

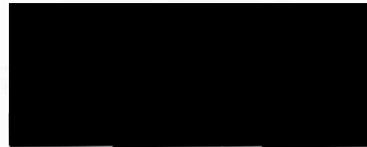
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Plants and Animals Unit

First Grade

September 5- October 11, 2016



Gilcrest Elementary School
Weld County School District RE-1

Rationale Statement

Section 1: Introduction

The plants and animals unit is extremely important to young students in elementary school, and particularly first graders as they dive into the world of science for some of the first times. One of the biggest aspects of thinking scientifically that is taught to students in the primary grades is that of being curious, and asking questions about the world around them. Of course, as soon as students begin to do this, the first things they become curious about is themselves, and the plants and animals that they see every day. Through teaching this unit, students will be introduced to the concept of what living things are, what they need to survive, and will observe the life cycle of a plant first hand. This unit is important in establishing the nature of what an observation is, how to measure growth (in plants), and how we can make predictions and apply what is known to us about plants and animals to make plants grow more successfully.

After experiencing this unit, students will be able to differentiate and classify living and nonliving things, identify basic needs of living things, and eventually apply what they know about plant and animal needs in order to make connections to their own life cycles, needs, and lives.

Section 2: Community, School, and Classroom Setting

Gilcrest Elementary School is a very small school located just off of highway 85 in a small rural town called Gilcrest. Gilcrest is a town with a population of about 1,100 people located within Weld County. Approximately 55% of the population is hispanic, and about 42% cuacasian (City Data). The majority of the Gilcrest community commutes into Greeley or other nearby cities for work, or farm land in town or nearby towns.

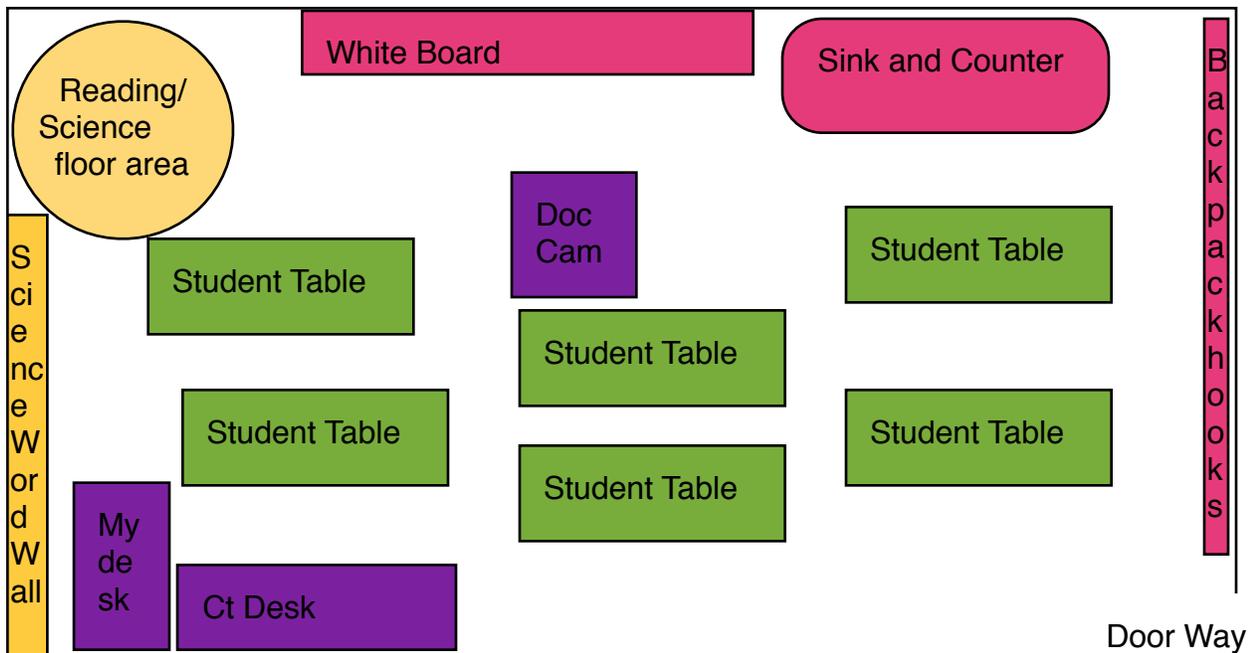
Gilcrest Elementary is right at the center of its community, and while it is small with only 174 students total, it is a central place to many people in the town. 98% of the students enrolled at GES are on free or reduced lunch, and so, every student also qualifies for a free breakfast served by the classroom teachers every morning. Additionally, many students are sent home with food bags and other resources on a weekly basis to help support their lower income families. Additionally, of the 177 students in the school, approximately 65 receive intensive ELL support throughout their school day.

Unfortunately, many of our students have extremely difficult home lives with either a parent in prison, being in CPC, or being home alone while parents work multiple jobs. GES does have weekly counseling built in to the schedule as a “special” for the students, to allow students more outlets for communicating, advocating for themselves, and building relationships with staff and students. Gilcrest Elementary highly values physical fitness, and so every morning begins with running “loops” around the field by the playground, students are motivated to do so in order to collect sticks (which tally their total number of laps, and allow them to increase class averages, and meet personal goals as well). This school is a community, that had held strong through a lot. In 2013, Gilcrest Elementary was labeled a turn around school, however, since then has achieved reaching the performance category in test score improvements twice (once including this year!). It is obvious that this staff is committed to pouring into student lives, and because of the small school dynamic, every teacher is able to work cooperatively to support one another, and to support the students in ways that couldn’t otherwise be done!

The classroom setting is also very particular, as one of the biggest class sizes in the building, first graders share their tables with 4-5 peers. With five full size tables, and then a smaller table for two students that work better in small groups, this makes for a very tight class room space. However, due to its fair organization the space works well, and serves the purpose it needs to very well! The classroom is well organized and structured. From day one, my cooperating teacher has had high expectations of the students behavior and work within the room. Students are expected to keep up with their work (which is monitored by having letters written next to their student number). Additionally, a behavior clip chart is displayed in the back of the room, in which students can be clipped up or down throughout the day and receive the relevant rewards or consequences for their corresponding behavior. There is a reading and calendar area in the room, which is where the majority of the floor instruction occurs. However, during writing time students

meet in the writing area in order to change their mind set and use the resources that have been placed specifically in that area, for that reason.

In the class of 24 students, 9 are ELL students that receive intervention and support throughout the day. Additionally, two students are currently being tested and evaluated for how they fit into the Special Education program at Gilcrest Elementary, as a part of the RTI process. Students in this class range from being below Kindergarten level in reading, to a mid year second grade reading level. The majority of the students are currently at grade level in some aspect in their DIBELS testing, however, even some of the higher students in the class have areas of concern. Four of the first graders are also being serviced additionally as a part of the READ act, and get reading intervention outside of whole class instruction or any ELL support that they may or may not be receiving. Many of the parents of the students in this class are either not present in their lives, or only one parent is present. Additionally, about 6 of the children do not have parents that speak english, which makes homework and any take-home papers quite problematic for those without older siblings.



Section 3: Meeting The Colorado Model Content Standards

Standard 2.2a- Students can identify organisms and use evidence based scientific explanations for classifying them into groups.

Students will be able to sort objects and organisms into “living” and “nonliving” groups as a table group, when referencing the class “When is something alive?” concept map.

- ◇ Students will use what they know about living or non living things to determine which things fit into each category.
- ◇ Students will identify the differences between plants and animals by comparing their needs for survival using a Venn Diagram.

Standard 2.2b- Students can analyze and interpret data about the needs of plants and animals.

Students will be able to list and identify the 4 basic needs of plants as living things by learning a song and recording the plant needs in the form of a venn diagram.

Students will be able to identify the needs of a plant, and put this understanding to use in planting and caring for their own bean plant.

Students will be able to list and identify the 4 basic needs of animals as living things by learning a song and recording the animal needs in the form of a venn diagram.

Students will be able to identify the common needs among both plants and animals by interpreting the class venn diagram, and listing the common needs.

- ◇ Students will identify the needs of their own plant by making observations and predictions about what will happen to their plant next.
- ◇ Students will read, sing, and write about the needs of plants, animals, all living things, and themselves in separate lessons on similarly formatted paper to encourage comparison among plants, animals, and humans!

Science Standard 2.2c- Use direct observations and other evidence to support ideas concerning physical characteristics that help plants and animals survive (DOK 1-3)

Students will be able to identify the needs of a plant, and put this understanding to use in planting and caring for their own bean plant.

Students will be able to make scientific observations of their plant's growth using scientific strategies such as: forming hypotheses, drawing detailed illustrations with labels, describing and recording results, and using relevant vocabulary.

Students will be able to identify the basic parts of a plant, and the specific function of each by clearly labeling a diagram.

- ◇ Students will directly observe their own Lima bean plants over the course of three weeks.
- ◇ Students will make observations of their plant's growth: writing and drawing the plant parts that they are able to identify in their own plant.

Math Standard 4.2a- Students can measure lengths indirectly and by iterating length units.

