

# **Teacher Work Sample**

Elementary Education  
September 13, 2017

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## 1. Learning Context:

School district: Cache County School District

Name of school: Summit Elementary School

Title 1 school? Yes

Demographics of school: Summit Elementary is located on Center Street in Smithfield, Utah right off of Main Street. The school takes in students from South Western Smithfield (as there are two other elementary schools in Smithfield), as well as all the students to the west and south of the city until you reach Hyde Park, Utah. To further elaborate, Summit takes in students from Benson, Amalga, and southwestern Smithfield. There is very little ethnic diversity in at this elementary school, including my current classroom which consists of all Caucasian students, and 4 Hispanic students, 3 of which receive additional training with an ELL specialist.

Description of school climate:

As a student teacher, I have been pleased with the school climate at Summit. Summit Elementary is a “Leader in Me” school, a popular program I have seen throughout Cache Valley. This means that the students are taught leadership qualities to help them be successful in their academic studies as well as their future lives and pursuits. The students focus on 7 categories: Be Proactive, Begin with the End in Mind, Think Win-Win, Seek First to Understand then to be Understood, Put First things First, Synergize, and Sharpen the Saw. As they focus on each of these qualities individually and as a class learn their meaning, they are able to more fully develop leadership qualities that carry them throughout the rest of their school year and elementary career. As I stated earlier, the ethnic diversity of the school is rather low, but there are students who attend ELL services throughout the day. Most of these students are Hispanic or speak Spanish in the home. Parent and community involvement within Summit Elementary is high, and has a positive effect because it is so. During Parent-Teacher conference, only one student was unaccounted for. All other parents, including Hispanic parents who struggled to speak English, were in attendance, showing their support and dedication to their children. In the particular classroom that I am in, the students have nightly homework that requires a parent to sign, proving the student has done it correctly under supervision. All but 1 or 2 of these students are able to complete these tasks every single day. In addition, I saw with a recent fundraiser entitled “Super Sprint”, that the community was highly involved with these kids. This event was a sponsored race in which the students ran around a track in order to raise money from the community to go toward funding for their school. An after school event that took place on a Friday afternoon, I was skeptical of the attendance. To my surprise, there was an amazing amount of support and the school raised a couple thousand dollars. Academically, the school does well, sitting around average as far as scores reflect among the Cache County school district. I feel that the kids are able to be successful because of the many positive influences surrounding them amongst the staff.

Grade level: 2

Learning environment:

Attendance is high in this classroom. Very seldom is a student absent for more than 2 days. If this is the case, my mentor teacher always contacts the parent of the student and the student is quickly accounted for. One student, Chris, has difficulty making it to school on time. After speaking with his mother, this problem was addressed and he now attends on time each day.

My mentor teacher, Ms. Cheri Israelsen, uses a token economy as her classroom management system. When students are meeting expectations, they earn tickets for their efforts. As expectations are not met, these tickets are lost. At the end of every other week, the students are able to exchange tickets in order to buy prizes. Eventually, these tickets are replaced with pretend money so that the students are able to practice their currency counting ability, a skill needed in 2<sup>nd</sup> grade. What I love about the way Cheri executes this system is that each student who loses tickets always has a chance to re-earn what they have lost.

The students are seated first based on academic achievement (lower students in the front, higher students in the back). The seating is also determined by which students are able to work well in a group. For example, one young girl was moved because she was easily distracted by the talking boys around her. While an excellently behaved and sweet girl, she simply could not focus where she was at, thus seating for her was determined by how she was able to work with the surrounding atmosphere. Another student was having difficulty emotionally adjusting to Summit Elementary (his boundaries had changed, moving him to a new school). Cheri placed him next to another boy with similar personality traits and mannerisms. The two are wonderful friends now and the student, Colter, no longer seems to struggle emotionally as he did in the beginning.

Student engagement is high. Cheri and I use methods to regain attention such as “give me 5”, a signal requiring the students to stop what they are doing and give all attention to the teacher. We also require them to repeat or echo us as often as possible, allowing the students to say and hear the desired learning material. Finally, we ask the students to respond to questions with their partners in order to maintain their attention. Cheri and I have learned that if the students hear, say, write, and see what they are learning they learn the material 90% more efficiently. We strive to use as many senses as possible to maintain student engagement.

Subject matter of lessons: Writing/Science

Total number of students: 27

Students with special needs and short explanation of the needs: Zaydan, Abby, Emmalee, and Krystal are all students who are being closely monitored in their reading ability. Each of these students has very low reading scores, but they are not currently so low that they are being referred to resource or have IEP's. Cheri and I work closely with these 4, and they each seem to be making slow improvements.

With IEPs: Steven and Danika. Each of these students spends a large portion of their day with Kate Kidd, our resource leader. Steven struggles to read and his IEP is focused on his reading ability. Danika struggles in both reading and math, and her IEP is in both of these areas. She leaves the classroom to work intensely one-one in these subject areas each day.

Students who receive speech/language services: Landan, Anya, Airika, Steven, Danika, Lucas. Each of these students works with our speech therapist Aaron Richardson, some for only 10-15 minutes a day. 2<sup>nd</sup> grade has the highest number of students requiring speech services.

English language learners: Chris, Noel, and David all receive language services. I am able to confidently communicate with each one of these boys and feel that they generally understand me. Chris is the only student who seems to struggle to understand me at times, but he is not afraid to ask me what a word means or ask for further explanation. All of these boys speak Spanish in the home.

Gifted and talented: Rhys is our most gifted student. She is incredibly high in all areas. With her, we are pushing her to continue to grow rather than plateau. She reads harder level texts and is able to move at a faster pace in her mathematics. In fact, three students, Whitney, Rhys, and Wilken were all able to do the chapter we are currently studying in mathematics without listening to the lesson each day. This is because they passed the pretest missing 0-2 problems before beginning the chapter. They then are able to work at their own pace and learn more challenging skills while the rest of the class finishes the daily lesson.

Other (e.g., 504 plans--please specify): N/A

Students' prior knowledge for these lessons: In 1<sup>st</sup> grade, they wrote a short piece on the things they had learned about plants in a particular unit. This project was meant more as a display of what they were able to write, but it also displayed some basic knowledge of plants.

