers to "What do you think?" on the notebook paper and submit to your Teacher; share results with the class and discuss - 15 min	<i>ML Science, Electricity and Magnetism, Pages 61-65</i> - Read aloud and discuss computers and how they specifically operate; locate in your Chromebook where the input devices are, what are they called/labeled? How does your Chromebook store data? Where is the processor? What item is commonly found with it? How does your Chromebook have an output device? What does "www" stand for? How did the Internet originally form by the United States? - 15 min	Prior to class today, teacher to contact our campus Technology Coordinator to speak to the class about how our school's network, security features, and server work; IT Coordinator to incorporate how the access points work, wireless set up, and how our Intranet works; include data storage and security - 20 min	<i>ML Science, Electricity and Magnetism, Page 83</i> - Study the items on this page and make predictions about what items are magnetic and which are not; what part of the atom is aligning to create magnetism? What type of ion could this create? What happens when a magnet and iron come together? - 10 min
	<i>ML Science, Electricity and Magnetism, Page 54</i> - Students in groups of 3 or 4, complete the mini-lab together and submit answers via Google Docs to your teacher - 20 min	Watch "Analog vs. Digital As Fast As Possible" on YouTube (5:31 min) and discuss the difference; is one better than the other? Create a T-chart of items that run on analog power (left side) and those that run on digital (right side); what is the difference? - 15 min			Watch "MAGNETS: How Do They Work?" on YouTube (6:26 min) and discuss how magnets work; what particles create magnetism? What are domains? How must they align for magnetism to occur? - 10 min
Daily Journal or Bell Work:	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	Write an example of binary code as shown in your textbook by asking "Yes and No" questions with responses; use your textbook to help if needed	Students to go to "Gizmos" in the Explore Learning website and work for ten minutes	<i>ML Science, Electricity and Magnetism, Page 69</i> - Complete at least two of "Reviewing Vocabulary #'s 1-5" using Venn Diagrams
Daily Homework:	<i>ML Science, Electricity and Magnetism 2.2 Review, #'s 1-6, Page 55</i> - Complete each question in complete sentences; due tomorrow!	Locate six electronic devices at your home; Indicate next to each item if they're digital or analog	Written Response: How do you think computers and technology will be different in fifty years? What new features do you think may exist? (one paragraph)	<i>ML Science, Electricity and Magnetism 2.3 Review, #'s 1-5, Page 65</i> - Complete each question in complete sentences; due tomorrow!	<i>ML Science, Electricity and Magnetism, Page 69</i> - Complete #'s 6-13; due tomorrow!
Timeline:	Day "A"	Day "B"	Day "C"	Day "D"	Day "E"

	Bellwork - 10 min	Bellwork - 10 min	Bellwork - 10 min	Bellwork - 10 min	
24th Week	<i>ML Science, Electricity and Magnetism, Pages 84-86</i> - Read aloud and discuss how the Earth is a magnet; what evidence is there of this? How did sailors use this fact years ago to find their home? What are the Northern Lights? - 15 min	<i>ML Science, Electricity and Magnetism, Pages 88-90</i> - Read aloud and create a "Concept Map" to outline how magnets and electricity relate to each other; how can current create magnets? What particles do this process? - 20 min	<i>ML Science, Electricity and Magnetism, Page 88</i> - Students in groups of 3 or 4, complete the mini-lab together and answer questions on notebook paper; illustrate what you think is happening to the atoms / ions in the wire and compass - 15 min	Watch "How DC Motors Work" on YouTube (5:31 min) and discuss how the current generated by the electromagnet makes the motor operate; what does DC stand for? Where are the poles in this motor? - 10 min	Test on Electricity and Magnetism (Part I) Students will take a written test on electricity and magnetism; include the definitions for the "Terms to Know for Week Twenty-One" as well as illustrations for circuits and formulas for solving for current - 40 min
	<i>ML Science, Electricity and Magnetism, Page 85</i> - Students in pairs, complete the mini-lab together and record your results in Google Sheets; how does a compass work? How did sailors use this knowledge years ago to explore and trade goods with other kingdoms? - 20 min	<i>ML Science, Electricity and Magnetism, Page 90</i> - Students in pairs, use the items provided to create an electromagnet and answer the questions; be careful not to touch your electromagnet to any computer devices! Answer your questions on notebook paper and submit to your teacher; discuss ways to make your magnet stronger - 20 min	<i>ML Science, Electricity and Magnetism, Pages 91-94</i> - Read aloud and discuss how electromagnets work; As a class, quietly walk the campus and try to locate motors and electromagnets (try the church basement, Room 104, Café Utility Room, and Room 411); locate the shaft in the motors if possible - 30 min	Review study guide for Electricity and Magnetism Test tomorrow! Ensure that students have definitions of "Terms to Know from Week Twenty-One" correct! - 20 min	Test on Electricity and Magnetism (Part II) Students will take a second test which requires them to individually show the Teacher at a work station how to create a series and parallel circuit that functions; Teacher to have the wires, a light, switch, and power source ready for this portion; students will individually and quietly create the two circuits; they will then create an electromagnet in a similar manner and explain what happens in all three examples - 15 min
	<i>ML Science, Electricity and Magnetism, Page 87</i> - Read in pairs, evaluate the claims of magnets healing pain; as a class, discuss "Evaluating Conclusions" and how this could be tested - 15 min			Play "Kahoot!" game on electricity and magnetism and review features of each for test tomorrow! - 15 min	
Daily Journal or Bell Work:	How do the poles attract to each other with magnets? How do they repel?	Students to go to "Gizmos" in the Explore Learning website and work for ten minutes	Make a "Word Wheel" of the term electromagnetism; have at least three statements	Students to go to "Gizmos" in the Explore Learning website and work for ten minutes	None
Daily Homework:	<i>ML Science, Electricity and Magnetism 3.1 Review, #'s 1-5, Page 89</i> - Complete each question in complete sentences; due tomorrow!	Illustrate how to create an electromagnet and label the parts of your illustration	Locate three motors in your home (try kitchen appliances) and write a brief description of how each of them works in your home	Study for test tomorrow on Electricity and Magnetism!	<i>ML Science, Electricity and Magnetism 3.2 Review, #'s 1-5, Page 94</i> - Complete each question in complete sentences; due tomorrow!

