

SEATS LESSON PLAN

<p>Standard: What is the MOST important standard/element for the lesson?</p>	<p>S5L1. Students will classify organisms into groups and relate how they determined the groups with how and why scientists use classification.</p> <ol style="list-style-type: none"> Demonstrate how animals are sorted into groups (vertebrate and invertebrate) and how vertebrates are sorted into groups (fish, amphibian, reptile, bird, and mammal).
<p>ESSENTIAL QUESTION: What is the MOST important concepts or skills? With key questions if necessary</p>	<ol style="list-style-type: none"> Why do Scientists Classify? What is taxonomy? What is the classification hierarchy in order from the Kingdom level? What are the five Kingdoms of classification? What are the five classes of Vertebrates? How do you differentiate vertebrates from invertebrates? How do the habitats of warm-blooded vertebrates differ from cold-blooded vertebrates? Why are cold-blooded vertebrates more susceptible to environmental changes than warm blooded vertebrates? <p style="text-align: center;">I Can Statements</p> <ol style="list-style-type: none"> I CAN explain why scientists use taxonomy to classify living organisms. I CAN list the classification hierarchy in order. I CAN explain the five kingdoms of classification. I CAN list characteristics o each kingdom of classification. I CAN list organisms which are classified in each kingdom and why they are classified within that kingdom. I CAN list the five classes of vertebrates. I CAN name vertebrates within each class of vertebrates and what characteristics they possess that classify them there. I CAN differentiate the habitats of warm-blooded vertebrates and cold-blooded vertebrates. I CAN tell WHY cold-blooded vertebrates are more susceptible to environmental changes than warm blooded vertebrates.
<p>Key Vocabulary: What is the key vocabulary?</p>	<p>Taxonomy, animal, plant, fungi, protist, bacteria, moneran, taxonomy, mammals, reptiles, birds, fish, amphibians, invertebrates, habitat. Endothermic, exothermic, climate, weather, insulated, containment, thermal, scientific method, hypothesis</p>

<p><u>Activating Strategy:</u></p> <p>How will you activate your lesson or link to prior knowledge? (Examples: KWL, work maps, Wordsplash, etc.)</p>	<p><u>Monday</u></p> <p>Display the words "Endothermic" and "Ectothermic" on the board in a double bubble. Have students copy the double bubble comparison map in their science notebook and hypothesize similarities and differences between the two terms. (Note: students have been studying taxonomy of the animal kingdom and classification hierarchy but have not yet studied cold blooded and warm blooded terms; endothermic and ectothermic)</p>	<p><u>Tuesday</u></p> <p>Upon entering the class, a PowerPoint presentation will be playing showing different habitats of exothermic (cold-blooded) vertebrates. Students will quietly view the habitats without discussion.</p>	<p><u>Wednesday</u></p> <p>Athena (<i>Our classroom Leopard Gecko</i>) will be in the front of our classroom when students enter the class. Students will be asked to observe her habitat and why it sustains her life in their research groups.</p>	<p><u>Thursday</u></p> <p>Athena (<i>Our classroom Leopard Gecko</i>) will be in the front of our classroom when students enter the class. One component of her environment will be missing. Students will be asked to identify what component is missing and what the repercussions of its absence could possibly have on Athena's well being. Class discussion will be held and each group will have to come up with a statement.</p>	<p><u>Friday</u></p> <p>Athena (<i>Our classroom Leopard Gecko</i>) will be in the front of our classroom when students enter the class. ANOTHER component of her environment will be missing. Students will be asked to identify what component is missing and what the repercussions of its absence could possibly have on Athena's well being. Class discussion will be held and each group will have to come up with a statement.</p>
<p><u>TEACHING STRATEGIES:</u></p> <p>What instructional strategies will you use in your lesson? (Examples: graphic organizer, distributed guided practice, distributed</p>	<p><u>Independent work:</u></p> <p>Students will view two Brainpop videos via Edmodo on their Chrome books and headphones. One covering Endothermic and Ectothermic vertebrates and one specifically</p>	<p><u>Whole Group</u></p> <p>a. Students will come to the carpet and carefully view each habitat picture. Students will share hypotheses</p>	<p><u>Whole Group</u></p> <p>a. After discussing with research groups why Athena's environment sustains her, each group will rank each area of Athena's habitat in</p>	<p><u>Group Work</u></p> <p>a. Research groups will first research what a normal, healthy temperature for Athena needs to be. b. All groups will be given</p>	<p><u>Group Work</u></p> <p>a. Research groups will continue the construction of their habitats, recording findings such as temperature reading</p>