Students will be able to measure and observe their plant growth, using cubes to estimate the height of their plant, and recording the height (with units) in their observation journals.

- ◇ Students will be introduced to measurement using estimation and "block" units in order to measure growth over time in their own plants.
- ◇ Students will be asked to use estimation strategies to make a quick (but accurate) measurement of their plant during observation time.

Science Standard 2.1a- Use evidence to analyze similarities and differences between parents and offspring in a variety of organisms including both plants and animals (DOK 1-2)

Students will be able to match the parents and offspring of a wide variety of plants and animals based on their parts, and the basic needs that can be interpreted from the images provided to them.

Students will be able to explain their reasoning and provide evidence for how they choose to match each parent and offspring.

- ◇ Students will play a matching game, be asked to discuss similarities and differences, and make inferences about parent and offspring animals based on photos of animals and habitats.

Science Standard 2.1d- Interpret information represented in pictures, illustrations, and simple charts (DOK 1-2)

Students will understand that all living things go through life cycles that include growing and developing, through the illustrating and labeling of a butterfly's life cycle.

Students will apply what they have learned about life cycles, and the observations that they have been making about their own plants in order to create a "life cycle of my plant" diagram.

- ◇ Students will be introduced to life cycles by making observations of a life cycle (drawn in traditional cyclical format).
- ◇ Students will then read a life cycle book, and be asked to translate the same information into a more linear chart with the name of each phase, and an image included.
- ◇ Students will create their own life cycles to represent their plant's life cycle in order to visually display their plant's growth over time using one of the life cycle formats previously used in the lessons prior.

Social Studies Standard 1.1a- Students can arrange life events in chronological order.

Students will understand that all living things go through life cycles that include growing and developing, through the illustrating and labeling of a butterfly's life cycle.

- ◇ Students will be introduced to life cycles by making observations of a life cycle (drawn in traditional cyclical format).
- ◇ Students will then read a life cycle book, and be asked to translate the same information into a more linear chart with the name of each phase, and an image included.
- ◇ Students will create their own life cycles to represent their plant's life cycle in order to visually display their plant's growth over time using one of the life cycle formats previously used in the lessons prior.

Social Studies Standard 1.1d- Students can use words related to time, sequence, and change.

Students will apply what they have learned about life cycles, and the observations that they have been making about their own plants in order to create a "life cycle of my plant" diagram.

- ◇ Students will then read a life cycle book, and be asked to translate the same information into a more linear chart with the name of each phase, and an image included.

- ◇ Students will work in groups to order the butterfly life cycle using sequencing terms to communicate their idea (first, then, next, last, etc.).

Section 4: Assessing Student Learning

Pre-Assessment:

Students will be pre-assessed continuously throughout the unit. Initially, students will be formally given a pre- assessment consisting of three main parts meant to specifically evaluate student background knowledge of any of the three main learning objectives of the unit. Students will be asked to categorize a number of images as living or non living, they will also write a list of three things that they think living things need to survive, and match 4 sets of parents to their corresponding offspring. However, this will not be the only pre-assessment done in this unit. Throughout the unit, students will be asked to brainstorm what they know about various organism's needs, as well as other questioning that will usually happen as a way of leading into the days lesson. Finally, as extension activities students will have the opportunity to write about everything they know about the upcoming day's lesson. For example, the day before the butterfly life cycle is introduced, early finishers will be given a page that says "I know butterflies....", to which they will then respond by sharing whatever scientific facts they already know about butterflies.

Formative Assessment:

Students will be formatively assessed constantly throughout this unit. While some lessons will be formatively assessed by a check mark symbolizing full participation or not, often times students will be evaluated by their responses on a work sheet, to a question in class, on an observation, or on a project such as categorizing, measuring, or illustrating. Grades will be taken down on a basic 1,2,3 scale (1- unsatisfactory, 2- Proficient, 3- Advanced). A really important piece to this unit is the focus on conversation, and sharing as a group what observations and predictions one might have of their own plant based on what is being learned in class. Student's will be evaluated in their responses to these discussions on class, ideally using vocabulary from the unit and connecting key concepts to their own plant growth.

Summative Assessment:

Students will be summatively assessed using the final post assessment as the main anchor for summative assessment over the entire unit. Additionally, observation journals will be graded as a summative assessment of how students are using key concepts and vocabulary in their own writing and observations. These two main summative grades will be factored into a number of smaller participation

and formative check-in grades over the course of the unit to result in the students final grade for the unit. This method will allow for students to have a chance at being successful in this unit even if either the observation journals, or the post assessment were in a difficult format to their understanding, and thus, should demonstrate a fair and accurate quantitative measure of how each individual student has met the unit learning objectives and standards.

Unit Goal

The main goal of the plants and animals science and social studies integrated unit, is that students will be able to categorize living and nonliving things, understand that all living things have needs for survival, and to be able to observe a life cycle by planting their own lima bean plant and caring for it over the course of the unit. Students will be able to use scientific strategies such as observation, making predictions, measuring growth, asking questions, and comparing in order to learn more about their own plant's life cycle. Informational texts will be used throughout the unit in a variety of forms (books, articles, songs), thus, also allowing for first graders to familiarize themselves with reading for understanding of a scientific subject. Social Studies and literacy will be incorporated throughout the unit as a means of understanding and studying humans as living things, and reading text for more information on a subject. Finally, math will be used throughout the unit as students use blocks to measure growth, estimate growth over time, and begin to practice making predictions using units of measurement.

Lesson # and Grade Level	LESSON #0 part I 1st Grade: PRE ASSESSMENT
Standards	Standard 2.2a- Students can identify organisms and use evidence based scientific explanations for classifying them into groups. Standard 2.2b- Students can analyze and interpret data about the needs of plants and animals.
Learning Objectives	Students will be able to sort objects and organisms into “living” and “nonliving” groups as a table group, when referencing the class “When is something alive?” concept map.
Materials	<u>Zina, The Wooden Puppet</u> By: Honor Teoudoussia “When is Something Alive” concept map for each student Projector
Procedure	Anticipatory set: <ul style="list-style-type: none"> - Students will begin the unit by taking a short preassessment in which they are asked to determine the difference between living and nonliving things and their basic needs, match plants and animals to their proper offspring/parents, and draw the lifecycle of a plant. Lesson: <ul style="list-style-type: none"> - As a class, we will read <u>Zina, The Wooden Puppet</u>, discussing what it means to be alive along the way. - After reading the book, students will be asked to remember the three things described by the characters from the story as being “needs” for living things. - Each student will then fill in the answers for their “When is something alive” concept map (while being modeled by the teacher in front of the class on the projector).
Assessment	This students will be assessed for their pre assessment, and additionally, based on their accurate completion of the “When is something alive” concept map.
Closure/ Review	To be continued in Lesson #0 part 2.

Lesson # and Grade	<h1 style="text-align: center;">Lesson #0 Part 2</h1> <h2 style="text-align: center;">Grade I: PRE ASSESSMENT</h2>
Standards	<p>Standard 2.2a- Students can identify organisms and use evidence based scientific explanations for classifying them into groups.</p> <p>Standard 2.2b- Students can analyze and interpret data about the needs of plants and animals.</p>
Learning Objectives	<p>Students will be able to sort objects and organisms into “living” and “nonliving” groups as a table group, when referencing the class “When is something alive?” concept map.</p>
Materials	<p><u>Zina, The Wooden Puppet</u> By: Honor Teoudoussia “When is Something Alive” concept map for each student Projector Living and non living thing images “Living” and “nonliving” pages to glue images onto</p>
Procedure	<p>Anticipatory set:</p> <ul style="list-style-type: none"> - Review the general plot of <u>Zina, The Wooden Puppet</u> By: Honor Teoudoussia, and ask students to look back at their concept maps and with a partner remind each other of what living things need. - Teach “It Is Living” song. <p>Lesson:</p> <ul style="list-style-type: none"> - Ask students if... a table, a computer, toothpaste, a book... has the same needs as we do as humans? - Why do you (humans) have needs, but a table doesn't? Provide students with the definition of LIVING and NONLIVING things. - Talk about the difference between living and nonliving things.. Remind students that some things can be living at one point, and then no longer be living (for example: tree→ paper) - Ask students to sort living and non living things individually.
Assessment	<p>After students are done sorting living and nonliving objects with their partners, have them each think of and write an additional living thing on their page that they come up with, and a nonliving thing that they come up with. This sorting activity, and brainstorming of new living and nonliving objects should be a great FORMATIVE evaluation of how students are understanding the basic concept of living and nonliving things.</p>

Closure/ Review	Ask students to share with the class if it was easy to sort the objects, and why or why not they think so. This is also a good time to bring up some of the more “contraversial” objects, and to have kids explain their reasoning for how they classified each of the things.
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Lesson # and Grade Level	LESSON #1 part 1 1st Grade: WHAT DO PLANTS NEED?
Standards	Standard 2.2b- Students can analyze and interpret data about the needs of plants and animals.
Learning Objectives	Students will be able to list and identify the 4 basic needs of plants as living things by learning a song and recording the plant needs in the form of a venn diagram.
Materials	White board and markers Large venn diagram anchor chart Computer for projecting "Needs of a plant" song. Student observation journals
Procedure	<p>Anticipatory set:</p> <ul style="list-style-type: none"> - Students will begin the lesson by "pal pair sharing" with a neighbor what they think a plant is. - Students will then share these ideas with the class and the teacher will write down short summaries of each definition on the white board. <p>Lesson:</p> <ul style="list-style-type: none"> - Students will be reminded that plants are living things, and that since they are living things, they have NEEDS. - As a class, students will brainstorm the needs of a plant while the teacher records the ideas on the plant side of a concept map venn diagram. - Students will watch the "needs of a plant" song: https://www.youtube.com/watch?v=dUBIQ1fTRzI - After listening to this song one time, students will then be asked to pay attention to the concept map brainstorm and see if we have indeed thought of all of the basic needs of a plant on our concept map. - Students will sort the things that plants DO need, vs. the things that plants do not need by crossing out and circling the correct images on a page.
Assessment	<ul style="list-style-type: none"> - Students will complete this sentence in their plant observation journals: <ul style="list-style-type: none"> - Plants are _____ things that need _____, _____, _____, _____ and _____. (living, water, soil, space, light, air).
Closure/ Review	Students will practice singing the song at the end of this lesson to help them remember the needs of a plant for tomorrow. To be continued in Lesson #1 part 2.