Unit : Newton's Laws of Motion

<b>Vocabulary Terms:</b>	<b><i>Force, Net Force, Centripetal Force, Sir Isaac Newton, Acceleration, Inertia, Velocity, Momentum, Speed, Mass, Conservation of Momentum, Balanced Forces, Unbalanced Forces, Action, Reaction</i></b>				
<b>IEP Student Terms:</b>	<b><i>Force, Net Force, Sir Isaac Newton, Inertia, Velocity, Speed, Mass, Balanced Forces, Unbalanced Forces, Action, Reaction</i></b>				
<b>Timeline:</b>	Day "A"	Day "B"	Day "C"	Day "D"	Day "E"
25th Week	Bell Work; complete in Google Docs, send to your teacher - 5 min	Bell Work; complete in Google Docs, send to your teacher - 10 min	Bell Work; complete on notebook paper, turn in to your teacher - 10 min	Bell Work; complete in Google Docs, send to your teacher - 5 min	Journal; complete in Google Docs, send to your teacher - 10 min
	<i>ML Science, Motion and Forces, Pages 9-14</i> - Use a Description Wheel as you read to record important notes; what is position? How does position effect your perspective? What is motion? - 25 min	<i>ML Science, Motion and Forces, Pages 16-21</i> - Read aloud and discuss; use a Concept Map to record important information and link together; what is speed? How do you calculate it? Teacher to provide additional examples; graph your examples as shown on page 21; where is the X-axis? Y-axis? Students to race outside while teacher uses stopwatch (on their cell phone, if needed) to gather data; place data on graph and calculate speed using the formula - 35 min	<i>ML Science, Motion and Forces, Page 24</i> - Students in pairs, read and complete #'s 1-3; submit via Google Docs to your teacher, one paper per student - 15 min	Lab: Students to work in pairs, teacher to give six marbles, stopwatches (or TEMPORARY permission for cell phones to time), masking tape, and notebooks to make a data log; students to roll marbles of different sizes/colors one at a time down a textbook ramp; record the speed of each marble as it rolls two meters (masking tape to create a starting and finishing line); create data log; graph data and calculate the speed of each marble; now raise the textbook ramp by two books and assume the new height to represent acceleration; conduct the experiment again, graph data, and solve formulas for acceleration - 40 min	<i>ML Science, Motion and Forces, Page 35</i> - Students in pairs, complete #'s 1-18 together but students must turn in one paper per child; show work for math problems - 25 min
	<i>ML Science, Motion and Forces, Page 10</i> - Review the maps on page 10, compare & contrast the two methods of description; students to write how to walk to the cafeteria from their homeroom in writing but also by drawing a map; compare and contrast both methods - 15 min		<i>ML Science, Motion and Forces, Pages 25-31</i> - Read aloud and discuss: use a Concept Map to link information together as you read; what is acceleration? How is it different than speed? How is acceleration related to velocity? What is the formula for acceleration? Teacher to review how to calculate for acceleration, velocity, and speed; provide examples - 30 min		Watch "Newton's 3 (three) Laws of Motion" on YouTube (6:21 min) and discuss: what is Inertia? What is force? Teacher to provide examples of calculating for force; How is force different from mass? - 15 min
	Watch "Force and Motion   Science Video for Kids" on YouTube (6:20 min) and discuss the examples and terms - 10 min	<i>ML Science, Motion and Forces, Pages 22-23</i> - Read aloud and discuss: what is velocity? How is it related to speed? - 10 min		Teacher to review how to solve for speed and acceleration; students to complete speed and acceleration calculations - 10 min	Students in pairs, solve teacher-created problems together for speed, acceleration, velocity, and force; check for teacher for accuracy - 15 min
Daily Journal or Bell Work:	Define "motion" in your own words.	<i>ML Science, Motion and Forces, Page 15</i> - Read privately and answer #'s 1-2	Create a Venn Diagram comparing & contrasting speed and velocity	Teacher to create two problems solving for speed	Students to complete graphs or math from lab in previous class
Daily Homework:	<i>ML Science, Motion and Forces, 1.1 Review, #'s 1-5, page 14</i> - Complete each question in complete sentences; due tomorrow!	<i>ML Science, Motion and Forces, 1.2 Review, #'s 1-5, page 23</i> - Complete each question in complete sentences; due tomorrow!	Teacher-created worksheet (ten problems), including story problems, about solving for speed using the formula	<i>ML Science, Motion and Forces, 1.3 Review, #'s 1-5, page 31</i> - Complete each question in complete sentences; due tomorrow!	<i>ML Science, Motion and Forces, Page 37</i> - Complete #'s 1-7 as requested; due tomorrow!
<b>Timeline:</b>	Day "A"	Day "B"	Day "C"	Day "D"	Day "E"

	Journal; complete in Google Docs, send to your teacher - 10 min	Bell Work; complete in Google Docs, send to your teacher - 5 min	Bell Work; complete in Google Docs, send to your teacher - 5 min	Bell Work; complete in Google Docs, send to your teacher - 5 min	Bellwork: Prepare for lab - 10 min
26th Week	<p><i>MS Science, Motion and Forces, Pages 41-47</i> - Read aloud and discuss: Use a Magnet Word Diagram to help take notes: what are balanced forces? Teacher to demonstrate motion by unbalanced force; What is net force? How does it relate to motion? What is Inertia? Newton's First Law? Students to create a table showing Newton's First Law at rest (left) and in motion (right); share with class - 30 min</p>	<p><i>MS Science, Motion and Forces, Page 46</i> - Students in pairs, complete the experiment on page 46 by creating your own project and recording the data; which ball will have the most inertia? Why do you believe that? - 30 min</p>	<p><i>MS Science, Motion and Forces, Pages 49-55</i> - Read aloud and discuss: using a Magnet Word Diagram, link together important information; review the formula &amp; calculation for force; What is the 2nd Law? What is centripetal force? What natural phenomenon does the model on page 55 resemble (planet orbiting sun)? Review abbreviated formula for acceleration and calculating mass - 30 min</p>	<p><i>MS Science, Motion and Forces, Page 56</i> - Read aloud and discuss: calculate the problem and verify the answer; complete "Challenge" together as a class; teacher to address questions - 15 min</p>	<p>Teacher to watch "Kids Science Projects Balloon Rocket" on YouTube (2:25 min) prior to today to get set up; students to watch today to understand what they are expected to do for this lab; students in pairs, they will create a balloon rocket and race them against other students; teacher to create various requirements for the lab such as using a bicycle pump to inflate the balloon to measure the air inside; students to measure the time it takes for the balloon to travel down the line; Students to measure the force, acceleration, mass, and momentum; student pairs to race at least three balloons and collect data; students should be able to explain how all three laws relate to this project - 45 min</p>
		<p>Discussion: Teacher to review balance vs unbalanced forces; provide examples, what makes motion possible? What stops motion? How does "net force" relate to this? - 10 min</p>		<p>Watch "Newton's Second Law of Motion - Science of NFL Football" on YouTube (3:51 min) and discuss: how does football relate to the 2nd Law? How does it relate to Inertia and the 1st Law? - 10 min</p>	
	<p>Watch "What is Inertia? - Newton's Law   Physics lesson for Kids   Kids Education by Mocomi Kids" on YouTube (1:05 min) and discuss: what are other examples of Inertia that you can think of? Students to create a list and share/discuss with class - 10 min</p>	<p><i>MS Science, Motion and Forces, Page 48</i> - Read aloud and discuss: What hypothesis can you come up? What may be some observations you may have if you were there? Complete "Challenge" privately; using Google Docs, submit your answers to your teacher - 15 min</p>	<p><i>MS Science, Motion and Forces, Page 54</i> - Students in pairs, complete the the Mini-Lab on page 54; record all data and answer questions; one paper per student, submit to teacher when complete - 15 min</p>	<p><i>MS Science, Motion and Forces, Pages 57-61</i> - Read aloud and discuss: Using a Concept Map, link important information from this section to other laws and topics; what is action/reaction? How does a jellyfish move? How does the 3rd Law pertain to kangaroo movement? - 25 min</p>	
Daily Journal or Bell Work:	Teacher-created problems (two) about velocity	Teacher-created problems (two) about force	Teacher-created problems (two) about acceleration	Teacher-created problems (two) about mass	Prepare for balloon races; plan for what you need with your partner
Daily Homework:	Teacher-created worksheet (ten problems) on problems about velocity, force, and speed	<p><i>ML Science, Motion and Forces, 2.1 Review, #'s 1-5, page 47</i> - Complete each question in complete sentences; due tomorrow!</p>	<p><i>ML Science, Motion and Forces, 2.2 Review, #'s 1-5, page 55</i> - Complete each question in complete sentences; due tomorrow!</p>	Make a list of five animals. Using Newton's Laws as a guide, describe how each animal moves; due tomorrow!	Written Response: How did the balloon races display each of Newton's three laws? Please specific
Timeline:	Day "A"	Day "B"	Day "C"	Day "D"	Day "E"
	Journal; complete in Google Docs, send to your teacher - 10 min	Bell Work; complete in Google Docs, send to your teacher - 5 min	Bell Work; complete in Google Docs, send to your teacher - 5 min	Bell Work; complete in Google Docs, send to your teacher - 5 min	Journal; complete in Google Docs, send to your teacher - 10 min