Students' background and interest for these lessons: Most students had interest in plants, particularly because they are so relatable. Especially in this fall season, the changing and adapting of the plants is all around them. Many of the surrounding cities that some of these students live in are farm communities. For 2 or 3 students particularly, farming is a major part of their lives. This not only instilled interest, but also a common understanding of plants and how they grow and form.

Understanding the background of these students helped me to make the lesson more interesting for them. Many of these students are curious about the world around them at their young age. Feeding upon these curiosity helped me to build the lesson to interest them and to suit them.

## **2. Focus Students:**

### **Description of student 1- Steven Atkinson**

Steven is one of our students who receives resource instruction in reading. He struggles to read, and thus struggles on assignments that cause him to read or write because of his hesitancy with words and word formation. While he struggles in these particular areas, his zest for learning is still there and he excels in other areas, especially mathematics. He loves to answer questions and be a part of things that he feels he does well at. My hope is to not discourage his excitement for learning even though his reading needs are so intense. His mother seems highly involved in his learning, and was attentive and willing during his parent teacher conference. Steven can be rowdy during lessons at times for one

of two reasons. The first reason is that he doesn't understand and makes up for this by disrupting others. The other reason is that he understands completely and is becoming too excited about the material at hand. Either way, Cheri and I often move his desk so that he is alone right beside us. This helps him to stay focused and we call it his 'personal office'. When it is time to work in his personal office, he knows that it is time to focus on the task at hand and that he has been distracting others. Generally, this solves the problem. If it does not, we often require tickets of him, always providing opportunities for him to gain them back. Overall, Steven is a good student and I enjoy working with him. During phonics and writing lessons, Cheri and I often spend our time helping him to either read the material given, or have him verbally state his response to us. After his verbal response, we prompt him to do the best that he can to write what he has said, even if the spelling isn't perfect.

### **Description of student 2- Whitney Fairy**

Whitney is one of our highest achieving students. She is high in every academic category, but takes a particular liking toward writing. In fact, Whitney has written her own 'chapter book' which she shared with the class just last week. She loves to write and has a creative mind and thought process. Her love for writing drove me to choose her as my focus student because I wanted to see her creative abilities harnessed for this unit. Whitney comes from a very supportive family, all of which attended parent teacher conference (mom, dad, 3 siblings). She works hard and very rarely has to be reminded to refocus or get back on task. Whitney is one of our students who soars in all areas, so I generally try to watch her and make sure that she isn't getting bored. Her love for writing often keeps her busy if she does become bored. I have seen her writing multiple paragraphs about whatever it is we are learning about after she has completed the given task.

### **Lesson Title- Exploration of a Plant Seed**

### **Subject and grade Level- 2<sup>nd</sup> grade Science and Informative Writing**

### **Approximate time**

This lesson will take approximately 30-35 minutes.

### **Rationale for methods**

In my science methods courses, we have always been taught that learning is most likely to take place when the student is involved in the discovery and exploration of that learning. In this lesson, I am attempting to simulate this exploration by having the children each dissect and observe their own seed. Inquiry-based learning is all about the students answering their own questions through exploration. This lesson allows them to explore and find information by hands-on discovery of their questions.

In my writing methods courses, I was taught that the standards never specify how much writing a student should do in each sub discipline, only that they should do 'many'. For this reason, I think it is important to incorporate writing into as many of the lessons as possible, especially in a way that solidifies and sharpens the students understanding as I feel it does in this lesson.

### **Content standards**

Science 2.4.2- Students will gain and understanding of life science through the study of changes in organisms over times and the nature of living things.

A. Communicate and justify how the physical characteristics of living things help them meet their basic needs.

Writing 2.2- Write informative/explanatory texts in which they introduce a topic, use facts and definitions to develop points, and provide a concluding statement or section.

### **Academic language/vocabulary objectives**

1. The students will be required to analyze a lima bean that has been soaked in water over night. After analyzing the seed, they will need to record what they have seen and draw a diagram depicting the seed.
2. Students need to learn 3 content specific terms for this lesson. The students will learn the terms ‘embryo, seed coat, and endosperm’ for this lesson as we talk about all the different parts that make up a seed.

### **Required materials, resources, and technology**

-30 lima beans soaked in water over night (each student will receive their own bean allowing the students to all have the opportunity to gain hands on experience with the task-inquiry based learning)

-paper towels (for easy clean up)

-technology allowing the teacher demonstration to be projected onto the board (this allows the teacher to demonstrate to the students how to open the seed and what to be looking for)

-short video clip entitled “How Does a Seed become a Plant?”

<https://www.youtube.com/watch?v=tkFPyue5X3Q> (This clip gives the students a short and engaging overview of a plant seed, its parts, and its purpose. It also introduces the 3 vocabulary words needed for this lesson)

-small booklet template for each student (This booklet allows the students to write what they learn about seeds/plants each day. Not only does this solidify their understanding, but it ties in a writing standard, allowing each student to be able to write what they have observed and learned)

### **Lesson objectives**

The students will understand the parts of a seed and will be able to **identify how the seed coat and endosperm help the embryo to meet its basic needs**. Standard S2.4.2a

Students will fill out the beginning pages of their “All about Plants” booklets, **explaining what makes up a seed and what the parts uses are**. Standard W2.2

### **Instructional Procedures**

Provide a detailed description of instructions and lesson procedures, including how you will address your academic language and vocabulary objectives. There should be enough detail so that a substitute teacher or a teacher from another subject area should be able to

use this lesson plan to teach this lesson without asking you for additional information or clarification.

Begin lesson by playing short video clip “How does a seed become a Plant?”

*Boys and girls, today we are going to learn all about the different parts of a seed. Just like you and me, seeds need food and shelter to help them stay alive. From the video, we learned all about the parts of the seed. Today, I brought with me some seeds. We are each going to get a chance to explore these seeds, but first I am going to show you how this is done.*

Using the projector, bring swollen lima bean to the overhead and explicitly demonstrate for the students how to dissect the seed.

