Curriculum Sample Template
Max. 8 Pages

Grade Level	Fourth Grade	**Content Area**	Science
Course Title (grades 9-12 Only)			
Expected Prior Knowledge *The knowledge/skills mastered earlier in the year foundational to the mastery of the required Standard in the current sample.*	This lesson will take four weeks as the scholars will record their finding twice a week. The scholars will continue to make observations and record their findings. The final assessment will be at the end of that time frame.		
Alignment to Program of Instruction *Briefly outline methods of instruction found in this sequence of lessons that align to the Program of Instruction described in A.3.*	The scholars will work in small groups to ensure understanding of the material as it is presented. The scholars will be collecting and recording data in their science folders. This lesson will be over a four week time frame so it will be important for the scholars to record their data two times a week.		
Standard Number and Description *List the Number* and the full description for the Required Standard or Science Performance Objective listed in section A.6.*	4.4.4.1 Recognize that successful characteristics of populations are inherited traits that are favorable in a particular environment		
Materials/Resources Needed	Handouts on animal habitats, handouts on the life cycle of the tomatoes plant and the cactus, science journals, pencil, markers, tablets or laptop computer, tomato plant, cactus plant, planters, soil, watering can, greenhouse, thermometer		

* ***Standard Number****: For English Language Arts (Reading and Writing), use Grade, Strand, Standard (e.g., 3.RI.2). For K-8 Math, use Grade, Domain, Standard (e.g., 6.EE.7). For HS Math, use Conceptual Category-Domain, Standard (e.g., A-REI.6). For Science, use Grade, Strand, Concept, PO (e.g., 4.1.3.1).*

Lesson (add as needed)	**Instructional Strategies**	**Student Activities**
	Anticipatory Set: Teacher will activate prior knowledge and state the stages of the life cycle. Lesson The teacher will introduce the K-W-L chart to the scholars. She will ask scholars what they know about the tomato plant and cacti which she will then write under the K on the K-W-L chart. She will then instruct them to research for important details in regards to tomato plant s and cactus Guided Practice: Teacher will rotate from table to table and instruct scholars how to compare and contrast their research to the information presented in the opening discussion. Independent Practice: The teacher will instruct the scholars to use their tablets or textbooks and record the stages of the plan cycle. The teacher will travel to each group and check for understanding and verify that the stages are correct. Closure: Teacher will ask scholars to name the stages of the plant cycle and record them on the white board.	1. The scholars will learn what a K-W-L chart is and how to use it. 2. The scholars will listen and discuss their prior knowledge about a tomato plant. They will observe the teacher writing the responses on the board. 3. Scholars will use their tablets to research important details and characteristics about the tomato plant and record them in their science journals. 4. The scholars will use their tablet to research the life cycle of the tomato plant and the cactus. 5. Scholars will compare and contrast characteristics of the tomato plant using a Venn diagram 6. Scholars will use table to learn and record the stages of a plant cycle. Record them in their journal. 7. Scholars will name stages of life cycle in a whole group discussion.
2	Assessment 1: The scholars will write down five important details they found in their research of the life cycle of the tomato plant. Lesson: Life cycle of the tomato plant and the type of climate best for their growth. The teacher will present notes on the climate best suited for a tomato plant and contrast with cactus plant	1. The scholars will take an assessment on the life cycle of the tomato plant. 2. Scholars will discuss and record notes from the teacher about the optimum environment for a tomato plant to thrive and grow. 3. Scholars take notes on the climates for the tomato and cactus plants. They will compare and contrast the various climates and discuss plants suited for the climates. 4. Scholars will use a graphic organizer to list the plants and the climate characteristics need to grow.

	Guided practice: The scholars will plant their tomato plant and cactus. They will record the date and the temperature outside the classroom and then in the greenhouse. The scholars will use inform the teacher of two facts that they learned from the previous day. Independent practice: The teacher will have the students continue researching on their tablets to find out what type of habitat is best for the plants survival. Closure: The scholars will record on the K-W-L the information under the W=want to know, this information will guide the students during this process. AS the W= want to know the scholars will record questions that they will find as they continue their research and recording of data.	5. The scholars will plant their tomato plant and cactus. L plant one each in the greenhouse and one in the garden where the plant will experience the elements. 6. The scholars will water and record the temperature outside and in the greenhouse (the greenhouse will have a swamp cooler to keep it moist). 7. The scholars will continue research and record data about growing cycles and climate conditions in various part of the United States for comparison. 8. The scholars will select a plant and research the characteristics of the plant and match a climate that will allow the plant to survive and thrive. 9. Scholars will record on the KWL the information they know, want to know for the next lesson.
3	Assessment 2: The scholars will write a 2 paragraph report on the habitat and characteristic traits of the tomato plant. Lesson: The L=learn part of the K-W-L chart. Guided practice: The teacher will have the scholars tell one thing they learned from their research of the habitat of the tomato plant and one about the cactus. Independent practice: The scholars will record the temperature inside the greenhouse and the temperature outside. The teacher will have the scholars water both plants and record the amount of water they were given. The teacher will have the students make predictions on how long the tomato plant will survive in the outside sun and then in the greenhouse. The teacher will have the scholars make a line graph in which to display data.	1. The scholars will take assessment 2 which is a two paragraph report on their findings of the habitat and characteristic of a tomato plant 2. Scholars will discuss and listen to the teacher discuss the "L" portion of the K W L model . 3. The scholars will report their finding to the K-W-L chart for the L=know and discuss with the teacher and the class. 4. The scholars will record their findings on the K-W-L chart. 5. The scholars will make a line graph to record twice weekly observations from the temperatures inside the greenhouse and outside and record progress in the plant growth. 6. The amount of water will also be recorded to demonstrate understanding of the various needs plants have in relation to the climate or habitat in which they live. The outside plants (tomato will need much more water than the