27th Week	<p><i>MS Science, Motion and Forces, Pages 64-67</i> - Read aloud and discuss: use the Magnet Word Diagram to describe momentum; teacher to provide examples of momentum and students solve for them; how do amusement park rides resemble this? Describe bumper cars - 30 min</p>	<p><i>MS Science, Motion and Forces, Pages 68-69</i> - What is Newton's 3rd Law? What are some things that have an equal and opposite reaction? How does sitting in a chair display this Law? How does writing with a pencil display this law? How is a car collision an example of this law? - 20 min</p>	<p><i>MS Science, Motion and Forces, Page 71</i> - Individually, students will complete #'s 1-20 in Google Docs and submit your answers to your teacher; students should not work with other students, this is to be done privately - 25 min</p>	<p><i>MS Science, Motion and Forces, Page 73</i> - Students in pairs, review the table together and answer questions # 1-8; submit all answers in Google Docs to your teacher - 20 min</p>	<p>Construct your Rollar Coasters to race in three days! To be made of straws, scotch tape, and other household items; should have at least one big hill and three turns; Be sure to test that your marble can remain on the track and that velocity, speed, acceleration, and momentum are all measurable on your coaster! - 55 min</p>
	<p><i>MS Science, Motion and Forces, Page 64</i> - Students in pairs, complete mini-lab on page 64; examine objects colliding; how does mass and momentum effect this? Use a timer to calculate speed; make sure to record the mass of each ball; Students to discuss and share results - 20 min</p>	<p>Watch "Newton's Third Law of Motion" on YouTube (2:28 min) and discuss: Explain how a bird flying displays this law; how does riding a bike display this law? Teacher to provide other examples - 10 min</p> <p>Students in pairs, using a Venn Diagram compare &amp; contrast two of the three of Newton's Laws to each other; two statements per section; one paper per group; share with the class - 20 min</p>	<p>Discuss roller coaster project; students need to begin planning how they will construct it; marble to race down the track; groups of four students; coaster made from straws (mostly), tape, paper towel rolls, and other household items; students must work together! All coasters must be able to show Newton's Laws and the corresponding math; at least one hill and three turns must be incorporated - 20 min</p>	<p>Students in groups of four, students to draw their plan for their roller coaster; they need to ensure that the marble will stay on the track and that there are areas where momentum can be gained, acceleration can be seen, speed can be measured through the whole coaster, and velocity can be calculated - 30 min</p>	
Daily Journal or Bell Work:	Explain how we use Newton's Laws each time that we walk	Teacher-created problems (two) about momentum	Teacher-created problems (two) about velocity	Teacher-created problems (two) about acceleration	Teacher-created problems (two) about force
Daily Homework:	<i>ML Science, Motion and Forces, 2.3 Review, #'s 1-5, page 61</i> - Complete each question in complete sentences; due tomorrow!	<i>ML Science, Motion and Forces, 2.4 Review, #'s 1-5, page 69</i> - Complete each question in complete sentences; due tomorrow!	Think about your roller coaster and how you will build it; what turns will you incorporate? What design do you want?	<i>ML Science, Motion and Forces, Page 72</i> - Complete #'s 21-28; due tomorrow!	<i>ML Science, Motion and Forces, Page 72</i> - Complete #'s 29-35; due tomorrow!
Timeline:	Day "A"	Day "B"	Day "C"	Day "D"	Day "E"
	Journal; complete in Google Docs, send to your teacher - 10 min	Bell Work; complete in Google Docs, send to your teacher - 5 min	Bell Work; complete in Google Docs, send to your teacher - 5 min	Bell Work; complete in Google Docs, send to your teacher - 5 min	Test on all three of Newton's Laws and the math affiliated with them - 30 min
	Construct your Rollar Coasters to	Construct your Rollar Coasters to race tomorrow! Be sure to		Review study guide on all aspects of this unit including the math	

28th Week	race in two days! Be sure to test that your marble can remain on the track and that velocity, speed, acceleration, and momentum are all measurable on your coaster! - 55 min	to race tomorrow! Be sure to test that your marble can remain on the track and that velocity, speed, acceleration, and momentum are all measurable on your coaster! - 55 min	Race Rollar Coasters and calculate the mass of the marble, the speed it travels at, the acceleration in areas, the velocity it has, and the momentum along the track - 55 min	of this unit including the math affiliated with it - 30 min	Play "Gizmos" on Chromebooks about Newton's Laws of Motion or the math affiliated with it
				Using Google Docs, define each of the "Terms to Know" from Week Four and submit to your teacher - 20 min	
Daily Journal or Bell Work:	Define Newton's First Law; what is Inertia?	Define Newton's Second Law; how does acceleration relate to it?	Define Newton's Third Law; how will your Rollar Coaster display this?	How did your Rollar Coaster display all three of Newton's Laws?	None
Daily Homework:	Teacher-created worksheet (eight problems) on momentum, speed, and force	Teacher-created worksheet (eight problems) on acceleration and velocity	Complete any math formulas that need to be finished from today's races; due tomorrow!	Study for test tomorrow on Newton's Laws and the affiliated math	None

Unit : Rocks & Minerals (Google Slides project with this unit)

<b>Project Theme:</b>	<i>Students will use Google Slides to create a minimum of a 10-slide presentation about a mineral that they conducted research upon. Each slide must contain factual and meaningful information based upon their research. Students must chose an option from the list below and must follow the presentation requirements stated below.</i>				
<b>Project Breakdown:</b>	<i>Students will conduct research on one mineral and will provide that research to their teacher in a Google Slides format. Students must answer the following questions and fulfill the requirements as follows: What is your minerals luster? What hardness does it have on Moh's Scale? What color is its streak? Does it have cleavage or fracture? What color (or colors) is your mineral? Is your mineral a silicate or non-silicate? What is the specific gravity of your mineral? Can your mineral be polished into a gemstone? What are three interesting facts or properties about your mineral? Include a photo of your mineral.</i>				
<b>Project Options:</b>	<i>Fluorite, Gypsum, Copper, Pyrite, Quartz, Calcite, Mica, Magnetite, Muscovite, Feldspar, Sulfur, Gold, Silver, Mercury, Silicon, Aluminum, Cobalt, Iron, Talc, Sodium, Potassium, Graphite, Diamond, Opal, Halite, Onyx, Turquoise, Cinnabar</i>				
<b>Vocabulary Terms:</b>	<i>System, Atmosphere, Hydrosphere, Biosphere, Geosphere, Map Legend, Equator, Prime Meridian, Longitude, Latitude, Projection, Topography, Contour Line, Elevation, Slope, Relief, Contour Interval, Mineral, Element, Crystal, Streak, Luster, Cleavage, Fracture, Density, Hardness, Moh's Scale of Hardness, Magma, Lava, Ore,</i>				
<b>IEP Student Terms:</b>	<i>System, Atmosphere, Map Legend, Equator, Prime Meridian, Longitude, Latitude, Topography, Elevation, Slope, Mineral, Element, Crystal, Streak, Luster, Fracture, Density, Hardness, Moh's Scale of Hardness, Magma, Lava, Ore,</i>				
<b>Timeline:</b>	Day "A"	Day "B"	Day "C"	Day "D"	Day "E"
	Bellwork - 5 min	Bellwork - 5 min	Bellwork - 5 min	Bellwork - 5 min	Bellwork - 10 min