Lesson # and Grade Level	LESSON #1 part 2 1st Grade: WHAT DO PLANTS NEED?
Standards	Standard 2.2b- Students can analyze and interpret data about the needs of plants and animals.
Learning Objectives	<p>Students will be able to identify the needs of a plant, and put this understanding to use in planting and caring for their own bean plant.</p> <p>Students will be able to make scientific observations of their plants growth using scientific strategies such as: forming hypotheses, drawing detailed illustrations with labels, describing and recording results, and using relevant vocabulary.</p>
Materials	<p>White board and markers Large venn diagram anchor chart Computer for projecting "Needs of a plant" song. Ziploc bags, paper towels, spray bottles, water, lima beans, sharpie</p>

<p>Procedure</p>	<p>Anticipatory set:</p> <ul style="list-style-type: none"> - Students will listen to “The needs of a plant” song another time and review the needs of a plant. <p>Lesson:</p> <ul style="list-style-type: none"> - Students will be introduced to the concept of “Observations”, we will talk about what a good scientific observation looks like- including important vocabulary, clear pictures and descriptions, labels, and complete sentences. - Students will set up their “Observation journals for their plants” In which they will be asked to write their name on the cover, draw a picture of their seed before they plant it, and write on sentence on the DAY 1 observation page about what their seed looks like and feels like. - Students will be given the materials to then plant their own beans! <ul style="list-style-type: none"> - Each student will plant their own Lima bean in a plastic ziploc bag, and will be asked to follow a specific procedure- - Students will crumple a paper towel and place it in a ziploc bag that has been labeled with their name. Students will then place Lima Bean (unsoaked) into the bag, and soak paper towel with one of two spray bottles that will be rotating around the classroom. Then, students will seal their Ziploc bag and hand to the teacher who can then tape them to the sunniest window available in the classroom.
<p>Assessment</p>	<p>Student completion of the DAY 1 in their observation journal will act as today’s formative assessment. Students will be evaluated based on use of detail, scientific words, labels, and clear illustrations.</p>
<p>Closure/ Review</p>	<p>Students will write a “hypothesis” of what their plant will look like the next time we observe them on their hypothesis page in their observation notebooks. Students will be encouraged to think about created detailed drawings and writing for this hypothesis as well.</p>
<p>Lesson # and Grade Level</p>	<p>LESSON #2 part I 1st Grade: HOW DO PLANTS GET WHAT THEY NEED?</p>

Standards	<p>Science Standard 2.2b- Students can analyze and interpret data about the needs of plants and animals.</p> <p>Science Standard 2.2c- Use direct observations and other evidence to support ideas concerning physical characteristics that help plants and animals survive (DOK 1-3)</p> <p>Math Standard 4.2a- Students can measure lengths indirectly and by iterating length units.</p>
Learning Objectives	<p>Students will be able to identify the basic parts of a plant, and the specific function of each by clearly labeling a diagram.</p> <p>Students will be able to make scientific observations of their plants growth using scientific strategies such as: forming hypotheses, drawing detailed illustrations with labels, describing and recording results, and using relevant vocabulary.</p>
Materials	<p>parts of a plant anchor chart, student observation journals plant part worksheet crayons pencils</p>
Procedure	<p>Anticipatory set:</p> <ul style="list-style-type: none"> - Students will observe and measure their plant growth. They will be asked to “measure” the plant growth by marking the plant height on their page with every observation day. - Students will be asked to write one sentence to describe changes that they have observed in their plants, and to make a “hypothesis” for the next observation time. (On DAY 2 page) - OBSERVATIONS WILL ONLY HAPPEN ONCE OR TWICE PER WEEK, DEPENDING ON HOW OFTEN SCIENCE IS BEING TAUGHT. <p>Lesson:</p> <ul style="list-style-type: none"> - After completing their observations, students will be taught the “parts of a plant” song. - After reviewing some of the general concepts found in the song in regards to how plants get what they need, the class will read a plant part article- circling plant part names, and boxing plant needs as the text is read aloud whole class. - Next, the teacher will model labeling a plant part diagram, referencing the text to model finding how to spell vocabulary words correctly. - Students will then be given the same plant chart and be asked to label the plant parts.

Assessment	Student completion of the DAY 2 in their observation journal will act as today's formative assessment. Students will be evaluated based on use of detail, scientific words, labels, and clear illustrations to convey their ideas.
Closure/ Review	Students will share with a partner about what they think is "the most important" part of a plant and why. (There aren't any correct answers here, but this will serve as an excellent review of the main functions of the parts of the plants.

Lesson # and Grade Level	<p>LESSON #2 part 2</p> <p>1st Grade: HOW DO PLANTS GET WHAT THEY NEED?</p>
Standards	<p>Science Standard 2.2b- Students can analyze and interpret data about the needs of plants and animals.</p> <p>Science Standard 2.2c- Use direct observations and other evidence to support ideas concerning physical characteristics that help plants and animals survive (DOK 1-3)</p> <p>Math Standard 4.2a- Students can measure lengths indirectly and by iterating length units.</p>
Learning Objectives	<p>Students will be able to identify the basic parts of a plant, and the specific function of each by clearly labeling a diagram.</p> <p>Students will be able to make scientific observations of their plants growth using scientific strategies such as: forming hypotheses, drawing detailed illustrations with labels, describing and recording results, and using relevant vocabulary.</p>
Materials	<p>parts of a plant flipbook template crayons scissors glue student observation journals</p>

Procedure	<p>Anticipatory set:</p> <ul style="list-style-type: none"> - Students will sing the “parts of a plant song”, and review the functions of each plant part (referring to the class anchor chart). <p>Lesson:</p> <ul style="list-style-type: none"> - Students will create their own “Parts of a plant” flip book to aid in visually and explicitly describing the function of every plant part. Students will be required to label each part clearly, and write the function of the part of the plant within the flip book as well. - Once all students have completed their flip book, the class will review the purpose that each part of the plant serves, and then will sing the song again- this time pointing to each part of the plant as it is sung about.
Assessment	<p>Student completion of the plant part flip book will act as today’s formative assessment. Students will be evaluated based on use of detail, accurate scientific words, labels, and clear illustrations.</p>
Closure/ Review	<p>If time allows, students will be asked to go back to their plant observation books and label all of the plant parts that they can in their drawings of their own plants thus far.</p>

Lesson # and Grade Level	<p>LESSON #3 part I</p> <p>1st Grade: WHAT DO ANIMALS NEED?</p>
Standards	<p>Science Standard 2.2b- Students can analyze and interpret data about the needs of plants and animals.</p> <p>Science Standard 2.2c- Use direct observations and other evidence to support ideas concerning physical characteristics that help plants and animals survive (DOK 1-3)</p> <p>Math Standard 4.2a- Students can measure lengths indirectly and by iterating length units.</p>
Learning Objectives	<p>Students will be able to list and identify the 4 basic needs of animals as living things by learning a song and recording the animal needs in the form of a venn diagram.</p> <p>Students will be able to identify the common needs among both plants and animals by interpreting the class venn diagram, and listing the common needs.</p> <p>Students will be able to make scientific observations of their plants growth using scientific strategies such as: forming hypotheses, drawing detailed illustrations with labels, describing and recording results, and using relevant vocabulary.</p>
Materials	<p>animal needs t-chart</p> <p>markers</p> <p>elephant article and comprehension worksheet</p> <p>pencils</p> <p>student observation journals</p>