*Okay boys and girls, you can see that in my hand I have a seed. Now I want to see if I can find all the parts of the seed that the video talked about. We are going to be analyzing the seed, which means that we are exploring it and looking for the different parts that help it survive. Echo “Analyze means to explore” (have students echo or repeat) Good. To open the seed, I need to find the center along the edge and push with my finger nail. As you can see, the seed will easily split open. Let’s look at this little thing right here. (Point to embryo) Who can remember what the video told us this little thing was? (Various student answers) Right, this is called an embryo. Echo “embryo is a baby plant”. (Student echo) Remember how the video told us this was the embryos backpack full of food? (Point to endosperm) Talk to your partner for 10 seconds and see if you remember what the backpack full of food is called. (Time students for 10 seconds) Give me five, does anyone remember? (Student answers) Right. The food for the embryo is called the endosperm. Echo ‘embryo is a baby plant’. (Student echo) Echo ‘Endosperm is its food’. What about this coat that goes around the seed. It’s called a seed coat. In ten seconds, tell your partner what the seed coat does. (Time for 10 seconds) Give me 5, raise your hand if you know. (Student answers) Good! A seed coat is what keeps the seed safe, just like skin on a person. Echo ‘embryo is a baby plant’. (Echo) ‘Endosperm is its food.’ (Echo) ‘Seed coat keeps it safe’ (Echo)*

Begin passing out individual paper towels. After passing out paper towels and giving first instruction, show students on projected screen the first two pages of their informative plant booklet.

*Boys and girls, you have two instructions today. The first instruction is to take apart your seed just like I did and look and see if you can find all the different parts. The second instruction will be to tell me about it. I have little booklets for each of you. The first page looks like this (show on projected screen) you can see that it wants you to draw a picture of everything you see. (Demonstrate drawing the parts of the plant for the students) Then, you need to attach the words on the side to each part (Demonstrate) On page two, it has each of the words we have learned today and a couple of extra lines. In complete sentences, I want you to tell me what each part does. For example, the first word is embryo. You need to tell me what the embryo is! In ten seconds, tell your partner what*

*you would write. (Time students) Who has a good idea? (Student answers) Good. Let's write what [name] said. "An embryo is a baby plant." (Demonstrate) When you are finished analyzing or exploring your seed and you filled out the first two pages of your booklet, Ms. Israelsen and I will check you off.*

Pass out seeds to students. Pass out booklets to student. Monitor students and assist as needed.

Example of Booklet pages one and two:

# The Parts of a Seed

Embryo

Seed coat

Endosperm

- Students are required to draw a picture of each part of the seed and attach the label. This is demonstrated for them in the lesson. (Page 1)

# What is that?

Embryo

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Endosperm

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Seed Coat

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- Students are required to write in a complete sentence what each part is and what it does. We have already listened to, and stated what each part is and what it does. This process is demonstrated for the students, and each must be checked off.  
(Page 2)

## **Adaptations/accommodations**

Gifted Students- I have asked the students who finish early to first color their drawing, and then assist other students. Because they are now experts, they can help those who are still working IF they want help. If they don't want to do this, they are able to work on anything in their yellow folder, a folder that has past assignments they can add to or continue working on.

ELL's- In this lesson I tried to repeat and allow the students to talk as much as possible. Because the vocabulary is new for all of the students, there were not many accommodations I needed to make for just the ELL students. Again, echoing was a key to this lesson as well as writing and explaining words that were new.

IEP students- These two students were asked to give a verbal definition before a written one. Once they could tell me the definition to each word, I helped them to transform this

into a sentence. Cheri and I also made sure that they were able to read each word so that they could correctly label and identify the parts.

### **Assessment**

Assessment is based solely on the correct completion of the first two pages of the student booklet. The students are not allowed to move on until these pages have been checked and a star is given by either Cheri or myself. This method of assessment is one that Cheri and I use commonly because it allows us individual time with each student to gauge what they are and are not understanding. If a student is confused on one or more parts of the plant, we will simply reteach briefly and ask them to give us verbal explanation of the part or parts that they may not have gotten write. Once the pages are complete, the students color their work and work on the assignments in their yellow folder (incomplete work from earlier lessons).

### **Lesson Title- All about Plants: An Overview**

### **Subject and grade Level- 2<sup>nd</sup> Grade Science and Informative Writing**

#### **Approximate time**

This lesson will take approximately 30-35 minutes.

#### **Rationale for methods**

I taught this lesson in this way for a couple of reasons. The first reason is my own personal belief that the more the students DO, the more they will learn. This particular lesson required them to do a lot on their own and to constantly be moving and working to find answers. Inquiry based learning and the scientific method promote exploring and researching to find answers. I felt that constructing this group research endeavor that I helped to promote those skills. This also helped to give gradual release to the students and allowed them an extra chance to practice leadership, a skill they are learning throughout each year at Summit Elementary.

#### **Content standards**

Science- 2.4.2 B Observe, record, and compare how the behaviors and reactions of living things help them meet their basic needs.

Writing- W.2.7 Participate in shared research and writing projects.

#### **Academic language/vocabulary objectives**

1. Students will evaluate and summarize the material they are given into 3 different methods. After reading and evaluating the material, one student will write a response, one student will draw a diagram of the response, and one-two students will present the answer to the class.
2. For this lesson, the specific vocabulary being introduced to the students is pollen and summarize. I will use the term summarize multiple times reminding the kids what this

term entails. The students will also have a chance to listen to, read, write, and verbalize what words like ‘pollen’ mean.