	<p><i>ML Science, Earth's Surface, Pages 2-5</i> - Read aloud and review how to map the Earth; discuss how scientists use remote sensing to detect minerals and changes in the surface of the Earth; students to individually assess the reading and find three key points to the material, then share those points; Teacher to evaluate each point and review the main ideas of the content - 20 min</p>	<p><i>ML Science, Earth's Surface, Pages 13-14</i> - Read aloud and discuss how each of the four "spheres" interact and shape Earth; students in pairs, create a "Concept Map" to outline how each area relates to the other; what animals do you think may overlap into different "spheres"? Examples include birds, salamanders, or turtles; present concepts maps and review with the class - 20 min</p>	<p><i>ML Science, Earth's Surface, Pages 15-19 (stop at "Global Positioning System")</i> - Read aloud and review the points on a map; students in pairs, practice the mini-lab on page 15 by drawing a map from the school to a location that you are familiar with (such as your home or a park); review what makes a map easy to read of follow; do you think that you could follow the map to your home or location? Why or why not? - 25 min</p>	<p><i>ML Science, Earth's Surface, Page 17</i> - Review the map of Southern Florida; using the legend, list the Interstate highways, the US highways, and the State highways; how far is it in miles from Tampa to Miami? How far from Orlando to St. Petersburg? Review the map of Miami Beach; using the legend and compass together, which coast is the beach on? How large in yards is Flamingo Park? Name four hotels on this map; describe the route you would take from Old City Hall to the Cardozo Hotel, how many miles would you travel? - 15 min</p>	<p><i>ML Science, Earth's Surface, Pages 24-27</i> - Read aloud as a class, use a "Main Ideas &amp; Supporting Ideas" graphic organizer to outline the information about topographic maps; define elevation, slope, and relief; what are contour lines and contour interval? Review the map on page 26 and the symbols on page 27, what do each of the symbols represent? Which symbols do you see on page 26 that appear on page 27? What do you think the blue lines represent? How does elevation change around them? - 25 min</p>
<p>29th Week</p>	<p>Watch "Diamond Mining in Sierra Leone" on YouTube (4:39 min) and discuss what it takes to mine for minerals; why do you think they are doing each step in the process? What is the purpose of the water in the mine? - 10 min</p>	<p><i>ML Science, Earth's Surface, Pages 12-13</i> - In a combination of the mini-lab and diagram on this pages, students will be placed into pairs, review the apple (or apple slices) as indicated in the mini-lab; answer the four questions via Google Docs and submit to your teacher; students will use computer paper and colored</p>	<p>Go to Google Maps to show an image of Ohio; click on the "Satellite" image and estimate a percentage of about how much of Ohio is heavily forested? How can you tell? Remaining on "Satellite" zoom in around Cleveland three times; how does the image change? What do you think the dark green, light green, grey, and beige areas are? Zoom in three more times to review your hypothesis; what type of land features are in Ohio overall? What about the Greater Cleveland area overall? - 15 min</p>	<p><i>ML Science, Earth's Surface, Pages 19-22</i> - Read aloud and discuss the different types of projections of maps; Teacher to create three T-charts, as a class outline the pros (left) and cons (right) of a cylindrical, conic, and planic projection; review all three types and discuss which images are used most, why do you think that is? Which image would you prefer to use most-often? Why is that? What areas does each region show accurately? - 20 min</p>	<p>Go to the following website "<a href="http://www.topozone.com/ohio/">www.topozone.com/ohio/</a>" to review topographic lines; scroll toward Northeast Ohio between Cleveland and Erie, zoom in until you see the city of Chardon; continue to zoom in until you see streets that resemble a letter "T" and Bass Lake; click the image that resembles squares in the upper-right corner and select "Topo"; zoom in to see the lines numbered; what is the highest elevation you can find? what happens to the lines</p>

	<i>ML Science, Earth's Surface, Pages 9-12</i> - Students in pairs, read the following material using a "Main Idea and Detail Notes" chart to help outline two main ideas and supporting notes of that idea; Teacher to visit pairs to assist with reading and location of important content; discuss content when complete and review notes to assess the note gathering skill; Teacher to provide the important notes as needed to the groups - 20 min	computer paper and color pencils to illustrate, color, and label the four parts of the Geosphere verses the apple slice; illustrations should be clear and easy to connect between the two; students will conclude this activity by writing at the bottom of their illustration how the four layers of the apple relate to the Geosphere 30 min	Using Google Maps, center the map around Cleveland on the "Satellite" image; Locate the map scale so that the image reflects a distance of 2 mi (miles); Zoom in to a point where the Zoo, Edgewater Beach, and Squire's Castle are seen; how far is it in miles from the word "DOWNTOWN" to the following locations: Squire's Castle, Edgewater Beach, Metroparks Zoo, Brooklyn, and Hunting Valley; Review measurements as a class - 10 min	<i>ML Science, Earth's Surfaces, Page 23</i> Read aloud and review the map, students to use a ruler to assist; using the scale, note that one cm is equal to 300 m; students in pairs, answer questions #'s 1-3 and "Challenge"; review responses as a class and discuss distances for accurate measurements; use Google to convert the meters to feet or miles to help students be more familiar with the measurements - 15 min	when they are closer to a lake? what do close lines represent? Scroll to the left and locate the Chagrin River, what happens to the lines here? What does this represent? Find the approximate elevation of the following locations: the Drive-in Theater, Chardon Airfield, and St. Mary's School; scroll to the lower right to find the Cuyahoga River and zoom in; what symbols are used to represent the river here? what does that tell you about the Cuyahoga River in this area of the State? - 20 min
Daily Journal or Bell Work:	<i>ML Science, Earth's Surface, Pages XIV-XV</i> - Read and define the bold faced terms in your own words	<i>ML Science, Earth's Surface, Pages XVI-XVII</i> - Read and define the bold faced terms in your own words	<i>ML Science, Earth's Surface, Pages XVIII-XIX</i> - Read and define the bold faced terms in your own words	<i>ML Science, Earth's Surface, Pages XX-XXI</i> - Read and define the bold faced terms in your own words	<i>ML Science, Earth's Surfaces, Page 23</i> - Review the map and create three questions using the scale; share with the class
Daily Homework:	Define System, Atmosphere, Hydrosphere, Biosphere, and Geosphere in your own words	Write two different ways that the hydrosphere and atmosphere interact with each other; what are two ways that the biosphere interacts with other "spheres"?	<i>ML Science, Earth's Surface, 1.1 Review, #'s 1-6, page 14</i> - Complete each question in complete sentences; due tomorrow!	Teacher to provide a map of Ohio with a legend; how far in miles is it from Cleveland to the following cities: Columbus, Dayton, Akron, Toledo, Cincinnati, Zanesville, Lima, and Youngstown; due tomorrow!	<i>ML Science, Earth's Surface, 1.2 Review, #'s 1-6, page 22</i> - Complete each question in complete sentences; due tomorrow!
Timeline:	Day "A"	Day "B"	Day "C"	Day "D"	Day "E"
	Bellwork - 0 min	Bellwork - 5 min	Bellwork - 5 min	Bellwork - 5 min	Bellwork - 5 min
	Teacher to create a make-believe topographic map; students in pairs, work together to solve the questions about the make-believe map; as a class discuss the responses and how to read the map correctly; Teacher to review what lines that are close to each other mean verses farther away; review the symbols from the text - 25 min	<i>ML Science, Earth's Surface, Pages 28-29</i> - Students in groups of 3 or 4, complete the lab on pages 28-29 by using Play-Doh!, modeling clay, dough, kinesthetic sand, or another substance to serve the requested purpose; there is NO	<i>ML Science, Earth's Surface, Page 38</i> - Students in pairs, using Google Docs answer "Thinking Critically #'s 22-28" and submit to your Teacher; review responses when complete - 25 min	<i>ML Science, Earth's Surface, Page 32</i> - Students in pairs, complete the mini-lab together using graph paper and markers; read the "Challenge" section prior to beginning to incorporate this section into the lab; answer the questions on the bottom of the graph paper and submit to your Teacher - 25 min	<i>ML Science, Earth's Surface, Page 35</i> - Read aloud and make choices as a class; answer #'s 1-3; individually create a table as shown in "Interpreting Data" and answer for Site A as a class, answer for sites B & C privately; review answers as a class; review the "Challenge" section, make a case to select each site as a class - 20 min