<p>summarizing, collaborative pairs)</p>	<p>for reptiles.</p> <p>Group Work</p> <p>a. Students number off to be paired randomly with other students in the class to create heterozygous research groups for this weeklong project.</p> <p>b. Students will compare their Double Bubble maps and discuss their findings in the videos and make necessary changes based on group discussions .</p> <p>Whole Group</p> <p>Mrs. Chastain bring all groups to the front carpet with their notebooks and double bubbles and create a double bubble map on the smart board. Students from all research groups will share their revisions to</p>	<p>s on what kind of animal lives in each habitat and WHY each habitat is suited to each animal. Students will use prior knowledge and evidence from the photos to support their claims.</p> <p>b. After the above discussion is complete, students will be shown the animal that lives in each habitat. Habitat photos are posted on the Edmodo website.</p> <p>Group work</p> <p>a. Students will break in to their heterozygous research groups and log on to Edmodo to the science classroom and locate the habitat and</p>	<p>order of the most important to her life. (Glass terrarium, day and night heat lamp, covered rock, shallow water and food dishes, terrarium carpet, and artificial vines) They will create a T-Chart with the rankings of each component of the environment and state WHY each component received the ranking it did. Students will have the opportunity to debate differing ideas with other groups, backing their stance with evidence.</p> <p>(STEM implementation)</p> <p>b. Students will be told they will make a self-sustaining environment for Athena as a back up method for her in the case the power goes out and nobody is at school to "save" her when her heat lamp goes out</p>	<p>a thermometer, small glass terrarium, and heat lamp.</p> <p>c. Groups will take on their roles and Google Lab Document to fill out throughout the construction of their habitat, including pre-lab questions that will need to be researched and discussed prior to the construction .</p> <p>d. Groups will begin construction of the habit using found materials and the glass terrariums and heat lamps, removing the heat and measuring the temperature as the heat sources are removed to see if the temperature can be maintained without the heat source.</p>	<p>using different materials in the Google Doc lab sheet.</p> <p>b. Habitats will be prepared for presentation.</p> <p>c. Google Doc lab sheets will be shared with the entire class and Mrs. Chastain.</p>
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	<p>their double bubble maps and back up their claims with evidence from the videos or group discussions. Class discussion will continue until all students have successfully placed all comparisons between "Endothermic Vertebrates" and "Ectothermic Vertebrates" and have a firm understanding of the two terms.</p>	<p>animal pictures. They will research together why they habitat is suited to each animal, including the animal's body coverings in their claims. They will respond to EACH animal and habitat in a constructed response format using the RACE template. (Restate, answer, cite, and explain).</p>	<p>due to lack of electricity. Research groups will be shown materials available for the construction of the back up environment.</p> <p>b. Research groups will assign roles and responsibilities to each member of the group, geared towards their personal interests and strengths. Roles will be kept on the first page of the research report, which the students will fill out on Google docs so all groups members can simultaneously work on their roles and have their findings readily accessible to each group member.</p> <p>Roles: <i>Illustrator, Materials Manager, Engineers, and, Data Collector</i></p> <p>c. Each research group will begin drafting on paper their environment and plan for construction</p>		
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			the next day. Lab documents are on Google docs guiding each group through the steps of the Scientific Method as they work to the construction of their environment.		
<p><u>SUMMARIZING STRATEGIES:</u> G How will students summarize what they are learning during the lesson and at the end? (Examples: Ticket out the Door, 3-2-1, etc. Answer the EQ</p>	<p>Students will be given either a yellow stick note or a green sticky note. If a student has a yellow note, they must state a fact about an endothermic vertebrate on the top of the door upon exiting the class, and if a student has a green note, they must state a fact about an ectothermic vertebrate on the bottom of the door upon exiting the class.</p>		<p>Google lab document will be shared with Mrs. Chastain up to step four for revisions before construction begins.</p>	<p>Google lab document will be shared with Mrs. Chastain up to step four for revisions before construction begins.</p>	<p>Research groups will present their constructed habitats with thermometer reading to prove their habitat will sustain Athena. Google Doc lab sheets will be shared with everyone so everyone can view for future ideas.</p>
<p><u>ASSESSMENT:</u> Which type of assessment are you using today? PRE-ASSESSMENT FORMATIVE ASSESSMENT SUMMATIVE ASSESSMENT</p>	<p>Formative: Sticky note findings will be reviewed for accuracy and reteaching points.</p>	<p>Formative: Google Lab Sheets</p>	<p>Formative: Google Lab Sheets</p>	<p>Formative: Google Lab Sheets</p>	<p>Summative: Presentations and thermometer readings- sharing of finalized Google doc lab sheets.</p>
<p>Differentiation- Remediation and acceleration:</p>	<p>Heterozygous research groups allow for higher order thinking to be utilized amongst group members and</p>	<p>Heterozygous research groups allow for higher order thinking to be utilized amongst group members and</p>	<p>Heterozygous research groups allow for higher order thinking to be utilized amongst</p>	<p>Heterozygous research groups allow for higher order thinking to be utilized</p>	

	<p>assigning of roles for research are geared towards strengths and points of interest of ALL students. Roles were designed to target each type of learner.</p>	<p>assigning of roles for research are geared towards strengths and points of interest of ALL students. Roles were designed to target each type of learner.</p>	<p>group members and assigning of roles for research are geared towards strengths and points of interest of ALL students. Roles were designed to target each type of learner.</p>	<p>amongst group members and assigning of roles for research are geared towards strengths and points of interest of ALL students. Roles were designed to target each type of learner.</p>	
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Found Materials Available:

Egg crates, bubble wrap, styrofoam sheets, duck tape, electrical tape, pipe cleaners, aluminum foil sheets, wax paper, plastic wrap, cardboard sheets