<p>Procedure</p>	<p>Anticipatory set:</p> <ul style="list-style-type: none"> - Students will observe and measure their plant growth. They will be asked to “measure” the plant growth by marking the plant height on their page with every observation day. - Students will be asked to write one sentence to describe changes that they have observed in their plants, and to make a “hypothesis” for the next observation time. (On DAY 3 page) <p>Lesson:</p> <ul style="list-style-type: none"> - As a class, students will be asked to brainstorm ideas about what they think most animals may need and where animals could live. The teacher will record these names and ideas on the white board, and then introduce the vocabulary word “habitat” and “animal needs” as labels for each brainstormed list. - Each student will then receive a first grade level Elephant article about how an elephant uses its trunk to fulfill its basic needs. Students will follow along with the text as the teacher reads the article aloud. - Students will then review the main concepts in a whole class T Chart, brainstorming what we found that elephants Eat, Drink, and where they Live. - Students will then individually answer a writing prompt that asks them to use evidence from the article to explain why an elephant’s trunk is so important.
<p>Assessment</p>	<p>Student synthesis of their animal’s need from the article will be today’s formative assessment. Students will be evaluated based on use of detail, accurate scientific words, labels, and clear illustrations.</p>
<p>Closure/ Review</p>	<p>Students will share one of their favorite facts that they learned from their reading with a friend.</p>
<p>Lesson # and Grade Level</p>	<p>LESSON #3 part 2 1st Grade: WHAT DO ANIMALS NEED?</p>

Standards	<p>Science Standard 2.2b- Students can analyze and interpret data about the needs of plants and animals.</p> <p>Science Standard 2.2c- Use direct observations and other evidence to support ideas concerning physical characteristics that help plants and animals survive (DOK 1-3)</p> <p>Math Standard 4.2a- Students can measure lengths indirectly and by iterating length units.</p>
Learning Objectives	<p>Students will be able to list and identify the 4 basic needs of animals as living things by learning a song and recording the animal needs in the form of a venn diagram.</p> <p>Students will be able to identify the common needs among both plants and animals by interpreting the class venn diagram, and listing the common needs.</p> <p>Students will be able to make scientific observations of their plants growth using scientific strategies such as: forming hypotheses, drawing detailed illustrations with labels, describing and recording results, and using relevant vocabulary.</p>
Materials	<p>animal needs t-chart markers koala article and comprehension worksheet pencils student observation journals animal needs page</p>

<p>Procedure</p>	<p>Anticipatory set:</p> <ul style="list-style-type: none"> - Students will observe and measure their plant growth. They will be asked to “measure” the plant growth by marking the plant height on their page with every observation day. - Students will be asked to write one sentence to describe changes that they have observed in their plants, and to make a “hypothesis” for the next observation time. (On DAY 4 page) <p>Lesson:</p> <ul style="list-style-type: none"> - Students will read an article about Koalas that explains what they eat, drink, and where they live. Students will then be asked to brainstorm what koalas eat, drink, and where they live... The teacher will then add these ideas to the otherside of the elephant Tchart to allow for comparison to what we learned about elephants. - Students will respond to a prompt about what Koalas eat and drink, explaining that the majority of a koala’s nutrition comes from eucalyptus leaves. - Students will complete the sentence: Animals are _____ things that need _____, _____, _____ and _____. (Living, food, water, shelter, air)
<p>Assessment</p>	<p>Students will be asked to write a sentence summarizing the key needs of animals (described above), showing their understanding of these universal animal needs. Students should be able to complete this entire sentence accurately, spelling all key vocabulary correctly. This will be today’s formative assessment.</p>
<p>Closure/ Review</p>	<p>If time allows, students will be asked to share about whether they think that they have the same needs as animals or not.</p>

Lesson # and Grade Level	<p>LESSON #4 part I</p> <p>1st Grade: PARENTS AND OFFSPRING</p>
Standards	<p>Standard 2.2a- Students can identify organisms and use evidence based scientific explanations for classifying them into groups.</p> <p>Science Standard 2.2b- Students can analyze and interpret data about the needs of plants and animals.</p> <p>Science Standard 2.1a- Use evidence to analyze similarities and differences between parents and offspring in a variety of organisms including both plants and animals (DOK 1-2)</p> <p>Science Standard 2.1d- Interpret information represented in pictures, illustrations, and simple charts (DOK 1-2)</p> <p>Math Standard 4.2a- Students can measure lengths indirectly and by iterating length units.</p>
Learning Objectives	<p>Students will be able to match the parents and offspring of a wide variety of plants and animals based on their parts, and the basic needs that can be interpreted from the images provided to them.</p> <p>Students will be able to explain their reasoning and provide evidence for how they choose to match each parent and offspring.</p> <p>Students will be able to make scientific observations of their plants growth using scientific strategies such as: forming hypotheses, drawing detailed illustrations with labels, describing and recording results, and using relevant vocabulary.</p>
Materials	<p>offspring matching page</p> <p>pencils</p> <p>student observation journals</p>

<p>Procedure</p>	<p>Anticipatory set:</p> <ul style="list-style-type: none"> - Students will observe and measure their plant growth. They will be asked to “measure” the plant growth by marking the plant height on their page with every observation day. - Students will be asked to write one sentence to describe changes that they have observed in their plants, and to make a “hypothesis” for the next observation time. (On DAY 5 page) <p>Lesson:</p> <ul style="list-style-type: none"> - Students will be given a paper with 5 offspring on one side, and 5 corresponding parents (in the wrong order) on the other side. Students will then be asked to draw lines matching the correct parent to its offspring. - Students will then be asked to choose one set of parent/ offspring and write a sentence explaining why they think that they belong together.
<p>Assessment</p>	<p>This students will be assessed through today’s formative assessment of completing the sentence explaining their reasoning for why they matched the correpsonding offspring and parent.</p>
<p>Closure/ Review</p>	<p>Students will be paired up and check their work with one another to see if both partners came up with the same matches or not.</p>

<p>Lesson # and Grade Level</p>	<p>LESSON #4 part 2 1st Grade: PARENTS AND OFFSPRING</p>
<p>Standards</p>	<p>Standard 2.2a- Students can identify organisms and use evidence based scientific explanations for classifying them into groups.</p> <p>Science Standard 2.2b- Students can analyze and interpret data about the needs of plants and animals.</p> <p>Science Standard 2.1a- Use evidence to analyze similarities and differences between parents and offspring in a variety of organisms including both plants and animals (DOK 1-2)</p> <p>Science Standard 2.1d- Interpret information represented in pictures, illustrations, and simple charts (DOK 1-2)</p> <p>Math Standard 4.2a- Students can measure lengths indirectly and by iterating length units.</p>

Learning Objectives	<p>Students will be able to match the parents and offspring of a wide variety of plants and animals based on their parts, and the basic needs that can be interpreted from the images provided to them.</p> <p>Students will be able to explain their reasoning and provide evidence for how they choose to match each parent and offspring.</p> <p>Students will be able to make scientific observations of their plants growth using scientific strategies such as: forming hypotheses, drawing detailed illustrations with labels, describing and recording results, and using relevant vocabulary.</p>
Materials	<p>parent/offspring cards habitat vocabulary, animal vocabulary cards “all about me” animal page student observation journals</p>
Procedure	<p>Anticipatory set:</p> <ul style="list-style-type: none"> - Students will observe and measure their plant growth. They will be asked to “measure” the plant growth by marking the plant height on their page with every observation day. - Students will be asked to write one sentence to describe changes that they have observed in their plants, and to make a “hypothesis” for the next observation time. (On DAY 5 page) <p>Lesson:</p> <ul style="list-style-type: none"> - Students will be given each be given a card with an image of either a parent or an offspring. Students will then be asked to find their match among their classmates. Once students have found their pair (parent-offspring), they will be asked to sit with their partner. - Once the entire class has been matched students will share their matches. - Any matches that seem to be contraversial will then be focused on with the entire class by creating a “similarities and differences” table about both animals, and to review that while often times offspring and parents have many similarities, sometimes they change and develop a lot over their lifetime and it makes it harder to match. (lead in to tomorrows lesson!) <p>Extension: Give students a paper called “All About Me”, and have students pretend that they are the animal that they have been assigned, and thus imagine which habitat their animal would belong to and justify why.</p>
Assessment	<p>The teacher will watch and listen as students try to find their matches, and ask students to justify their matches with scientific evidence and reasoning.</p>
Closure/ Review	<p>Students will be asked to share about whether they look like their parents or not, and whether this activity would be hard if we used the kids in our class and their parents instead of animals.</p>

Lesson # and Grade Level	<h1>LESSON #5 part I</h1> <h2>1st Grade: LIFE CYCLES</h2>
Standards	<p>Standard 2.2a- Students can identify organisms and use evidence based scientific explanations for classifying them into groups.</p> <p>Science Standard 2.2b- Students can analyze and interpret data about the needs of plants and animals.</p> <p>Science Standard 2.1a- Use evidence to analyze similarities and differences between parents and offspring in a variety of organisms including both plants and animals (DOK 1-2)</p> <p>Science Standard 2.1d- Interpret information represented in pictures, illustrations, and simple charts (DOK 1-2)</p> <p>Math Standard 4.2a- Students can measure lengths indirectly and by iterating length units.</p>
Learning Objectives	<p>Students will understand that all living things go through life cycles that include growing and developing, through the illustrating and labeling of a butterfly's life cycle.</p> <p>Students will be able to make scientific observations of their plants growth using scientific strategies such as: forming hypotheses, drawing detailed illustrations with labels, describing and recording results, and using relevant vocabulary.</p>
Materials	<p>Life cycle of a butterfly booklet life cycle of a butterfly foldable and worksheet student observation journals crayons scissors glue</p>

Procedure	<p>Anticipatory set:</p> <ul style="list-style-type: none"> - Students will observe and measure their plant growth. They will be asked to “measure” the plant growth by marking the plant height on their page with every observation day. - Students will be asked to write one sentence to describe changes that they have observed in their plants, and to make a “hypothesis” for the next observation time. (On DAY 6 page) <p>Lesson:</p> <ul style="list-style-type: none"> - As a class students will read a BOOK--- about the life cycle of a butterfly. - Students will then be asked to create a foldable explaining the life cycle of the butterfly from the information found in the book we read as a class.
Assessment	Students will create a life cycle of a butterfly foldable that will demonstrate their understanding of a life cycle, and how plants and animals grow and change through their lives.
Closure/ Review	Students will be asked if humans have a life cycle. If time permits, students could brainstorm ideas for what the human life cycle includes through illustrating their ideas.