30th Week	<i>ML Science, Earth's Surface, Page 24</i> - Individually, students to use markers to complete the mini-lab; follow the instructions and answer the questions via Google Docs; Teacher to review as a class when complete - 15 min	NEED to use food coloring or the milk carton; spaghetti may be substituted with toothpicks, straws, coffee stirrers, or other similar items; complete the other steps of the Lab together and answer "Observe and Analyze #'s 1-3", "Conclude #'s 1-3", and "Challenge #'s 1-5" on notebook paper; Teacher to review responses when complete and discuss as a class - 50 min	<i>ML Science, Earth's Surface, Pages 30-32</i> - Read aloud and discuss remote sensing and satellites; how do satellites help to show images of land accurately? - 10 min	<i>ML Science, Earth's Surface, Pages 33-34</i> - Read aloud and discuss the GIS; how do colors help to show different elevations? How can colors show different features on different maps? What is a terrain map? - 10 min	Students to use rulers and computer paper, design your own city complete with roads, freeways, shops, restaurants, schools, RTA lines or subway, parks, libraries, and homes / apartments; reference the textbook for help; students to use their own symbols for each location; name the streets and buildings accordingly with school-appropriate names; students to write three questions about their map on the back that other students will answer in the next class session - 30 min
	<i>ML Science, Earth's Surface, Page 37</i> - Students in pairs, answer and discuss "Short Answer #'s 19-21"; as a class review responses and discuss each; Teacher to ensure content knowledge through review session - 15 min		Go to Google Images to display "satellite maps of Mars"; using the knowledge from satellites and sensors, how was this data obtained? Students to select an image from the sky above Mars, using computer paper attempt to illustrate a topographic map of that region; review the section on contour lines if necessary - 15 min	Go to the following website " <a href="http://www.nationsonline.org/oneworld/map/USA/ohio_map.htm">www.nationsonline.org/oneworld/map/USA/ohio_map.htm</a> " and print out the "Ohio State Map" PRIOR to class; students will choose different colors to represent elevation on this map based upon the provided topographic map; what do the contour lines represent? How do the names of places help? - 15 min	
Daily Journal or Bell Work:	None	Define relief, slope, and contour lines	Define topographic map, contour interval, and elevation	Define sensor, remote sensing, and false-color images	<i>ML Science, Earth's Surfaces, Page 34</i> - Review the two maps on this page; what are benefits and drawbacks of each map?
Daily Homework:	Teacher to create a make-believe topographic map with questions (six) to answer; due tomorrow!	<i>ML Science, Earth's Surface, 1.3 Review, #'s 1-6, page 27</i> - Complete each question in complete sentences; due tomorrow!	Finish illustrating the topographic map of Mars from class today; due tomorrow!	Finish coloring the topographic map of Ohio from class today; due tomorrow!	<i>ML Science, Earth's Surface, 1.4 Review, #'s 1-6, page 34</i> - Complete each question in complete sentences; due tomorrow!
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
	Students in pairs, review the created maps from the previous lesson; exchange maps with another student and answer the three questions on the back about each map; Teacher to review maps and assist as needed - 15 min	<i>ML Science, Earth's Surface, Pages 43-45</i> - Read aloud and discuss minerals; what are the four properties of minerals? Students to use a "Word Wheel" graphic organizer to outline how minerals form; Teacher to use a T-chart to contrast how minerals (left) are different than rocks, liquids, and people (right) - 20 min	<i>ML Science, Earth's Surface, Pages 46-48</i> - Read aloud and discuss crystalline structure, what are the six crystal (or crystalline) structures? Teacher to review the math terms in the names (tetra, hexa, mono, tri, cube); review the more abundant minerals of the Earth's surface, which are found in the human body? - 15 min	<i>ML Science, Earth's Surface, Page 46</i> - Students in groups of 3 or 4, complete the mini-lab together on this page; prepare the materials for observing tomorrow; what predictions do you think will occur? Why do you believe that? Create a hypothesis as to how you think crystals form in nature based upon this lab and the materials in its set up - 20 min	<i>ML Science, Earth's Surface, Page 46</i> - Review the crystals from the lab in the prior lesson; answer the questions via Google Docs and submit to your Teacher - 15 min

31st Week	<p><i>ML Science, Earth's Surface, Page 39</i> - As a class, complete "Analyzing a Diagram, #'s 1-8"; incorporate a review of the geosphere, hydrosphere, atmosphere, and biosphere is the discussion - 15 min</p>	<p>Teacher to show various minerals from the lab closets such as pyrite, quartz, feldspar, mica, talc, calcite, and topaz; students to review each example and use Google to research the types of atoms (elements) found in each mineral; what similarities do you notice?</p>	<p>Teacher to provide various minerals from the lab closets; students to theorize the crystalline structure of those minerals; students to illustrate, color, and label each of the minerals (MINIMUM OF SIX TOTAL) and their proposed crystalline structures; use the textbook to assist in your presumptions; good options to use are talc, gypsum, topaz, galena, amethyst, opal, and quartz - 30 min</p>	<p><i>ML Science, Earth's Surface, Pages 50-53</i> - Read aloud and discuss the properties of minerals; why is color not a good way to JUST categorize minerals? How can streak help to identify a mineral? Do the color and streak have to be the same? What is the difference between cleavage and fracture? How is luster different than shine? - 20 min</p>	<p><i>ML Science, Earth's Surface, Pages 53-57</i> - Review cleavage and fracture; Teacher to provide gypsum and quartz, which type does each have? Read aloud and discuss density; Teacher to display pumice as it floats on water; this is a very low-density mineral; what is the Moh's Scale of Hardness? Which is the softest and hardest minerals? What does sulfur smell like? - 20 min</p>
	<p>Teacher to show examples of minerals from the lab supply; introduce project and discuss requirements - 15 min</p>	<p>make a table outlining the atoms and similarities; review, share, and discuss with the class - 25 min</p>		<p>Review three minerals from the science lab closet (Pyrite, sulfur, and talc); using a streak plate, what color is their streak verses their actual color? Discuss differences and crystalline shape as it leads to its luster - 10 min</p>	<p>Go to the following website "<a href="https://geology.com/minerals/">https://geology.com/minerals/</a>" and review the "Fluorescent Minerals", discuss how various minerals appear differently under UV rays; what mineral is named after fluorescence? Use additional time to begin researching your mineral project - 15 min</p>
Daily Journal or Bell Work:	<p><i>ML Science, Earth's Surface, Page 37</i> - Complete any five of the eight "Reviewing Vocabulary" questions; review responses as a class</p>	<p><i>ML Science, Earth's Surface, Page 39</i> - Answer one of the two questions in "Extended Response"; share responses with the class</p>	<p>What are minerals? How do they relate to elements?</p>	<p>Name three of the six crystalline structures</p>	<p>What is the difference between cleavage and fracture?</p>
Daily Homework:	<p><i>ML Science, Earth's Surface, Page 37</i> - Complete #'s 9-21; due tomorrow!</p>	<p><i>ML Science, Earth's Surface, Page 38</i> - Complete the table for #'s 29-33; due tomorrow!</p>	<p>Draw a sketch of the six crystalline structures and label each correctly</p>	<p><i>ML Science, Earth's Surface, 2.1 Review, #'s 1-6, page 48</i> - Complete each question in complete sentences; due tomorrow!</p>	<p>Work on your project!</p>
Timeline:	Day "A"	Day "B"	Day "C"	Day "D"	Day "E"
	Bellwork - 5 min	Bellwork - 5 min	Bellwork - 5 min	Bellwork - 5 min	Bellwork - 5 min
	<p>Lab: Students in pairs, groups to travel the room to explore eight different minerals; Teacher to place the name of the mineral underneath</p>	<p><i>ML Science, Earth's Surface, Pages 60-63</i> - Read aloud and discuss minerals and their resources; how do magma and lava effect the geosphere? How do they effect minerals? Review the diagram on page 63, where does the heat come from that causes minerals to form? What layer of Earth? - 20 min</p>	<p><i>ML Science, Earth's Surface, Page 62</i> - Students in pairs, use a "Word Wheel" graphic organizer to outline how minerals form; use the five ways outlined in the text and in your illustration in the previous class; share and discuss as a class - 20 min</p>	<p>Go to the following website "<a href="https://geology.com/gemstones/">https://geology.com/gemstones/</a>" and review the gemstones; what are birthstones? Review the gems and check for your mineral as part of your project; look at the different types of opal, agate, and bloodstone; which is your favorite colored type? Why is that? What are blood diamonds? - 20 min</p>	<p><i>ML Science, Earth's Surface, Page 69</i> - Students in pairs, answer in complete sentences "Short Answer #'s 17-20" together via Google Docs; one paper per student, submit to your Teacher when complete and review as a class - 20 min</p>