	Closure: The teacher will have the scholars continue recording data twice weekly for four week and discuss their finding to this point.	cactus) and less water in the greenhouse. The cactus will grow better outside in the heat and dry climate of the desert versus the inside climate of the greenhouse. 7. Scholars will make a line graph in their journals with the results. 8. The scholars will discuss their line graphs and interpretations with the whole class.
4	Lesson: Final Assessment Independent Practice: The scholars will take the final assessment in which they will have to write down the life cycle of the tomato and draw the stages from a seed to the plant. The scholars will then write the life cycle of the cactus and the life span and habitat of the cactus. Closure; This is an ongoing assignment and the scholars will continue to record their findings both in their science journals and on the line graph.	1. Scholars will take Assessment 3 2. The scholars will write down the life cycle of the tomato plant and draw a picture. 3. The scholars write down the habitat and life span of the cactus.

Summative Assessment Items: *Attach here.* For each summative assessment item, include an answer key or scoring rubric describing how points are to be awarded.

Assessment Item 1: The scholars will provide 5 details of the life cycle of the tomato plant.
Scholars will be assessed on their ability to mastery knowledge of the life cycle of the plant. The assessment will consist of the scholars naming each of the cycles and giving an explanation.

Assessment Item 1

Directions: In order, name each of the life cycles and give a brief explanation of each.

1.

2.

3.

4.

5.

Rubric: will vary but should include some of the following:

1. Life cycle of tomato plant is short, only one growing season.
2. The length of the tomato plant depends on the climate.
3. The tomato plant thrives in warm weather.
4. Each seed of the tomato plant should be planted in well drained soil.
5. The soil for the tomato plant should be between 70-90 degrees.

10 points total, each question is worth 2 points.

5=100%, 4=80%, 3=60%, 2=40% 1=20%

To achieve mastery the scholar will need to have achieved a score of 80% or better to achieve mastery on the topic.

Assessment 2:

The scholars will write a two paragraph report comparing and contrasting the life of a tomato plant to an animal life cycle.

Name_____

Directions: Write a two paragraph essay and compare and contrast the life cycle of a tomato plant to that of an animal.

_____

_____

_____.

Rubric:

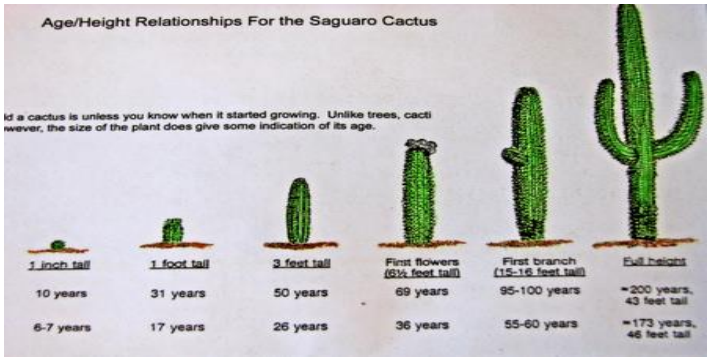
4th Grade Scoring Rubric

Writing Trait	**Criteria**	**F F Below 1-2 points**	**Approaches 3 points**	**Meets 4 points**	**Exceeds 5-6 points**	**Score**
Ideas and Content	1. The topic is clearly introduced. 2. The topic is developed using relevant					

	facts, definitions, concrete details, quotations or other information used as examples					
Organization	3. Related information is grouped in paragraphs and sections 4. Uses appropriate transitions to clarify relationships among the ideas and content. 5. Essay is formatted for easy reading and understanding by using headings / title and multimedia resources. 6. There is a recognizable concluding sentence or statement that summarizes the text.					
Conventions	7. Uses punctuation and capitalization correctly					

Total Score _____ / 7
A score of 7= 100%; 6.0-6.9 = 90%; 5.0-5.9 = 80%; 4.0-4.9 = 70%; 3.0-3.9 = 60%

Assessment Item 3:

1. **The life cycle of a tomato plant:**

2. Habitat and Life span of cacti:
   The habitat of the desert Cacti the strange shaped green cacti grow in many arid regions. They have the ability to store water for long periods and the sharp spines discourage animals.
   Life span: Saguaro Cacti lives from 75-150 years in the Arizona Desert. The height of the saguaro cacti will grow up to 75feet.