Lesson # and Grade Level	<h1>LESSON #5 part 2</h1> <h2>1st Grade: LIFE CYCLES</h2>
Standards	<p>Standard 2.2a- Students can identify organisms and use evidence based scientific explanations for classifying them into groups.</p> <p>Science Standard 2.2b- Students can analyze and interpret data about the needs of plants and animals.</p> <p>Science Standard 2.1a- Use evidence to analyze similarities and differences between parents and offspring in a variety of organisms including both plants and animals (DOK 1-2)</p> <p>Science Standard 2.1d- Interpret information represented in pictures, illustrations, and simple charts (DOK 1-2)</p> <p>Math Standard 4.2a- Students can measure lengths indirectly and by iterating length units.</p>

Learning Objectives	<p>Students will understand that all living things go through life cycles that include growing and developing, through the illustrating and labeling of a butterfly's life cycle.</p> <p>Students will be able to make scientific observations of their plants growth using scientific strategies such as: forming hypotheses, drawing detailed illustrations with labels, describing and recording results, and using relevant vocabulary.</p> <p>Students will apply what they have learned about life cycles, and the observations that they have been making about their own plants in order to create a "life cycle of my plant" diagram.</p>
Materials	<p>life cycle of a plant anchor chart, markers student observation journals plants for observation pencils crayons</p>
Procedure	<p>Anticipatory set:</p> <ul style="list-style-type: none"> - Students will make a final observation of their plant by drawing a picture of what it looks like, and writing a sentence description about changes that they have observed in their plants, and to make a final measurement of their plants to be recorded. (On DAY 7 page) <p>Lesson:</p> <ul style="list-style-type: none"> - Students will share and reflect on their plant's growth and how it has changed over the time we have been observing it. - Students will brainstorm what the life cycle of a plant looks like, as the teacher models creating the "life cycle of a plant diagram" - Students will then be asked to create their own life cycle for their plant based on how their own plant has grown and changed. - Students will write a minimum of two sentences to describe the changes that occurred over the life of their plant. (all of this to be done within their plant observation book)
Assessment	<p>The completion of the student plant observation book will serve as one summative assessment for this entire unit. Additionally, the same pre- assessment will be given to the students at the end of this lesson to measure specific growth and understanding of determining the difference between living and nonliving things and their needs, matching plants and animals to their proper offspring/parents, and drawing the lifecycle of a plant.</p>
Closure/ Review	<p>Students will share what surprised them most about their plant's growth with the class in order to wrap up and discuss some main discoveries from their plant growth observations.</p>

Extension, Modification, and Adaptive Activities

Extension: Many students in the first grade class are fast finishers in comparison to their peers, thus, instead of rushing other students to finish more quickly, or giving the faster students busy work I always planned each lesson with an extension activity or question to write about. A good example of this is with the observation journals that students did quite frequently. Due to the fact that I wanted students to be doing high quality work, I didn't want to rush the other students that were working hard to meet my expectations. Thus, the students that finished more quickly were simply told that not only did they need to make an observation of their plant, draw the picture, measure the plant, and write an observation and prediction; they were also asked to label the parts of the plant that they saw in their own drawing and to include the plant part vocabulary in their observations and predictions. This proved to be an excellent way to extend their learning, while allowing other students to have enough time to complete their task.

Modification: With having such a high population of ELL's in the first grade class being taught, I was constantly having to adjust and modify lessons to be more visual and comprehensible to all students of varying levels. One example of this is when students were learning about the life cycle of a butterfly. While most students could read and understand the vocabulary such as cocoon, chrysalis, butterfly after a simple introduction to the vocabulary, many of the ELL students struggled with these words. Thus, labeling the phases of the butterfly life cycle and making the vocabulary words easily accessible throughout the room was a way I was able to modify the lesson so that the ELL students understood and followed the lesson more successfully. Additionally, once students were asked to get to work I would remind students that if they needed a reminder of vocabulary, they could visit the color coded and graphically organized science word wall board to help them remember how to write or say a vocabulary word.

Adaptation: At the time of the day in which the science unit was being taught, there were two students that were being pulled for RTI about twice a week. These two students were accommodated in their learning often. An example of this is once all of the students had begun to work independently on their life cycle of a butterfly sequencing activity, I had a few of the students in need of some extra support reread the booklet with me, and then “help” me put the cards I had made ahead of time in order instead of having them work independently on a more writing and reading based activity that ultimately had them ordering the butterfly life cycle anyway. Due to the fact that this was a fairly small group, I was able to allow them to feel successful, and still fairly evaluate their progress and understanding of the material.

LESSON #5 part 2

1st Grade: LIFE CYCLES

Standards:

Science Standard 2.1a- Use evidence to analyze similarities and differences between parents and offspring in a variety of organisms including both plants and animals (DOK 1-2)

Science Standard 2.1d- Interpret information represented in pictures, illustrations, and simple charts (DOK 1-2)

Social Studies Standard: 1.1a- Students can arrange life events in chronological order (DOK 1)

Social Studies Standard 1.1d- Students can use words related to time, sequence, and change (DOK 1)

Learning Objectives:

Students will read an informational text at their level, and comprehend what they read in order to use appropriate vocabulary and sequence to describe the life cycle of a plant.

Materials:

Life Cycle of a Plant book (25 copies)

Pencils

Plants for observation and each student's observation journal (for reference)

Life cycle cards

Document camera

Crayons

Flower template

Procedure:

Anticipatory set:

- Students will be asked to share with a partner how their plant has changed over time since we planted them. Students will then be given the opportunity to share their ideas, and encouraged to use vocabulary that they know about plant parts, etc.

Lesson:

- Students will share and reflect on their plant's growth and how it has changed over the time we have been observing it (anticipatory set).
- Students will each receive a "life cycle of a plant" book. Students will be asked to read this book with their partner, and to trace the vocabulary words on every page. (As a class, the vocabulary words will then be added to the word wall board).
- Once students are done reading the life cycle of a plant book, they will brainstorm the main parts in a plant's life cycle (the key vocabulary will be highlighted at this time so that students know how to use the vocabulary in their own work later on).
- As a class, we will briefly order the main parts of a life cycle (using the life cycle plant cards) in order to allow for students to see examples of how a life cycle can be drawn, and which details should be included.
- Students will create their own flower writing and drawing an example for each step in the life cycle of a plant on each petal of their flower. This will be a visual way to emphasize that a cycle is continuous, not just a sequence of events. Additionally, students will be given the opportunity to copy each main vocabulary word on the petal to ensure that they are aware of each word's meaning and spelling.

Extension:

Students will be encouraged to write two sentences describing what they think happens once their plant is completely grown, and how the life CYCLE of their plant will continue on the back of their flower.

Assessment:

Students will be evaluated formatively based on their responses and use of detail in the creation of their own plant life cycle. Students should be able to use key vocabulary to describe and label each of five main steps in their plant's life cycle- seed, sprout, bud,

plant, and fruit, etc.

Closure/ Review:

Students will then be asked to share what steps of the plant cycle they observed in their own plant, and what they did not get to observe, to begin encouraging their thinking about their own plant's life cycle for our next lesson in which they will illustrate their own plant's life cycle.

The actual lesson plan for the observation is included above, as an example of how this lesson was modified on that day based on the specific needs and students (in comparison to the original lesson 5 part 2 in the lesson plan section).

Instructing Students and Supporting Learning

1. Other than what is stated in the lesson plan(s), what occurred immediately prior to and after the lesson that is important to know in order to understand and interpret the interactions between and among your students?

A huge dynamic that plays into the science and social studies lesson time is that the block happens in the last forty minutes of the day, immediately following recess. Often times by this point students are tired and ready to go home, and yet, are usually very energetic for science time! Unfortunately, the students that have not gotten their work done throughout the day get pulled out of the room at this time in order to finish their work before the end of the day. Often this means that students are streaming into the room mid- lesson and need to be caught up with what the whole group is working on or talking about. On my specific observation day, the students had a fairly productive day, and enjoyed a beautiful and sunny recess right before all getting to participate in the science lesson, which meant that the students were absolutely ready to learn. One thing that is consistently happening at the end of the day is that right at 3:20, the bell rings and students think that this means they must immediately begin their end of the day routine, however, during my lesson I intentionally told students (before the bell rang) to keep working after the bell until I said so, so that the classroom wouldn't burst into chaos!