32nd Week	or alongside it; students will identify each mineral's color, streak, luster, apparent cleavage or fracture (DO NOT TRY TO BREAK THEM), Hardness using a Moh's Scale and nail file, and if the mineral has any Other specific properties (foul odor, magnetic); complete for each mineral and record events in Google Sheets by making a table; Teacher to review lab results when complete - 45 min	Students will illustrate, color, and label how minerals form using the textbook as a reference; include the geosphere, Earth's layers, include the features shown including water evaporating, water cooling, heat and pressure within the earth, molten rock cooling, and organisms decaying; include types of elements that form in each location - 30 min	<i>ML Science, Earth's Surface, Pages 64-66</i> - Read aloud about ores and how they're mined; recall the video about mining gold in Africa; review the map on page 64 and discuss the various mines across the world; where do most mines appear to be found? - 15 min	<i>ML Science, Earth's Surface, Page 65</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; if bird seed is not available, use another set of supplies to substitute instead such as nuts/bolts, different cereal types, Chex-Mix, a bag of buttons, or similar items; complete the "Challenge" questions as well - 30 min	Discussion: Teacher to review how to calculate density ( $D=M/V$ ) and provide examples by dropping minerals into a graduated cylinder and observing the change; Teacher to provide several different examples of density problems to experiment with - 20 min
			Watch "Journey 1000 ft. Underground - Mollie Kathleen Gold Mine - Cripple Creek - 1st person view" on YouTube (9:55 min) and discuss what deep mines look like; how far down did the people in the video go into the earth? What were they mining? What types of machines were in teh mines? Was it what you expected to see? - 15 min		<i>ML Science, Earth's Surface, Page 71</i> - As a class review the table about analyzing different samples of minerals; answer #'s 1-8 as a class and discuss; using Google Docs, students to answer #'s 9-10 and submit to their Teacher - 10 min
Daily Journal or Bell Work:	Name three properties of minerals	Which mineral property do you think is easiest to use? Why is that?	How do magma and lava create minerals?	Visit the following website and review "www.911metallurgist.com/blog/15-largest-mines-on-earth"	What are gemstones? What are ores?
Daily Homework:	<i>ML Science, Earth's Surface, Page 70</i> - Complete "Thinking Critically #'s 21-25"; due tomorrow!	<i>ML Science, Earth's Surface, 2.2 Review, #'s 1-6, page 57</i> - Complete each question in complete sentences; due tomorrow!	<i>ML Science, Earth's Surface, Page 69</i> - Complete "Reviewing Key Concepts, #'s 7-16"; due tomorrow!	<i>ML Science, Earth's Surface, 2.3 Review, #'s 1-6, page 66</i> - Complete each question in complete sentences; due tomorrow!	Teacher-created worksheet about density problems (six); due tomorrow!
<b>Vocabulary Terms:</b>	<b><i>Rock, Rock Cycle, Igneous Rock, Sedimentary Rock, Metamorphic Rock, Magma, Lava, Intrusive, Extrusive, Sediments, Conglomerate, Limestone, Coal, Metamorphism, Foliation, Recrystallization,</i></b>				
<b>IEP Student Terms:</b>	<b><i>Rock Cycle, Igneous Rock, Sedimentary Rock, Metamorphic Rock, Magma, Lava, Sediments, Limestone, Coal</i></b>				
Timeline:	Day "A"	Day "B"	Day "C"	Day "D"	Day "E"
	Bellwork - 5 min	Bellwork - 5 min	Bellwork - 5 min	Bellwork - 5 min	Bellwork - 5 min

33rd Week	<p><i>ML Science, Earth's Surface, Pages 75-77</i> - Read aloud and discuss the uses of rocks in the world; students to think of five places that they visit frequently; create a table of those five places and the areas within them that are made of or use rock as part of their structure; share with the class - 20 min</p>	<p>Teacher to display using Google Images various monuments carved into rock; examples include Angkor Wat, Mount Rushmore, and Easter Island monuments; why are some types of rock easy to modify yet others are not? - 15 min</p>	<p><i>ML Science, Earth's Surface, Pages 82-85</i> - Read aloud and use a "Main Idea Web" graphic organizer to outline the main ideas about igneous rocks; include at least four statements about them; Teacher to review content and knowledge as class proceeds - 20 min</p>	<p><i>ML Science, Earth's Surface, Pages 86-87</i> - Read aloud and discuss the terms intrusive and extrusive; how does silica change the way lava flows? How does silica change the way that volcanoes form? - 10 min</p>	<p><i>ML Science, Earth's Surface, Page 81</i> - Read aloud about meteorites and discuss how rocks from space can tell us about Earth's past; how can their impacts change the surface of the Earth? Do you think rocks from space are the same composition as those from Earth? Why or why not? - 10 min</p>
	<p><i>ML Science, Earth's Surface, Page 77</i> - Students in groups of 3 or 4, complete the mini-lab together; Teacher to place six different rocks from the science lab closets in stations, students to use Google Sheets to create a table to list characteristics of the rocks; follow the steps provided in the text; submit to your Teacher when complete - 30 min</p>	<p><i>ML Science, Earth's Surface, Pages 78-80</i> - Read aloud and discuss the rock cycle? How do the changes in the rock cycle relate to minerals? What minerals do you think may be found by each type of rock? - 15 min</p>	<p>Students to illustrate, color, and label the Rock Cycle; include the terms Igneous Rocks, Sedimentary Rocks, Metamorphic Rocks, Magma, Lava, Intrusive, Extrusive, Heat &amp; Pressure, the Mantle of the Earth, Water &amp; Beaches, and the arrows showing progression; use your textbook for assistance; labeling of changes should be very clear to understand - 30 min</p>	<p><i>ML Science, Earth's Surface, "Math in Science", Page 88</i> - Read aloud and discuss the grid that outlines the amount of space taken up by lava flow; estimate how much lava flowed for each of the five colors (time frames); students in pairs, answer via Google Docs #'s 1-3 &amp; Challenge; Teacher to review questions and discuss content - 25 min</p>	<p>Teacher to go to Google Images to display photos of "Igneous Rock Formations"; there are many cartoon images but try to display actual photos instead; many are found via National Geographic; discuss how these formed and what occurred to make these formations appear as they do - 15 min</p>
		<p>Watch "Bill nye rock cycle" on YouTube (3:59 min) and discuss how the rock cycle works; how do materials break down and reform new rocks? What are the three types of rocks? Teacher to provide examples of each type of rock from the science lab closet; examples to include obsidian, pumice, shale, slate, granite, basalt, and limestone - 15 min</p>	<p>Watch "Hawaii residents flee after Kilauea volcano eruptions" on YouTube (6:47 min) and discuss the different factors that the residents of Hawaii were facing in 2019 when Kilauea erupted; via Google Docs, students will write one paragraph describing their thoughts and emotions about this situation - 15 min</p>	<p><i>ML Science, Earth's Surface, Pages 89-92</i> - Students in pairs, read together and write six notes about the material; discuss your notes as a class, Teacher to help differentiate between what will be needed to know for future use - 25 min</p>	
Daily Journal or Bell Work:	Define any five "Terms to Know from Week Twenty-Nine"	Define any five "Terms to Know from Week Twenty-Nine"; they cannot be the same terms as the previous lesson	Define any five "Terms to Know from Week Twenty-Nine"; they cannot be the same terms as the previous two lessons	Define any five "Terms to Know from Week Twenty-Nine"; they cannot be the same terms as the previous three lessons	Define any five "Terms to Know from Week Twenty-Nine"; they cannot be the same terms as the previous four lessons
Daily Homework:	Work on your Mineral Project!	Work on your Mineral Project!	<i>ML Science, Earth's Surface, 3.1 Review, #'s 1-6, page 80</i> - Complete each question in complete sentences or as indicated; due tomorrow!	Work on your Mineral Project!	<i>ML Science, Earth's Surface, 3.2 Review, #'s 1-6, page 87</i> - Complete each question in complete sentences or as indicated; due tomorrow!
Timeline:	Day "A"	Day "B"	Day "C"	Day "D"	Day "E"
	Bellwork - 5 min	Bellwork - 5 min	Bellwork - 5 min	Bellwork - 5 min	Bellwork - 5 min