### **Required materials, resources, and technology**

- 5 copies of National Geographic’s “Seed to Plant” by Kristin Baird Rattini (each group will have access to a copy of this book as well as their groups assigned pages to evaluate and summarize)
- Worksheet that has a group question as well as guided thoughts to demonstrate answer (this sheet will provide the students the needed direction to organize their thoughts in order to coherently present them to the audience-their peers)
- Pre-determined group assignments (in order to accommodate for all students, I want to make assignments in the group based upon personal ability and where the student would feel most comfortable)
- Student booklet from previous lesson (this booklet, used throughout the unit, helps the students to solidify their understanding, and have a chance to fulfill one of their many experiences with explanatory writing)

### **Lesson objectives**

Students are able to **recognize and answer questions such as: What is pollen? How do plants spread their seeds?, What are the parts of the plant?, What do plants need to survive?, How do plants get food?** By becoming experts on one of these questions, and using their peer experts to help them answer the remaining 4. S2.4.2B

Students **work in teams of 4-6 to research and answer questions, then sharing this knowledge to complete a writing project.** W2.7

### **Instructional Procedures**

*Class, today we get to become experts. An expert is something who knows everything there is to know about a certain question or thing. We are going to do this by evaluating a book, or reading and looking at the pictures in that book, and then summarizing what we know. Summarizing what we know means to tell me what you learned in your own words. Here is how this will work. Each team will have a book and a question that they need to answer. In your team, you will have a special job. If you are a reader, it is your job to read the pages on your question to your group. If you are the writer, you will write the answer on your piece of paper in a complete sentence. If you are the artist, it is your job to draw a picture of the answer. If you are a presenter, when we come back to the rug, you will get to present what your team learned and became EXPERTS on. Now, there is a very special job called team leader. This person’s job is to make sure that their team is on task and working hard. It’s their job to make sure that everyone is working hard and being the people I need you to be.*

Show paper and roughly demonstrate the process to the students.

Ex. of Expert Research Worksheet

Turn to pages 3 and 4. What are the parts of the plant?

Write a sentence (writer)

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Draw a Picture (Artist)

Practice your Presentation (Presenters)

Make sure you know what you are going to say. If you need to, you can write it down.

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*Now boys and girls, I am going to give you about 10 minutes to work with your team to fill out this research worksheet and become experts on your question. Remember that even if you are the reader, you need to be an expert too. Even if you are the team leader, it is your job to make sure you are an expert as well. Raise your hand if you are going to be an expert. (All students should raise their hands)*

Give students pre-determined group assignments

Team 1- Landan (Reader), Danika (Presenter), Noel (Team Leader), Tyvan (Presenter), Allie (Writer), Airka (Artist)

Team 2- Steven (Team Leader), David (Presenter), Krystal (Artist), Abby (Writer), Emmalee (Presenter), Layton (Reader)

Team 3- Brinnley (Artist), Zaydan (Presenter), Anya (Presenter), Marshall (Reader), Chris (Writer), Braelynn (Team Leader)

Team 4- Wilken (Presenter), Rachel (Artist), Sophie (Writer), Sammi (Reader)

Team 5 – Rhys (Reader), Whitney (Writer), Kennly (Artist), Lucas (Presenter), Colter (Team Leader), Duke (Presenter)

Students are given roughly 10 minutes to work as a team researching their given question. The teacher(s) monitor the students and ask each individually for responses throughout that time as well as offering assistance to those who need it.

Remind students when they have only 2 minutes left, again at 1 minute, and again at 30 seconds. Ask students to turn in group research papers to you and meet at the rug.

*Class, I am so impressed. We have so many experts in the room who were able to take a book and evaluate it, or look at all the words and pictures. Then those experts summarized what they learned and put it in their own words. Boys and girls, say we are experts (Student echo) let's start with question number one. If you were the presenters on team number one, please come up. (Wait for students to come up) Question number one asks, 'How do plants spread their seeds?' Danika and Tyvan, can you tell us, 'How do plants spread their seeds?' (Allow student response) Great! I love that answer. So Danika and Tyvan just told us that plants spread their seeds lots of ways. Sometimes birds carry the seeds, sometimes the winds move the seeds, and even people move the seeds. Let's give Team 1 a round of applause. (Applaud)*

Repeat this process for each of the 5 groups. Each group should have a chance to present their material. If the question is not quite met, or needs to be rephrased, subtly restate what the student(s) said or should have said.

*Boys and girls, now that we have listened to all of our experts, we have a big task at hand. Remember our booklets that we started working on yesterday? We need to fill out 3 pages today! Each page asks the same questions that we researched as teams today (Display booklet) You will need to fill out each of these questions using complete sentences but it might be hard to remember all of the answers. But guess what? We have experts all around the room. What if I get to question 3 and I can't remember the answer. Well I know that team 3 had question 3, so I can go to any of the experts in team 3 and ask them what the answer is. If I am on team 5, then maybe someone will come and ask me for the answer to number 5 because I am the expert!*

Demonstrate for the students by walking around the classroom how this assignment is to be done. For example, role play not knowing an answer and finding an expert for help.

Give students 7-10 minutes to complete this assignment.

Ex. of booklet pages 3-5

What are the parts of a plant?

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What do plants need to survive?

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- This is page 3. Students will be required to fill this page out in a complete sentence. Demonstration is given.

How do plants make food?

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How do plants spread their seeds?

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- This is page 4. Students will be required to fill this page out in a complete sentence. Demonstration is given.

What is pollen?

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- This is page 5. Students will be required to fill this page out in a complete sentence. Demonstration is given.

### **Adaptations/accommodations**

Gifted Learners- I tried to give optimal opportunity for the gifted learners to be able to shine and help their peers for this lesson. All the students are required to teach and help their peers, but this is an opportunity for the gifted students to develop that talent especially as they work as a team to help guide others. I also crafted this assignment so that the students who needed extra support had the resources, but the students who did not were able to finish earlier on their own and assist others.

ELL's- Because all the students are working in a group, the ELL students are highly supported by repetition and team building. Chris, who struggles most to understand, was assigned as a writer. I did this because he has outstanding penmanship and it offered him a chance to physically display what he was learning. While he needs assistance, he is not afraid to ask for help and works well in a group.

IEP students- The two students who struggle to read (Steven and Danika) had special assignments in their groups. I asked Danika to be a presenter, not only because she and Tyvan are wonderful friends, but also because it allowed her the chance to verbalize the thoughts that she had. Steven was asked to be a team leader because I was experimenting with the idea that maybe Steven would be able to focus if he was put in a leadership position rather than being directed all the time. This kind of worked, but I think in the future Steven will need more explicit instruction before trying to take on this role again.

Overall, all students were accommodated with the group assignments that I made. These assignments were thoughtful and specific dependent on students' interest, ability, and comfort level. For example, those assigned to reader were those I knew would not feel humiliated or nervous reading to peers. Those assigned as presenters were either lower readers who needed to verbalize their thoughts, or confident students who would not buckle under so many eyes.

