Teacher Work Sample

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1. Learning Context:

School district: Jordan School District  
Name of school: Monte Vista Elementary School  
Title 1 school? No 

Demographics of school:  
- Total K-6: 888  
- Female: 429  
- Male: 459  
- African American: 4  
- Asian: 16  
- Hispanic: 73  
- American Indian: 1  
- Pacific Islander: 6  
- White: 753  
- Two or More Races: 27  
- Economically Disadvantaged: 192  
- Students with Disabilities: 106  
- ELL: 7

Description of school climate:  
Monte Vista Elementary is an older school with experienced staff. It is a Chinese dual-immersion school offering the program K-6. All of the Chinese teachers are native Chinese speakers that are in the United States with a work visa.  
The current principal just took over this year and is making great improvements to the school's organization and participation in available programs for the arts. She is punctual and enthusiastic about PLCs and total-faculty meetings, which keeps the school running smoothly.  
6th graders have the opportunity to run for student council every year. The student council that is selected plays a large part in what programs are implemented, what dress up days the school has, spirit week activities, etc...  
Parents are extremely active in the school and in the classroom on a weekly schedule. There are some school-wide programs that are completely parent-led every week as well as in the individual classrooms. I have had the opportunity in my classroom to meet almost every student's parents just within the first few weeks of my student teaching.  
The school's physical environment is a little crowded and dark to me. There are a lot of classrooms and at least 5 teachers per grade. The classroom I am currently in does not have a window and is always freezing cold. Most of the kids wear their jackets all day long to be comfortable. The classrooms are arranged in a giant circle that has smaller circles branching off into the individual grade halls. There is a large library in the middle and a cafeteria/gym attached to the side. The playground and field are both large and well maintained. All grades are inside the building except for 6th grade, which is out in the portables.
The academic environment seems to be mostly positive, although, I feel that the 2nd grade team is full of experienced but "old-school" teachers that stick to the traditional teaching strategies and philosophies. During a PLC they were all very hesitant and skeptical of an RTI vs DI teaching model despite the data that proves RTI to be more effective. There is no formal program for intervention with Tier II and III students other than Resource, which is only for the severe students with IEPs. I feel like there is room for improvements in the school's mentality for reaching all students, but the teachers obviously love what they do and love their students.

**Grade level:** 2nd grade

**Learning Environment:**

**Attendance:**

I have yet to see a day where every student is present in class, which is a common problem at this school. Often times, students are away with their families on trips and vacations. To counteract this issue, the school offers a raffle system for students that maintain 100% attendance for a week, month, etc... Names are drawn every Friday to reward students that were at school on-time every day. There is also a chart in the entrance hallway that shows the percent of students present every day.

**Classroom Management Plan**

My mentor teacher doesn't have a very strict or regular management plan beyond infrequent requests for students to "pull cards", which means that they owe her an increasing number of minutes from recess. The class I am currently in is very talkative and relatively unmanageable. My mentor has not implemented any kind of attention signals for quick redirection/transition, which I find kind of frustrating when trying to teach. The class routines are very fluid and generally obeyed. Every now and then there will be a small class competition where students have the opportunity to earn points for their tables and at the end of the contest the winning table receives a treat. We used a temporary token economy to teach the students how to use currency. I think it was successful in its purpose but lowered the motivation levels of all of the students when there was no longer the incentive of receiving money. I think that the classroom would greatly benefit from a stronger management plan.

**Seating Arrangement**

The students are seated in differentiated groups of five. At each table is a higher-level student as well as one severely low and bubble students. It works very well for group work because the higher-level students are able to assist their classmates and do so with great patience and kindness. I love using the differentiated groups for assigning group tasks to practice working as a team.

**Level of Student Engagement in Learning.**

The nature of 2nd graders is to be fidgety and distracted, which is very present in this classroom but there is also a good number of students that actively participate in every lesson with enthusiasm. We try to use a lot of small group work with rotations to keep them interested in the material, which seems to work well. A few students refuse to engage no matter what and those are the same students that are falling further and further behind their peers.

The safety level for learning is moderately safe. In no way are the students threatened by the teacher, but their fellow classmates can be competitive and thoughtless in their interactions with each other. For example, there is a wide range of reading levels so when a low student is
reading aloud to the class some of the higher-level students lose patience and have said things to hurt feelings. However, all students are eager to ask and answer questions.

**Subject matter of lessons:** Science (Phases of the Moon)

**Total number of students:** 24

**Students with special needs and short explanation of the needs:**

**With IEPs:**
There are two students in our classroom with formal IEPs. Both of the students get to work with the Special Education teachers every morning for math and again whenever the class reviews or reinforces math concepts. The first student is a boy who has an emotional and intellectual disability as well as a speech disability. He is often distracted and quick to become upset if something goes against his wishes inside the classroom and on the playground.