34th Week	<p><i>ML Science, Earth's Surface, Page 89</i> - Students in groups of 3 or 4, complete the mini-lab together and record your data; submit your answers via Google Docs; Teacher to discuss as a class the results of the mini-lab - 15 min</p>	<p><i>ML Science, Earth's Surface, Page 94</i> - Students in groups of 3 or 4, complete the mini-lab together; Teacher to assist in making plaster of Paris; Teacher to apply the food coloring to each group when needed; answer questions via Google Docs and submit to your Teacher; students to illustrate, color, and label an image of their rock formation using colored pencils - 30 min</p>	<p><i>ML Science, Earth's Surface, Pages 98-101</i> - Read aloud and discuss how metamorphic rocks form; where are two places that you would likely find them (base of a mountain/hill or near volcanic activity); what are foliated and nonfoliated rocks? Teacher to provide examples of foliated and nonfoliated metamorphic rocks to view; what other type of rock could you find near metamorphic rocks? Why? - 20 min</p>	<p>Watch "Types of Rocks Igneous-Sedimentary-Metamorphic Rocks" on YouTube (7:27 min) and discuss the three different types of rock and features of each - 10 min</p>	<p><i>ML Science, Earth's Surface, Page 107</i> - As a class, review the diagram and the parts of the rock cycle; complete together #'s 1-8; individually answer "Extended Response #'s 9-10" via Google Docs and submit to your Teacher - 20 min</p>
	<p><i>ML Science, Earth's Surface, Page 90</i> - Teacher to review the diagram of the sediment as it settles in a river; how do you think major storms change this layering process? Watch "Sedimentary Rocks" on YouTube (6:31 min) and discuss the three types of sedimentary rocks; what can sedimentary rocks form from? - 15 min</p>	<p>Teacher to display images using Google Images of "Sedimentary Rock Formations"; display the real life images, not the cartoons; how would you describe sedimentary rocks as they appear? Why are some stripes (layers) different colors? Where do sedimentary rocks form or are evidence of? - 10 min</p>	<p><i>ML Science, Earth's Surface, Page 98</i> - Students in pairs, complete the mini-lab together using the shaving of candle wax; if candles are not available, different colored paper could be used; melt the wax (or crumble the paper) together to symbolize the metamorphic rocks forming; individually illustrate and color your wax ball and answer the questions - 15 min</p>	<p><i>ML Science, Earth's Surface, Page 105</i> - Students in pairs, complete "Reviewing Vocabulary #'s 1-11" and discuss responses; students to refer to sections of the textbook to assist in responses; Teacher to gather examples of each rock as available from the science lab closet or show online images - 20 min</p>	<p>In-class time to work on your Google Slides Mineral Project; it is due next week - 30 min</p>
	<p><i>ML Science, Earth's Surface, Pages 92-95</i> - Review limestone and how it forms; what are conglomerates (page 90) and how do they form? Why are there large deposits of salt under the earth? How do rock formations in caves develop? - 20 min</p>	<p><i>ML Science, Earth's Surface, Pages 96-97</i> - Read aloud and introduce metamorphic rocks; Teacher to display rocks from the science lab closet that are igneous, sedimentary, and metamorphic; students to observe and note differences; how do metamorphic rocks form? Where would you most-likely find them? - 15 min</p>	<p>Students in pairs, create a "Concept Map" linking together the three types of rocks with the Rock Cycle; include terms such as Foliated, Sediments, Intrusive, Extrusive, Heat &amp; Pressure, Magma, Lava, and Conglomerate in your map; share with the class when complete - 15 min</p>	<p><i>ML Science, Earth's Surface, Page 106</i> - Divide the class into five groups; each group will discuss one assigned question from "Thinking Critically #'s 23-27" and be prepared to answer for the class; Teacher to lead review and each group to provide the answer to and "teach the class" their assigned question - 20 min</p>	
<p>Daily Journal or Bell Work:</p>	<p>Define any five "Terms to Know from Week Thirty-Three"</p>	<p>Define any five "Terms to Know from Week Thirty-Three"; they cannot be the same selected terms as the previous lesson</p>	<p>Define any five "Terms to Know from Week Thirty-Three"; they cannot be the same selected terms as the previous two lessons</p>	<p>What are the three types of rocks? Briefly illustrate the rock cycle</p>	<p>How is it possible that ancient sea shells can be found at the top of a mountain? What type of rock would you expect to be surrounding those sea shells?</p>

Daily Homework:	Using your textbook as a reference, illustrate and label how sediments compress to form sedimentary rocks; include conglomerates	<i>ML Science, Earth's Surface, 3.3 Review, #'s 1-6, page 95</i> - Complete each question in complete sentences or as indicated; due tomorrow!	<i>ML Science, Earth's Surface, Page 105</i> - Complete "Reviewing Key Concepts, #'s 12-19"; due tomorrow!	<i>ML Science, Earth's Surface, 3.4 Review, #'s 1-6, page 101</i> - Complete each question in complete sentences or as indicated; due tomorrow!	<i>ML Science, Earth's Surface, Page 106</i> - Complete "Predict #'s 28-32"; due tomorrow!
Vocabulary Terms:	<b><i>Weathering, Mechanical Weathering, Chemical Weathering, Exfoliation, Abrasion, Rusting, Humus, Soil Profile, Desertification, Erosion, Deposition, Mudflow, Slump, Creep, Divide, Drainage Basin, Floodplain, Alluvial Fan, Delta, Sinkhole</i></b>				
IEP Student Terms:	<b><i>Weathering, Exfoliation, Rusting, Humus, Soil Profile, Erosion, Mudflow, Slump, Creep, Divide, Floodplain, Delta, Sinkhole</i></b>				
Timeline:	Day "A"	Day "B"	Day "C"	Day "D"	Day "E"
35th Week	Bellwork - 10 min	Bellwork - 5 min	Bellwork - 5 min	Bellwork - 5 min	Bellwork - 5 min
	<i>ML Science, Earth's Surface, Pages 115-117</i> - Read aloud and discuss how rocks can break down due to weathering; what is mechanical weathering? Students in pairs, create a "concept map" displaying the four types of mechanical weathering; share maps with the class - 25 min	<i>ML Science, Earth's Surface, Pages 118-120</i> - Read aloud; students to create a T-chart before they read with five characteristics of mechanical weathering (left) and take notes of characteristics of chemical weathering (right); as a class compare & contrast those characteristics - 20 min	<i>ML Science, Earth's Surface, Page 118</i> - Students in groups of 3 or 4, complete the mini-lab from the prior lesson with steel wool; illustrate and color what the cups with steel wool look like today verses in the previous lesson; answer the questions on the same page as your illustrations - 15 min	<i>ML Science, Earth's Surface, Pages 126-129</i> - Read aloud and discuss how animal and micro-organisms effect soil; Teacher to Google Image photos of nematodes, springtails, mites, and grubs; How do dead and decaying plants & animals effect the soil? Review the examples of soil in the text, which do you think is best for farming? Why? - 20 min	<i>ML Science, Earth's Surface, Pages 132-136</i> - Read aloud as a class; using the "Letters & Numbers Format" found in MS Word, outline this section together; Teacher to assist in pointing out main ideas and supporting concepts; students to make notes but also try to lead discussion as new information arises - 35 min
	<i>ML Science, Earth's Surface, Page 115</i> - Students in groups of 3 or 4, complete the mini-lab and take notes about the changes in the rocks; what type of mechanical weathering is displayed? Discuss responses as a class - 15 min	<i>ML Science, Earth's Surface, Page 118</i> - Students in groups of 3 or 4, prepare the mini-lab for observations in the next lesson; illustrate and color what the cups with steel wool look like today verses in the next lesson - 15 min	<i>ML Science, Earth's Surface, "Math in Science", Page 121</i> - Read aloud about rock weathering and surface area; relate to the information from Sec. 4.1 and discuss; following the "Example", answer #'s 1-3 and "Challenge" as a class; Teacher to work through the math with the class together - 15 min	<i>ML Science, Earth's Surface, Pages 128-129</i> - Using a "Main Ideas & Supporting Ideas" graphic organizer, outline how properties of soil can be measured; include the four qualities of texture, color, pore space, and chemistry; how do you think humans effect these? Discuss as a class - 10 min	Students to return to the same location outside as in the previous lesson; students will now look for evidence of how humans have