2. In this lesson, how did you further the students' knowledge and skills and engage them intellectually in understanding the subject matter? Provide examples from the lesson to show that you addressed the needs of all students.

Student's knowledge was furthered throughout this lesson by providing students with the necessary repetition in order to help them remember the important aspects of the plant life cycle, and corresponding vocabulary. Additionally, the lesson touched a wide range of learning styles to ensure that all students learning strengths were being met. Students began by reading about the life cycle of a plant, and tracing vocabulary words. Then, students share in their groups about what the main ideas of the reading are. After this, students were asked to work together as a class to order the life cycle sequence cards as a visual representation of the order of the life cycle. Then, students created their own life cycle representation in a creative way on the petals of a flower to represent the circular nature of the "cycle". These activities not only allowed for students to learn in a variety of ways, but this lesson also worked very well for ELLs as they were able to see the life cycle of a plant very

clearly, and visually without relying solely on the informational text, while pairing well with the informational text.

3. Describe the strategies you used to monitor student learning during the lesson as shown. Cite one or two examples of what students said and/or did in the lesson or in assessments related to the lesson that indicated their progress toward meeting curriculum standards at a proficient level of performance.

Throughout the lesson, students engaged in thoughtful discussions with their peers and with me as they answered guided questions. One example would be when students came back together as a whole group after reading their life cycle of a plant booklet in small groups. Students were asked to share with a partner one vocabulary word that they read in the book and what they thought it meant based on their context clues. This allowed me to listen to multiple sets of conversations and clear up any misconceptions students may already have from their reading. Some student responses were, "a new word is scatter, I think it means blow in the wind". While this student was on the right track I was immediately able to evaluate the holes in his understanding, and clear up the meaning and relevance of the word "scatter" intentionally. Additionally, once students got going on their independent work I circulated around the room and was able to check in with students and make sure they understand the main vocabulary words and concepts for each phase of a plant's life cycle.

4. Reflect on your instruction and children's learning, discussing how the instruction and learning reflect your philosophy of how children learn (example – Vygotsky, Piaget, Montessori, constructivism, Skinner, etc.)

As a teacher in first grade, one quickly forms opinions and perspective on how students perceive situations, as well as how they grow and develop most ideally over the course of their schooling. One major concept that is important during my teaching is aligned with Skinner's theory that reinforcement and punishment is large factor in developing behavior. No matter what the situation, students are expected to be on task and being good "classroom citizens", if students are doing well at this, I believe that praising them for their behavior is the best way to ensure that it will happen again, and vis versa for negative behaviors. Additionally, I believe that the weight that I put on knowing and understanding advanced vocabulary words is decently aligned with Vygostky's view of the importance of language in child development. I believe that all too often material is "dumbed down" for younger students. However, in my instruction of this unit I dedicated myself to using words such as "observation", "prediction", "informational text", "offspring", etc. in order to expose students to the vocabulary they will eventually have to know any way. I noticed that often students were intimidated by these longer and more complex words, however, once their meanings were explained the first graders could use them correctly within the correct context effortlessly. Of course, any first grade teacher would be hard pressed to deny Piaget of the concept that child development happens in phases, and especially still at the beginning of the school year, it is incredible how wide and variant student work is

depending on their development and abilities with basic tasks such as even writing their own name, or coloring in the lines.

5. Explain how you scaffold (applying differentiation, modeling, and support of student learning) curriculum, instruction and assessment in ways that contribute to understanding and facilitate students' construction of knowledge.

Scaffolding is carefully used in every lesson taught throughout this unit. Often it appears in the order and format that lessons are designed. I like to start the day by asking the students what they remember from our last time together. Often times this conversation leads right into the current day's lesson. I like to allow students time to brainstorm with a partner whatever ideas or preconceived notions they have about the given topic, then having students share out, I often am able to build off of responses and introduce some main concepts for the day's lesson. Then, students are given the opportunity to discover the material independently (reading with a small group, writing down a main idea they heard, completing a worksheet to the best of their abilities), then, when the class comes back together the main ideas and concepts are repeated. At this point I like to include a visual of either writing down main ideas, or creating motions or signals for big ideas. Finally, students are asked to apply what they have learned to an activity, task, etc.. Students that struggle with applying the activity can often be aided simply by reminding them of the signal, or pointing to a word or picture that triggers their thinking about the given concept. The repetitive nature of a lot of my lessons helps the demographic of ELL and struggling readers to be able to adapt and keep up without having to get caught up in not being able to read fluently. The scope and sequence of the entire unit is designed similarly to how a day's lesson is organized, with one idea building on another all to reach a big main idea. I like to have a "concept of the week" to allow students to track with their understanding, and to mentally categorize vocabulary and main ideas into bigger categories that will ultimately strengthen their understanding.

Resources Used

Teacher Resources

Foss Curriculum
National Geographic Reach Curriculum

Student Resources

Life Cycle of a Plant Reader (Attachment)
Life Cycle of a Butterfly Reader (Attachment)
National Geographic Owl Article
Various original worksheets (Attachment)
Zina, The Wooden Puppet By: Honor Teoudoussia
Parent and Offspring (Zoo Scramble Cards) (Attachment)
Observation Journals (Attachment)

Internet Resources

<https://www.teacherspayteachers.com>
<http://www.readworks.org>
<https://www.youtube.com/watch?v=dUBIQ1fTRzI>

Evaluative Essay

Student #	Pre- Assessment (out of 10 points)	Post Assessment (out of 10 points)	Difference
1	8	6	-2
2	10	9	-1
3	6	8	2
4	7	7	0
5	8	10	2
6 ☆	5	10	5
7	9	9	0
8	7	9	2
9 ☆	6	6	0
10	10	10	0
11 ☆	5	6	1
12	7	9	2
13	9	10	1
14	6	9	3
15	4	10	6
16	5	10	5
17	9	10	1
18	8	8	0
19	9	9	0
20	7	10	2
21	9	10	1

22	7	9	2
23	4	10	6
24 ☆	3	9	6
Average	7	8.9	1.9

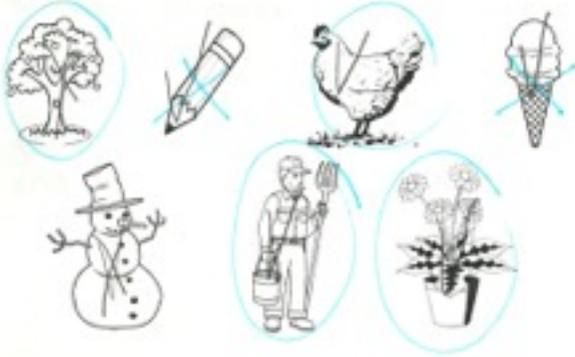
☆ Students whose final grade is weighted for having more than 7 absences during the Science block (due to intervention pull outs, or arriving late in the school year etc.)

4/10

Name

ELL, low in all subjects

Circle the living things. Cross out the non-living things.



Write three things that living things need to stay alive.

1. ~~Water~~ Water
2. ~~Water~~ water
3. ~~et~~ ~~ut~~

Student #15's Pre Assessment (4/10 points)

Circle the living things. Cross out the non-living things.



Write three things that living things need to stay alive.

1. ~~water~~ Water
2. ~~Air~~ Air
3. ~~sun~~ ~~lit~~ sun light

Student #15's Post Assessment (10/10 points)

7/10

Name

average of the class, currently RTI candidate

Circle the living things. Cross out the non-living things.



Write three things that living things need to stay alive.

1. ~~Akah~~ is a ~~length~~ the
2. ~~I think~~
3. ~~X~~

Student #8's Pre Assessment (7/10 points)

9/10

Name

Circle the living things. Cross out the non-living things.



Write three things that living things need to stay alive.

1. Air
2. ~~Wood~~ water
3. ~~life~~ cycle

Student #8's Post Assessment (9/10 points)

9/10

Name _____

★ Circle the living things. Cross out the non-living things.

Write three things that living things need to stay alive:

1. A plant needs food.
2. it also needs water.
3. so it can survive.

Student #13's Pre Assessment (9/10 points)

+10 😊

Name _____

Circle the living things. Cross out the non-living things.