### **Assessment**

Assessment for this lesson takes place at a variety of times. First, an informal assessment is given all throughout the student's group work time. I will be questioning the students and monitoring how well they are understanding the given task. Next, another informal evaluation is given when the students present what they have done in their groups. This assessment is made by how well the presenters are able to articulate what the group found, as well as the completion of the template given to assist them in their research. Finally, the formal assessment is given through the completion of pages 3-5 in their booklets. These written sentences fulfill the writing standard for this lesson and show whether the students were able to understand the concepts or not. It also provides me with evidence as to whether the students understand how to collect data when they don't know the answer. This booklet is the formal assessment for the entire unit, but is also used at the end of each individual lesson.

### **Lesson Title- Introduction to Plant Adaptations**

### **Subject and grade Level- 2<sup>nd</sup> Grade Science and Informative Writing**

### **Approximate time**

30-35 minutes

### **Rationale for methods**

I tried to form this lesson in an inquiry-based style, because I have learned that the children retain the information much more deeply if they are able to engage their minds to help them understand a problem or question. This lesson was adapted to be a full class discussion because I believe that it facilitated an opportunity for the class to share their thoughts and work with their peers without leaving them without any direction. This lesson also includes a lot of explicit instruction, just because the topic is so broad that I want to help redirect the kids so that they aren't getting misconceptions about what ideas they have had are true and what are not.

### **Content standards**

Science 2.4.2 B- Observe, record, and compare how the behaviors and reactions of living things help them meet their basic needs.

Writing 2.2- Write informative/explanatory texts in which they introduce a topic, use facts and definitions to develop points, and provide a concluding statement or section.

### **Academic language/vocabulary objectives**

1. The students will analyze and evaluate different plants, what makes them unique, and why those unique features are likely present.
2. Students will also learn the term 'adaptation' in relation to the way that a plant is surviving within its habitat.

### **Required materials, resources, and technology**

-PowerPoint presentation showing 5 slides of different plants in different environments. (This presentation is used to engage the students in a group discussion about the given plants and their unique features. I will pose the same 3 questions for each plant, “What do you think the weather is like where this plant lives? What makes this plant unique or different from other plants you have seen? Why do you think that this plant has that unique or different feature?”)

-Book “Amazing Plant Powers” by Loreen Leedy and Andrew Shuerger (This book will be use after the group discussion to further solidify the discussion and help the students explore and learn about even more plant adaptations)

-Individual booklets (Attempting to push the kids to the highest level in Bloom’s taxonomy, students will create their own plant that could live outside in the field. They will be required to tell me what adaptation it has that gives it the ability to survive in the hot summer, during the snowy winter, or both. This they will draw and explain in 3-4 sentences, thus fulfilling the writing standard which asks them to inform or explain something to the reader)

### **Lesson objectives**

Students should have a beginning understanding of plant adaptations and how plants change to **meet their basic needs**. S2.4.2B

Students will be able to create their own plant and **explain to the reader** the adaptations needed for the plant to survive in Utah. W2.2

### **Instructional Procedures**





Above are the pictures to be displayed during the introductory slide show. Each picture shows a unique plant displaying an adaptation needed for the habitat it is currently in. The students will be lead in a facilitated discussion because many of the concepts in this lesson are unknown to the children and need to be explicitly taught. The lesson is formatted in this way to hopefully allow the children time to productively think and maintain an inquiry based lesson format.

*Slide 1: Boys and girls, take a look at this plant. In 5 seconds, I want you to tell your partner what you think the weather is like outside where this plant is living. (Give students 5 seconds, call for attention) Can anyone tell me what you discussed with your partner? (Student answer) So [Name] said that this plant lives in the desert because it is a cactus and cacti live in the desert. The desert is hot. Give me a thumbs up if you agree with [Name]. (Wait for student response) I agree. (On the board, make enough space for 5 boxes. In the first box, begin recording what you and students are learning from your discussion) Class, what makes this plant special or different from other plants? Tell your partner. Ready, go. (Talk with partner, student attention) I'd like to hear what some of you talked about. (Call on students, there will likely be various student answers. Record all answers, but look specifically for **spikes on the cactus**) Class, you have a lot of really*

great ideas. I want to talk about this one specifically (point to 'spikes' written on the board) Why do you think that cacti have spikes? Tell your partner, go. (Talk with partner, student attention) What did you come up with? (Student answer. Depending on student response, elaborate or clarify what the student has said.) Wow, [Name] just told us that they think the spikes protect the cactus. That is absolutely right! A cactus stores water in its thick body. Since there is not very much water in the desert, it needs to have spikes around it to make sure that other animals can't come and break it open to get the water out. These spikes are an adaptation that protect it from other animals. An adaptation is something that helps the plant survive. Great! Let's look at another amazing plant.

Slide 2: Boys and girls, take a look at this plant. In 5 seconds, I want you to tell your partner what you think the weather is like outside where this plant is living. (Give students 5 seconds, call for attention) Can anyone tell me what you discussed with your partner? (Student answer) So [Name] said that this plant lives in the rainforest because they saw it on a movie once. Good catch! Then they said that the rainforest is rainy. That's true! The rainforest is also hot and muggy, kind of the way you feel if you sit in a hot tub for a long time. (In the second box, begin recording what you and students are learning from your discussion) Class, what makes this plant special or different from other plants? Tell your partner. Ready, go. (Talk with partner, student attention) I'd like to hear what some of you talked about. (Call on students, there will likely be various student answers. Record all answers, but look specifically for **spikes and something that looks like a mouth**) Class, you have a lot of really great ideas. I want to talk about this one specifically (point to 'spikes and something that looks like a mouth' written on the board) Why do you think that this plant looks like this? Tell your partner, go. (Talk with partner, student attention) What did you come up with? (Student answer. Depending on student response, elaborate or clarify what the student has said.) Wow, [Name] just told us that they think the spikes protect the plant, just like they did the cactus. That is a really good guess, but these spikes actually do a different job. This plant is called a Venus Fly trap. When a fly or other little bug sits inside of the plants mouth, the mouth closes and the spikes trap the fly. This adaptation helps the plant to get its food. An adaptation is something that helps the plants survive. Great! Let's look at another amazing plant.