	Watch "What is Weathering?" on YouTube (6:58 min) and discuss the causes and outcomes of weathering; discuss examples - 10 min	Teacher to display Google images of the "painted desert" to show how the petrified wood and sedimentary rock changed colors over millions of years through weathering; there are several websites that provide virtual and interactive tours to review of this area as well; discuss weathering with each example - 15 min	<i>ML Science, Earth's Surface, Pages 122-125</i> - Read aloud and discuss; use a "Word Wheel" graphic organizer to outline characteristics of soil; review the "World Soil Types" diagram and relate to units studied in Social Studies class, what is the soil like in those regions? Why may people want to live there? What is the soil like in Ohio? Are any soil types surprising to you on this map? Why? - 20 min	Teacher to walk with students outside to a region on campus of exposed soil; review the contents of the soil to examine the soil type (sand, silt, or clay); what humus can be found within it? How does litter and pollution effect the soil quality? Teacher to remind the students that the chemicals in the soil eventually end up in the plants that we interact with - 20 min	contaminated the soil or damaged it; what can be done to specifically take better care of the areas? Students to discuss three ways that they could help care for their neighborhood and soil quality better - 15 min
Daily Journal or Bell Work:	<i>ML Science, Earth's Surface, "Timelines in Science", Pages 108-111</i> - Read quietly to yourself and review "Activities" options	Name and provide examples for two types of mechanical weatering	What are two types of chemical weathering?	How does soil type relate to the rocks and minerals within it?	Share your Google Slides Mineral Project with your Teacher, it is due today!
Daily Homework:	<i>ML Science, Earth's Surface, "Timelines in Science", Pages 108-111</i> - Complete one of the two "Activities" options ONLY; due tomorrow!	Finish your Google Slides Mineral project, it is due in three days!	<i>ML Science, Earth's Surface, 4.1 Review, #'s 1-7, page 120</i> - Complete each question in complete sentences or as indicated; due tomorrow!	Finish your Google Slides Mineral project, it is due tomorrow!	<i>ML Science, Earth's Surface, 4.2 Review, #'s 1-7, page 129</i> - Complete each question in complete sentences or as indicated; due tomorrow!
Timeline:	Day "A"	Day "B"	Day "C"	Day "D"	Day "E"
	Bellwork - 5 min	Bellwork - 10 min	Bellwork - 5 min	Bellwork - 5 min	Bellwork - 5 min
	<i>ML Science, Earth's Surface, "Science on the Job", Page 137</i> - Read aloud and discuss how landscaping includes features for avoiding weathering and soil preservation; walk around our school campus and look for areas where drainage basins are placed for water run-off; how are plants used on school grounds to keep soil in place or act as windbreaks? Do any areas serve as retaining walls? - Answer "Analyze" - 25 min	<i>ML Science, Earth's Surface, Pages 147-149</i> - Review rockslides, mudflow, slumps, and creep; Teacher to use Google images to display images of rockslides and mudslides; how are these very dangerous? Teacher to show images of slump and creep as well, be sure to include "rock formation" in your search or you'll also view creepy images; discuss as a class - 15 min	<i>ML Science, Earth's Surface, Pages 153</i> - Using the diagram on this page as a reference, students will illustrate, color, and label a river flowing into a lake or ocean; students will label the floodplain, alluvial fan, delta, meanders, and oxbow lakes; students to include descriptions as to how each forms (there should be four areas with descriptions); illustrations should be your best effort with full-color - 25 min	<i>(Part II of II) ML Science, Earth's Surface, Pages 156-157</i> - Complete "Conclude #'s 1-5" as instructed in the previous lesson and discuss - 20 min	<i>ML Science, Earth's Surface, Pages 162-163</i> - Review how wind works to cause erosion; watch "How to make a sand dune - Dune - BBC wildlife" on YouTube (3:59 min) and discuss how wind shaped the sand dunes and created hills of sand throughout the deserts; how do wildlife adjust to this? <i>Pages 162-163</i> - what is loess? how does it form mounds over thousands of years? - 15 min

36th Week	<i>ML Science, Earth's Surface, Page 141</i> - Review the table together as a class; what patterns are observed within the data? Complete #'s 1-5 together and discuss - 10 min	<i>ML Science, Earth's Surface, Pages 150-155</i> - Read aloud and discuss how water draining along mountain ridges effects land; how does the runoff effect the soil? What are alluvial fans and deltas? Teacher to Google Image the Cuyahoga River, Mississippi River, and Nile River; look for the delta of each, how do they appear? - 25 min	<i>(Part I of II) ML Science, Earth's Surface, Pages 156-157</i> - Students in groups of 3 or 4, complete this activity in intervals while working on the aforementioned illustration of a delta & alluvial fan; students will complete the lab using a water table (one is located in Pre-K, teacher should obtain it PRIOR to class); complete "Observe and Analyze #'s 1-2" by illustrating the changes; complete "Conclude #'s 1-5" with one paper per student; complete "Conclude" in the next lesson if needed - 25 min	<i>ML Science, Earth's Surface, Pages 158-163</i> - Read in pairs and discuss how erosion occurs along shorelines; how does wind create erosion and shape the land? Students to take seven notes from this section that they feel are important; Teacher to review notes privately from each pair and circle the room to discuss topics with each; Discuss and review content as a class to ensure accuracy for notes - 25 min	<i>ML Science, Earth's Surface, "Connecting Sciences", Page 164</i> - Read aloud and discuss how life on sand dunes adjusts; what is sand food? Why would Fowler's Toad be most active at night? How can beach grasses stop erosion along barrier islands and dunes? Complete "Explore #1" and discuss together - 15 min
	<i>ML Science, Earth's Surface, Pages 145-149</i> - Read aloud and discuss what erosion and deposition are; use a "Main Idea Web" to outline these two terms and characteristics of each; how are they similar to weathering? - 15 min	Quick Write: Using Google Docs, students will answer the following questions - Why do caverns form in areas with limestone? Why are sinkholes dangerous? What is a floodplain? - 10 min		Watch "Shelly Island: The new island off North Carolina's Outer Banks" on YouTube (4:14 min) and discuss how this island formed in literally a very short time; how did the two sandbars collide to create this? - 10 min	<i>ML Science, Earth's Surface, Pages 165-170</i> - Read aloud and discuss how glaciers carve out the land; how have glaciers changed the land in Ohio? What did they carve out that provides us all life? - 20 min
Daily Journal or Bell Work:	How are humans hurting soil quality? How are they trying to save it?	<i>ML Science, Earth's Surface, "Reviewing Vocabulary", Page 139</i> - Complete #'s 1-4 and discuss	Define meander, oxbow lake, alluvial fan, delta, and floodplain	How do you think erosion occurs along beaches and shorelines?	Define sandbar, barrier island, and dune
Daily Homework:	<i>ML Science, Earth's Surface, 4.3 Review, #'s 1-6, page 136</i> - Complete each question in complete sentences or as indicated; due tomorrow!	<i>ML Science, Earth's Surface, Page 139</i> - Complete #'s 5-13; due tomorrow!	<i>ML Science, Earth's Surface, 5.1 Review, #'s 1-6, page 149</i> - Complete each question in complete sentences or as indicated; due tomorrow!	<i>ML Science, Earth's Surface, 5.2 Review, #'s 1-6, page 155</i> - Complete each question in complete sentences or as indicated; due tomorrow!	None