Write three things that living things need to stay alive:

1. Food
2. Water
3. Air

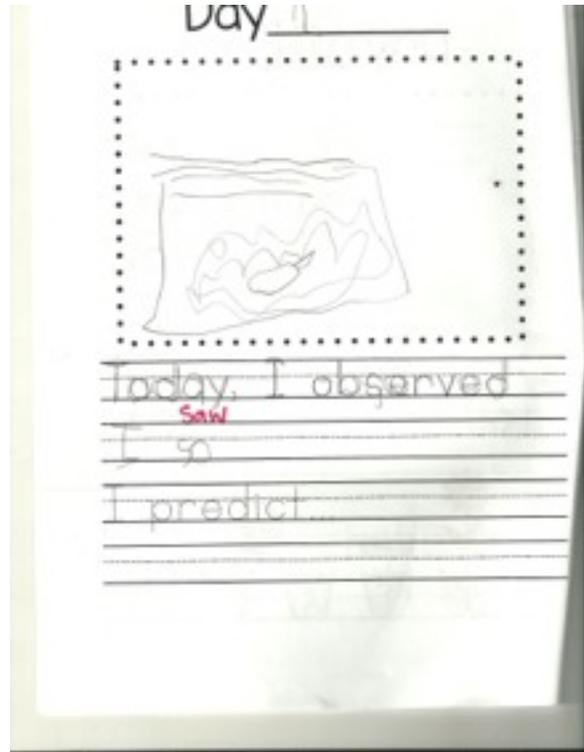
Student #13's Post Assessment (10/10)

Draw a line to match the baby animals to its parent.

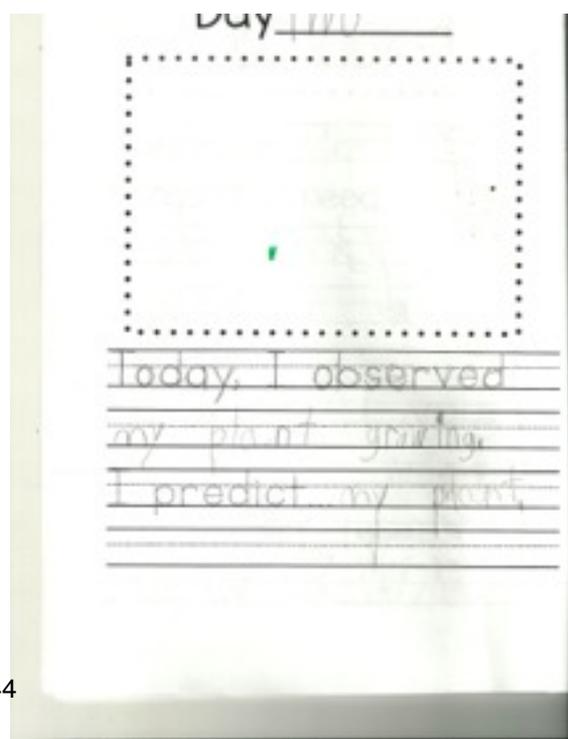
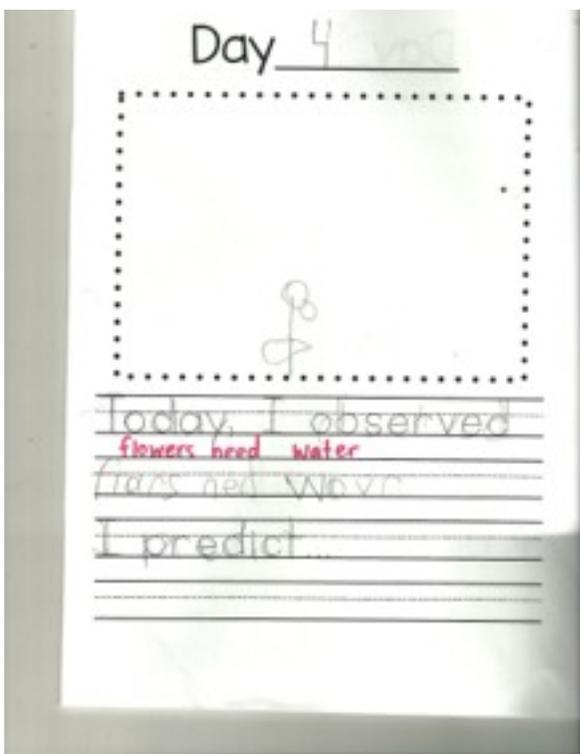
This image is a scanned copy of the back of the pre and post assessment. Most students got this correct on the pre assessment, and so this question did not measure growth and learning on the post assessment, as the other questions of the front side did. Due to the fact that almost everyone completed this side correctly, only three points were given for doing this side completely correctly (originally I had anticipated assigning four points to this side- one to each match of parent and offspring).

Observation Journal Student Work

Unsatisfactory-

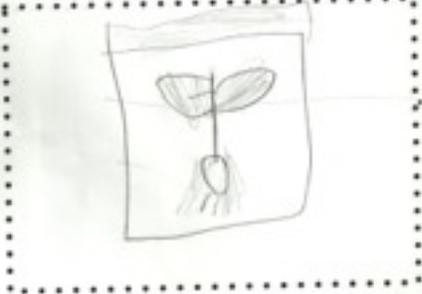


Partially Proficient-



Proficient-

Day three **Grew** 😊



Today, I observed
my plant has a leaf!
I predict it will
have more leaves

Day 3 **Good!**

6 cubes

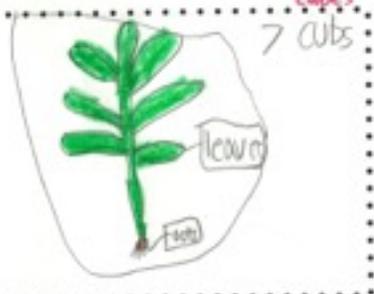


Today, I observed
My plant has leaves,
I predict it is
going to have more
leaves.

Advanced-

Day 3 **Good!**

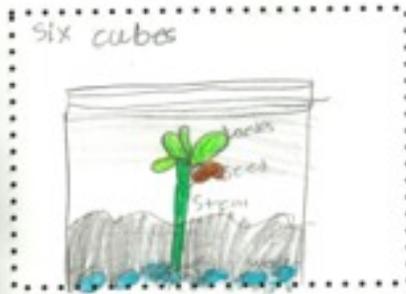
7 cubes



Today, I observed
my plant is growing roots
I predict I think it
will have more roots
would

Day 3 **WOW!**

six cubes



Today, I observed
my plant has leaves
and a stem, you can see the roots
I predict my plant
will be bigger.

Life Cycle of a Plant Student Work



These samples show how work was differentiated throughout the unit. The yellow flower on the left met all of the requirements for the assignment of correctly labeling each phase of the plant cycle. However, the blue flower on the right shows how students who were more advanced were challenged to draw a diagram representing each phase of the plant life cycle. Thus, requiring them to go deeper in their understanding of the life cycle of a plant.

Evaluative Narrative

Student growth and learning over the course of a unit is the target of any lesson and unit. However, as I have quickly discovered, often times formatively evaluating whether students are meeting the standards throughout the unit in a formative way can be challenging and overwhelming with 24 students. In the chart above, one can see the summative assessment score compared to the pre-assessment given on the first day of the unit. This assessment focused on the main first grade life science standards, assessing the following specifically:

Standard 1.1b- Analyze and interpret data regarding the similarities and differences between parents and offspring (DOK 1-2).

Standard 2.2a- Identify organisms and use evidence based scientific explanations for classifying them into groups (DOK 1- 3).

Standard 2.2b- Students can analyze and interpret data about the needs of plants and animals (DOK 1- 2).

Thus, for simplicity, the first section focused on standard 2.2a in which students had to classify things based on whether they were living or non living. For the following section, students were assessed on their understanding of standard 2.2b in which students were asked to list three things that living things need to survive. Finally, students were assessed on standard 1.1b when they were asked to match the offspring to its parent based only on the images presented to them. Of course this assessment is surface level in comparison to what the students learned and covered over the scope of the unit. The most challenging part of this assessment for students (both in the pre- and post- assessment), was the second section in which they were asked to write three needs of living things. I was not surprised by this, as this section required the most reading (of directions) and writing, two things that many ELL students and lower level first graders are not capable of doing independently quite yet.

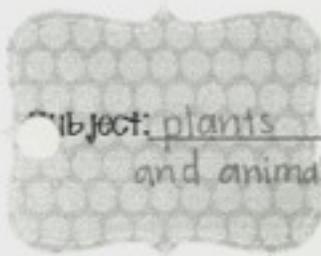
A final note to be made about the assessment scores, is that the first time that students took the assessment, I noticed that already many students had gotten proficient scores, before even beginning the unit. While this is great to know, it allowed me to deepen my

instruction and know that some concepts were already pretty strong with the majority of the class, it didn't prove to work very well as a summative assessment at the end of the unit, as students who had already scored highly didn't demonstrate any growth (according to the numbers of the test). For this reason, I am also including a scanned copy of my grade book for this unit in which I scored all formative assignments as well. These formative assignments do not factor into anything, other than for me to see the actual growth that occurred over the course of the unit with students that I knew would show little growth on the summative assessment (due to little room for improvement). In hindsight, I would make the assessment significantly more challenging, and representative of the vast amount of material covered in this unit in order to allow for students to show more significant growth over the course of the unit.

With this said, student growth is still evident through the pre- and post- assessment scores. The pre-assessment average score was a 7/10 (70%), and after the unit, students scored an average of 8.9/10 (89%). According to the first grade grading rubric at Gilcrest Elementary School, this means that the average score moved from a "Partially Proficient" score, to a "Proficient/Advanced" score. As stated previously, the most growth was seen in the middle section of the assessment in which students were asked to write three things that living things needed. In the post assessment, students were at least able to sound out the words for this section, and as they were familiar with the vocabulary words, they knew right away how to answer the question. Due to the worksheets, songs, and repetition of how we learned the needs of living things, most students actually even listed the three things that living things need in the same order as the song that we learned.