Slide 3: Boys and girls, take a look at this plant. In 5 seconds, I want you to tell your partner what you think the weather is like outside where this plant is living. (Give students 5 seconds, call for attention) Can anyone tell me what you discussed with your partner? (Student answer) So [Name] said that this plant lives in the water because they can see water around it. You're exactly right! Then they said its probably just normal weather. I agree, not too hot, not too cold. (In the third box, begin recording what you and students are learning from your discussion) Class, what makes this plant special or different from other plants? Tell your partner. Ready, go. (Talk with partner, student attention) I'd like to hear what some of you talked about. (Call on students, there will likely be various student answers. Record all answers, but look specifically for **it can float on the water**) Class, you have a lot of really great ideas. I want to talk about this one specifically (point to 'floats on water' written on the board) Why do you think that this plant can do this? Tell your partner, go. (Talk with partner, student attention) What did you come up with? (Student answer. Depending on student response, elaborate or

clarify what the student has said.) Wow, [Name] just told us that the plant can float so that it doesn't drown. That is very true! This plant is called a lily pad, and it is shaped like this so it will be able to float. If it couldn't float, it wouldn't be able to see the sun. Without the sun, plants can't grow or make food for themselves. This adaptation helps the plant to float. An adaptation is something that helps a plant to survive. Great! Let's look at another amazing plant.

Slide 4: Boys and girls, take a look at this plant. In 5 seconds, I want you to tell your partner what you think the weather is like outside where this plant is living. (Give students 5 seconds, call for attention) Can anyone tell me what you discussed with your partner? (Student answer) So [Name] said that this plant lives somewhere really cold because you can see all the snow. I agree. This kind of looks like where we live when the winter comes. (In the fourth box, begin recording what you and students are learning from your discussion) Class, what makes this plant special or different from other plants? Tell your partner. Ready, go. (Talk with partner, student attention) I'd like to hear what some of you talked about. (Call on students, there will likely be various student answers. Record all answers, but look specifically for *the tree doesn't have any leaves*) Class, you have a lot of really great ideas. I want to talk about this one specifically (point to 'the tree doesn't have any leaves' written on the board) Why do you think that this plant looks like this? Tell your partner, go. (Talk with partner, student attention) What did you come up with? (Student answer. Depending on student response, elaborate or clarify what the student has said.) Class, you have some really great ideas. [Name] just told me it doesn't have any leaves because it is too cold. Yes! When it starts to get cold in the fall, the leaves fall off of trees to get ready for winter. They do this so that they can go to sleep for the winter, kind of like a bear. Since the trees don't have leaves, they are able to go to sleep until the winter is over. This adaptation helps the tree to survive during the long winter. An adaptation is something that helps a plant to survive. Boys and girls, echo 'an adaptation is something that helps a plant to survive. (Echo) Great! Let's look at one more amazing plant.

Slide 5: Boys and girls, take a look at this plant. In 5 seconds, I want you to tell your partner what you think the weather is like outside where this plant is living. (Give students 5 seconds, call for attention) Can anyone tell me what you discussed with your partner? (Student answer) So [Name] said that this plant lives in Utah because they saw it at their grandma's house, but only in the spring time. So it must be spring time weather! Right, it is spring time weather, which is warm but not too hot. (In the fifth box, begin recording what you and students are learning from your discussion) Class, what makes this plant special or different from other plants? Tell your partner. Ready, go. (Talk with partner, student attention) I'd like to hear what some of you talked about. (Call on students, there will likely be various student answers. Record all answers, but look specifically for *bright color*) Class, you have a lot of really great ideas. I want to talk about this one specifically (point to 'bright color' written on the board) Why do you think that this plant looks like this? Tell your partner, go. (Talk with partner, student attention) What did you come up with? (Student answer. Depending on student response, elaborate or clarify what the student has said.) I like how you said that. The color attracts things too the plant. Attracts means to make something want to come to you, and

*that is exactly why this tulip is so colorful. The tulip needs bees to help it to spread its seeds around. It is so brightly colored so that bees will want to come to it! This adaptation helps the flower to spread its seeds. An adaptation is something that helps a plant to survive. Boys and girls, echo 'an adaptation is something that helps a plant to survive. (Echo) Great. I have a special book to read to you today, please quietly move to the carpet.*

Students will transition to the carpet where they will be read “Amazing Plant Power” This book reaffirms the discussion that we just had and teaches about multiple other plant adaptations and abilities.

*(Read book) I really love that book. It tells us about so many different ways that plants adapt to help them survive. Class, today we have an extra fun activity to finish up your “All about Plants” booklets. On pages 6 and 7, you get to create a plant. (Display book) This plant needs to have a name, and a special adaptation that helps it survive. Now, I want you to pretend that this plant is going to be planted outside in our field. In Utah it gets really hot in the summer and really cold in the winter. Some plants can survive the whole year, but some only survive during certain seasons. You will have to tell me what adaptation your plant has that makes it so that it can survive during the whole year, or what adaptation it has that makes it survive and grow during one season, but not the others. I’m going to give you ten minutes to work on this. Ready, go.*

Give the students 10 minutes to work on project. This project will likely need plenty of assistance and monitoring. Be sure to monitor the students and ask questions to help clarify their understanding.

Ex. of pages 6 and 7 of booklet

My Plants Name is:

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This is what it looks like (Draw a picture)

- Page 6. Students are required to name their plant and draw a picture of it. Instruction and demonstration is given.

What is the weather like where your plant lives?

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Can it survive in summer and in winter?

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What adaptation does it have that makes it special?

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How does this adaptation help it to survive?

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- Page 7. Students are required to answer the questions in complete sentences. Instruction and demonstration are given.

**Adaptations/accommodations**

Gifted Students- I feel this lesson is optimal for gifted students because it allows them an opportunity to create. Creating is a wonderful way to engage students because it allows them to all express themselves, but at their own individual levels. With gifted writers like Whitney, I noticed an incredible amount of detail in her work. She utilized the create portion of the lesson wonderfully.

ELL's- The main vocabulary of this lesson was the term 'adaptation'. I repeated this word several times and defined it over and over again. I also had the students repeat me, not only to help strengthen their understanding, but to help my ELL student's to understand what I was talking about when I used that word.

IEP's- With Steven and Danika, my two students with IEP's because of their intense reading needs, I made sure to follow up with them multiple times during the create portion of the lesson. I read the pages to each of them and asked them questions as they were developing their plant. It is always so interesting to see that while it is difficult for them to transfer their ideas onto paper at times, they are constantly flowing through their heads like a quick moving stream.

### **Assessment**

My assessment was done throughout the discussion and the final creative project. When we were discussing at the beginning of the lesson, I tried to monitor and listen to multiple students talk with their partner about things they noticed. The farther along we became with our discussion, the more they were able to understand what I was asking them to detect amongst the different plants. Many students answered my questions formally, but I was also able to assess through monitoring how well they were understanding what was being taught. I also more formally assessed them by the completion of the 'create a plant' assignment. I looked to see if the students understood that an adaptation is something that helps the plant to survive, not just a cool color or attachment. I also checked to make sure the students were able to identify whether this adaptation would help the plant during the changes of the seasons. It was not a requirement that the plant survive year round, but I wanted to know that the students know the difference between an adaptation that allowed for year round survival and one that helped optimize the plant life during a particular season.

### **3. Reflection and evaluation of lessons, including analysis of assessment data.**

#### **Analyze student learning:**

Performance of student 1- Steven Atkinson

Lesson 1: I was highly impressed by Steven during this lesson. As I stated in my initial description of Steven, when he is highly engaged, he performs well and is often one of my most excited students. Problems arise when he is unable to read the material or when he becomes disinterested in the topic. Steven was highly interested in this lesson, especially because he was able to move and use his hands. As I anticipated, problems arose when he was required to write. I accommodated this need by having him verbalize answers to me before hand and reminding him to do his very best to write what he had just stated after having first stated it. Steven did still have a few misconceptions. The first came when the video we watched prior to the lesson stated that endosperm was a 'backpack full of food' for the embryo. For the rest of the lesson, he was able to recognize what the endosperm was, but not the term itself. In future lessons, I think that I would work more thoroughly to explain and define each new vocabulary word. He had a similar problem with referring to the embryo only as 'a baby plant' or the seed coat as

'plant skin'. I was pleased that he understood the concept and purpose of each part of the seed, but needed to modify the lesson so that he was able to remember the term as well.

Lesson 2: Lesson 2 was much more difficult for Steven, as it was for many of his peers, because it required so much individual exploring and research. I tried to ease the stress of this assignment by assigning Steven to be a group leader and giving him the responsibility of leading the team. This worked for some time, but ultimately I think that I needed to provide him with more structure and some sort of definable task because he eventually became bored. This problem was not only specific to Steven. I found that many students didn't know what they should do when it was not their turn to fulfill their role in the group project. For further instruction, I need to adjust this lesson so that each student always has something to be working on. Steven was successful at filling out his booklet because he was able to work with other experts to find answers. His word still needed polishing in terms of sentence accuracy and grammar, but he had the basic concepts and his understanding of the scientific material was satisfactory.

Lesson 3: I've always noticed that Steven does well in situations where he is allowed talk time because he, like many kids his age, has a lot to say. For this reason, the lesson was great for him because he was able to talk freely often. He also enjoyed being read to. Misunderstanding came when he was asked to create his own plant. Honestly, many of the students displayed a misunderstanding when asked to fulfill this task because they weren't able to understand the basic needs of a plant as in depth as I had hoped they would. We discussed needs of a plant (water, soil, and sun) briefly, but the kids were having difficulty connecting that knowledge to what plant adaptations could help those needs to be met. Some of the students could do this, but around 20% struggled, including Steven. These students needed a reminder of the basic needs before they could design adaptations. In a future lesson, I think that I would re-establish this concept with some sort of game before moving on to creating our own plants. Eventually, Steven was able to create his own plant that looked similar to an umbrella. The umbrella shape helped water and snow to quickly run off so that it would get the water it needed, but it wouldn't get stuck on top. The plant survived spring, summer, fall, and early winter before becoming dormant.

#### Performance of student 2-Whitney Fairy

Lesson 1: Whitney did well in this lesson. I felt that she understood the concepts and was engaged throughout. All the students enjoyed the hands on exploring of the lesson, but Whitney took it to another level with her detailed drawing of what she had seen. Of all the students, her drawings and definitions were the most thorough and she quickly finished. Without being asked, I saw her writing in her journal after she had finished her booklet. I asked Whitney what she was doing and she showed me the paragraph she has

written. This paragraph was a short narrative about what it must be like to be a seed. I loved her writing and was proud that the lesson had sparked her creativity. While Whitney did this all on her own, I think that in the future I need to incorporate more options for gifted students to express more learning and creativity. I always find this hard to do because I don't want the gifted students to feel punished with more work. Whitney loves to write and thus fulfilled an interest while expressing more knowledge, but she also reminded me that I needed to provide something for students who finish early.

Lesson 2: During lesson 2, I assigned Whitney to be the group writer. Of course, this is one of Whitney's interests and talents, but I later realized that I should have given her an assignment in the group that would have pushed her without making her feel uncomfortable. As I stated earlier, the idea of this lesson was good, but the execution lacked because the students did not know what to do when it was not their turn to add to the research project. This was true with Whitney as well as I could see her losing interest after she had finished writing. I felt like I stunted the growth that she could have had by limiting her to only one task. When I re-design this lesson, I plan to develop a method that keeps all the students working and busy throughout so that I am able to maintain engagement. Overall, she fulfilled her responsibility and had beautifully written sentences in her booklet.

Lesson 3: Whitney's creativity was excellent during this lesson. Her beautiful plant was decorated in such a way that it attracted bees, just as a tulip, but had a subtle smell that repulsed deer or other animals that wanted to eat it. She explained to me that this adaptation helped the plant survive because it kept other animal from eating it. I was impressed with Whitney because she was able to do this all on her own, while many of her peers needed extra help and explanation. I noticed that she seemed less engaged when I was reading aloud to the students during the middle of the lesson. My impression was that she already understood what adaptations were and was distracted thinking about other plants and other adaptations that she knew about. All in all, she did well and I was pleased with both her writing and her understanding of the scientific topics discussed.