Additionally, many of the ELL students and RTI students that require extra support from other interventionists in the building are often pulled during the time in which science and social studies are being taught (including this unit). Thus, many of the students that would have needed the extra support and repetition with the materials missed this time in the week more than half of the time. These students are noted with stars on the chart above, however, it can be noted that even with missing the class time that some of those students did, they almost all improved more than the average improvement rate.

As a class we were able to dive more deeply into the specific needs and life cycle of a plant, as we observed it first hand with the student's individual plants. A really significant part of observing the student's plants grow over time, was to also introduce the concept of recording observations, measuring growth, and making predictions about the plants. This was a brand new concept to the students, and while many of them are still working on what a sentence looks like, the majority of the students were able to meet the expectations after practicing 1-2 observations and receiving feedback to guide them more specifically into improving their own writing. Many of the formative checks were pointed at whether students were able to meet the expectations of an observation journal or not. Additionally, many of these formative checks were focused around whether students grasped the main idea of the day's lesson by completing a given worksheet, answering a question in class, or participating in a group discussion or activity.



Subject: plants and animals

Date:

#	Student Name:	Pre Assessment	Is it Alive?	living/non living	3 plant needs	observation 1	observation 2	observation 3	observation 4	Total Observ. Jour.	plant parts	kaala act.	Elephant act.	parent/offspring	Animal needs	Butterfly life cycle	Plant life cycle	Human needs	Butterfly Pre-	Post Assessment	Total Grade	% Grade
		10	3	3	✓	3	3	3	3	12	✓	3	3	3	3	3	3	3	✓	10	59	
1	Alex H.	8	3	3	✓	2	0	2	2	6	✓	2	2	2	3	3	3	3	✓	6	44	88 P
2	Alley W.	10	3	2	✓	3	3	3	3	12	✓	/	2	/	/	3	3	3	✓	9	47	94 A
3	Angel C.	6	3	3	✓	3	3	3	3	12	✓	3	2	3	/	3	3	/	/	8	46	92 A
4	Jayla T.	7	3	2	✓	3	2	3	3	11	✓	/	1	2	3	/	3	3	/	7	42	84 P
5	Cameron G.	8	3	2	/	2	3	3	3	11	/	3	3	2	/	3	3	3	✓	10	51	102 A
6	Jayleen K.	/	3	2	/	0	2	0	0	2	/	/	/	1	/	/	0	/	/	10	18	49 U *
7	David T.	9	2	3	✓	3	2	2	2	9	✓	3	1	1	/	3	3	3	✓	9	46	92 A
8	Kirra T.	7	/	2	/	3	1	2	3	9	✓	2	1	3	3	2	3	3	✓	9	44	88 P
9	Eliseo C.	6	/	/	/	0	0	0	1	1	/	1	/	1	/	/	2	/	/	6	17	45 U *
10	Raelene P.	10	3	3	✓	3	3	3	3	12	✓	/	2	3	3	3	3	3	✓	10	55	110 A
11	Emiliano T.	5	/	/	/	0	2	2	0	4	✓	2	/	3	/	/	2	2	/	6	24	64 U *
12	Zaira S.	7	2	2	✓	3	1	3	3	10	✓	2	1	/	/	3	3	2	✓	9	41	82 P
13	Isaac G.	9	3	2	✓	3	2	3	3	11	✓	/	1	2	2	3	3	3	✓	10	49	98 A
14	Joel P.	6	3	2	✓	2	2	3	3	10	✓	/	2	2	3	2	3	3	✓	9	45	90 A
15	Jovanni M.	4	2	3	✓	3	1	2	2	8	✓	/	/	2	2	2	3	3	✓	10	39	78 PP
16	Juan C.	5	3	3	✓	3	2	0	3	8	✓	3	/	/	/	2	3	2	✓	10	39	78 PP
17	Liam V.	9	3	3	✓	3	3	3	3	12	✓	/	3	3	3	/	3	3	✓	10	52	104 A
18	Livan S.	8	/	/	✓	3	2	2	3	10	✓	3	2	2	3	3	3	3	✓	8	45	90 A
19	Quentin K.	9	3	3	✓	3	1	3	3	10	✓	/	3	3	3	3	3	3	✓	9	52	104 A
20	Tayven J.	7	3	3	✓	3	3	3	3	12	✓	3	/	2	/	3	3	3	✓	10	49	98 A
21	Tristan B.	9	2	2	✓	3	0	3	3	9	✓	3	3	3	2	3	3	3	✓	10	52	104 A
22	Zach B.	7	3	3	✓	3	1	3	3	10	✓	3	/	2	3	2	3	/	/	9	45	90 A
23	Dayton H.	4	/	/	/	0	0	0	2	2	✓	1	1	2	2	/	3	2	✓	10	27	54 U
24	Antonio C.	/	/	/	/	/	/	2	3	5	/	2	2	3	1	/	2	/	/	9	24	64 U *

90 A

80 P

70 PP

60 U

AVG: 83%

* = weighted (out of 37)

Reflective Essay

As with the entire scope of student teaching; writing, teaching, and then evaluating this unit has been a tremendous learning experience. Initially, I expected to learn a lot about my teaching style, and to strengthen many of my teaching practices. However, the biggest surprise came when I realized that I learned more about the standards and the importance of scope and sequence than anything else.

One of the biggest learning moments happened on the first day of teaching the unit, as I gave the pre-test. As it turns out, I had underestimated the background knowledge of many of the students, and so found that many of the students in the class scored highly on the pre-test. While this is encouraging, it has been difficult to track and monitor student learning since then, as they couldn't do anything but match their already high score on the post- assessment. With this said, I relied more heavily on formative assessments to track student progress, which meant that I had to ensure that I was keeping up with formative checks and grading, as well as keeping all activities and work in class completely aligned to the standards, and assessment.

Another big challenge when designing this unit, came when I was given complete control without too many parameters in regards to scope and sequence for where the unit was going. While this is the reality of teaching, I found myself feeling very overwhelmed until I was able to dissect the appropriate standards and delve more deeply into what I wanted the students to know by the end of the unit. Once I had established these learning goals, I was able to assign each learning objective a given amount of time, and thus move forward with planning my lessons on a daily basis, knowing that the scope and sequence of how my lessons would build upon each other and feed into the ultimate learning goals were logical and timely.

In general, I would say that my competence as a teacher is fairly high and that while I still have plenty of growth ahead of me, I know that I am committed to being the best teacher I can be, and am always welcoming feedback. A large part of this that I noticed about myself over the course of this unit, was that even after I had taught a lesson I would still find myself thinking and reviewing what I should have done differently, and even making notes about how to improve my lessons for another time I get to teach the given lesson. I am so grateful to be an educator in a time with so many resources

including the internet, technology, and more literature than we have ever had before. Toward the end of my unit I began to feel more and more confident in throwing in articles and texts from a variety of sources for students to use. However, since having taught this unit I have also found many other resources that I would indubitably include if I was to teach this unit another time.

Over the course of the unit, I was reminded of the importance to tying all material into student's daily lives. While this can be done fairly easily in science, it is still easy to get caught in just requiring students to remember the facts instead of explaining why that is the case. Thus, I worked hard to tell stories that would remind the students of why the given material was important, or using relevant examples that included common schema for students.

Finally, I showed competence as a Colorado Teacher, through my focus and integration of the Performance Based standards (for Colorado Teachers). My science lessons were carefully planned and designed to integrate a high amount of literacy, most of which had to be scaffolded and adapted to the wide range of literate students in the classroom (Standard 1.4- Support reading through oral and written language development including vocabulary development). While a lot of the vocabulary in this unit could have been overwhelming to students, it was made fun by introducing new vocabulary and adding them to the color coded and visually aiding science word wall board. After a word had been added to the word wall, students were then tasked with pointing it out whenever they saw it throughout the unit again! Students were also introduced to the universal concept of measurement by measuring their plant growth throughout the time with their plant (2.1 Develop in students an understanding and use of measurement).

Another tremendous learning point for me was that of making plans for a unit, while also planning lessons for the given day and keeping the day-to-day schedule and happenings in mind (3.1- Design short and long range standards-based instructional plans). Of course, in order to teach a science lesson in which students are able to learn and grow as students, the Colorado Model Content Standards must be met in order to display this. In order to show this growth and achievement, one needs to have a strong understanding of the content standards, and be able to integrate them and focus in on the importance of the key concepts and depth of knowledge of each standard (4.2- Enhance

content instruction through a thorough understanding of all Colorado Model Content Standards).

The list of things that I tried to achieve in this unit could go on and on as I poured so much time and energy into designing this unit with intentionality, and using what I know from my classes and about the children in my classroom. Of course, there is always so much room for growth and improvement. I think that with a better understanding of the time frame I have, and the assessment I would give at the end of the unit, I would have taken the time to stop and look even more deeply at some concepts involving parts of a plant, and their life cycle. However, generally speaking, I am proud of the first graders, and the knowledge that they have acquired over the course of this unit!