### **Analyze teaching effectiveness:**

There were two main differences with what I planned and what I ended up teaching. The first, and most prominent difference, was that all of my lessons took around 45 minutes rather than 30-35. Luckily, my mentor teacher worked well with me and we were able to be flexible with our time and complete all of each lesson. While this was the case, it made me realize that I need to be more aware of my time because it is not always the case that I can move time around. Time constraints are such a normal part of teaching that I need to learn to teach within my limits in order to cover all the material that I have on my schedule. The second difference was the amount of instruction I needed to give in

lesson 2. The first time I instructed the kids was absolutely not enough. Whether it is the first time they have done a task like this or simply early in the school year, the children didn't quite understand what I was asking them to do. I ended up reteaching and redirecting so that the students were able to complete the task, a couple of minutes that I had not foreseen.

Of all my lessons, I think that the most successful was the very first lesson. The reason being is that the lesson was hands on and each student could use multiple senses when exploring the seed. The not only saw and heard the information, but they were able to feel and pull apart each individual part. In response to "What worked?" I would say that this lesson absolutely worked because I incorporated a hands on activity, engaging video/discussion, and solidification of gained knowledge through writing. Incorporating writing into the lesson was also a good idea because it easily flowed and helped the students to show me their learning. Not only was it an effective integration of the writing standard, it also provided an assessment, something to display as student work, and a resource to help the students answer the same questions in the future.

Overall, I would say that lesson 2 didn't really work. Although the lesson was a fun idea, I just don't think that I prepared the students well enough to be able to fulfill the task in the way that I wanted them to. A semester prior, I had worked with 1<sup>st</sup> graders who were required to perform a similar group research project. These kids were able to do an assignment nearly identical to lesson 2 without any problem. The difference was that these boys and girls had been doing similar projects and activities throughout the school year and had gradually gained the ability to do so on their own. Assuming these kids could do the same, I introduced them to a group assignment they had never been exposed to, making it hard for them to understand their role and how to follow the given direction. It's not that these students were incapable of completing the lesson in this way, I had just simply not prepared them enough to do so. If this were my own class and I was to remain with them for the duration of the school year, I would practice this type of research work over and over again. If the kids had had this experience, I think the lesson would have worked. Because they did not, the lesson did not work as well as I would have hoped. It also didn't work to leave the students down time when they were not fulfilling their role in the group. It was too easy for the class to lose concentration when it was not their turn, and for that reason, the lesson should be redesigned so that each student is actively engaged at all times.

My focus students, Whitney and Steven, helped me to realize that I need to modify much more to meet the needs of both gifted and struggling students. Based on Steven's performance, I recognized that hands on activities and interaction with peers helped him to stay on task. What I recognized as a needed modification because of Steven was the accessibility to help. While I felt like I gave Steven some help, I can't be everywhere at once. He is not the only student that needed my attention. I need to modify the lesson so that the kids have resources to check if there is something that they do not

understand. Whether this be labeling pages in a book or assigning peer tutors, I need to modify the lesson to provide that extra support.

My second focus student, Whitney, is an incredibly bright girl. She was able to complete tasks on the first try and often finished before any of her peers. I needed to modify the unit so that gifted students have something to do when they are finished that doesn't feel like a punishment. In one of my methods courses, a teacher told us about a program she used called the 'Young Einstein's'. This club was an optional organization that the students could be a part of if they had extra time during the day. By completing different tasks, the students earned prizes and eventually became 'Young Einstein's'. I truly loved this idea, and need to develop a similar program in my own classroom. Because the group is optional, students do not feel punished for finishing early with extra work. Instead, it provides them an opportunity to work hard and earn extra rewards and incentives. I could even modify the club each week to deepen the student's understanding of the topics we were discussing that week. In this unit for example, one task could be to write a narrative story about the life of a plant, similar to what Whitney had already made the choice to do herself. Another task could be to locate the parts of a plant on a tree outside during recess. These tasks deepen knowledge and provide growth after the lesson.

As a whole, I enjoyed my plant unit and felt that it was an effective display of my teaching ability. However, each lesson has modifications that need to be made should I teach the unit again in the future. First, lesson one, I would modify by adding and expounding with some sort of vocabulary practice. Pondering this, I have thought that a short matching game with the kids would have been fun. This could be a game utilizing the Smart Board in the classroom that helped the class to remember the new vocabulary (endosperm, embryo, and seed coat). Lesson 2 requires the most modification. First, the students need much more exposure to completing tasks in this way. They simply were unprepared for what I was asking them to do. It is not that they could not do the work, but that they didn't know how. I would modify this unit to either find the knowledge a different way, or more likely, train the students more frequently to work within groups. Next, the lesson needs to be modified to require all the students to actively work. Instead of having individual assignments, I think I would modify the lesson so that there was one reader, and each student needed to fulfill their role as writer and artist. I would then ask them to each present to ensure that all the students understood and knew the correct answer to their given question. Requiring each of them to present 1 verbal sentence on what they learned allows them all to have the spotlight, and all to be informally assessed. When modifying lesson 3, I think that I would chose to focus solely on one type of adaptation and develop that over a couple of days. For example, the lesson format would generally stay the same, but I would focus one day on adaptations from summer to winter. The next day might be adaptations to night and day. The last day could be adaptations plants have to obtain the food and water that they need. Each of these discussions could be shortened to only take 10-15 minutes a day. I might add a short

book, like the one that I used, each day. Finally, after 10-15 minute discussions over 3 or 4 days, then students could create their own plants. In this way the lesson is less broad, but I'm not overstepping my time constraints too much.

In conclusion, I was widely happy with this unit and how the students performed. They gained knowledge of something that surrounds each and every one of us, plant life. We used a variety of teaching methods, facilitated wholesome discussion, and developed skills as explanatory writers. I felt confident in this unit and with some modifications would use it again to teach and explore plant life.