The second student is a girl with a sensory overload disorder. She has a difficult time retaining new information and is aloof emotionally. She becomes discouraged easily and shuts down if she feels a concept will be too hard for her to learn. Recently, I have noticed that she has a habit of making up problems and causing drama between her classmates. She will sometimes say and do things to get attention, even if it is negative attention.

**Students who receive speech/language services:**
There are a few students in our classroom that have noticeable room for growth in their speech, but only one student, the boy previously mentioned, receives formal speech therapy. All of the students developed normally for speech communication, but struggle with forming certain sounds in their mouths, which is normal for their age group (7-8).

**English language learners:**
Not only are there no ELL students, but there is only one student in our classroom that is an ethnicity other than White-American.

**Gifted and talented:**
One of our students qualifies for gifted/talented. He receives heavily differentiated work, extra projects/reports, and is given the open opportunity to peer tutor his classmates. The class spelling lists are split into two portions: spelling and challenge. The challenge words are meant for the gifted/talented student, but all students are encouraged to try them without any effect on their grade (the students are unaware of who is graded and who is not).

**Other (e.g., 504 plans--please specify):**
One student has asthma and a peanut allergy. She is given allowance to stay inside on "yellow" pollution days as well as have access to an inhaler in the nurse's office. During lunch she sits at the "no peanut" table. Another student is absent every Monday afternoon to receive emotional therapy from a resource outside of the school. He has a history of anger management problems, but I have never seen any evidence of that at school and would never guess by how he acts with his friends and classmates.

**Students' prior knowledge for these lessons:**
Some of the students received a brief introduction to the subject matter in their 1st grade class but not in the depth that we achieved this unit. A couple of the students who are enthusiastic
about space had some knowledge of the moon that they shared with their classmates, but the phases of the moon were a completely new topic for most of them.

**Students’ background and interest for these lessons:**

A couple of the students love space and had some interesting facts to share about the moon and night sky. Their enthusiasm was contagious among their peers and the whole class was excited to learn by the end of my launch lesson for the unit.

**How did your knowledge of these students and assessment of their prior knowledge inform your lesson planning?**

I kept the students' ages in mind as well as their lack of background knowledge when planning the vocabulary that I wanted to use while instructing. Most of the terms needed to be simplified as well as the description of how the moon changes phases. Space can be an overwhelming topic for some students, so it was important to me to take my time and make sure every student understood every step of the lesson. Without the building blocks, it’s impossible for students to understand the whole.

2. **Focus Students:**

**Description of student 1**

**Prior learning**
Student 1 has an interest in outer space and spends time outside of school reading books about the night sky. For Christmas, he received a high-quality telescope, which encouraged his passion for space. He already has a good working knowledge of the Earth and moon orbiting the sun, which he shared with his peers.

**Academic ability**
This student is near the top of the class and excels in every area. However, if a topic does not come easily to him he is very discouraged and tends to shut down, refusing to try again. Student 1 also has a habit of working so quickly that he forgets to check is work, which negatively affects his scores even though he has proficient understanding of the material.

**Personal background**
Student 1 is the youngest of three children in an incredibly supportive home. His mom is the head class-mom and coordinates the class’ parties and the schedules for all other parents to volunteer in the classroom. Student 1 is involved in sports leagues outside of school as well as music lessons. He is very well liked in the classroom and can be depended on to complete extra work when asked. This student's family often takes vacations and day-trips to educational destinations. Science experiments are heavily encouraged in their home and the parents are actively involved in enriching their child’s education.

**Other relevant characteristics**
Student 1 is friendly, considerate, and mature for his age. I can count on him to include everyone in activities both inside and outside of the classroom. He is goofy, sweet and generally has the right answer for whole-group discussion questions. He can be easily distracted and has been known to not complete work because he was focusing on something else.

**Influence of all of these characteristics on your teaching**
This student is a go-to student when I need help with intervention for a lower student. He is patient and understanding with all of his classmates and tries his best to help anyone with questions rather than supplying the answer for them. He is also a great student for discussions
because he asks deeper-level questions that cause his classmates to think more critically about the lesson. Because of his level of ability, however, he requires a greater challenge than his peers, which can be difficult to do because of the broad spectrum in our classroom. He is not the type of student to ask for more work but will not complain if more work is given to him. He enjoys being challenged and has impressed me on multiple occasions with his reasoning abilities, especially in math. Due to his sweet nature, Student 1 is sensitive to corrections and needs to be reminded discreetly otherwise it has a negative effect, causing him to shut down and feel badly about himself.

**Description of student 2**

**Prior learning**
Student 2 has no prior knowledge about outer space but is excited about the topic. She is an enthusiastic student and is always ready to learn and follow directions.

**Academic ability**
Student 2 struggles in reading and math because she has difficulty understanding new words/math concepts, but her retention is excellent. She rarely needs re-teaching or mini-lessons but is quick to ask for help before she gets behind.

**Personal background**
This student comes from a single-parent household where she is the only child but will be joined by a baby sister in April. Her mom is extremely supportive and hands-on with the student’s learning and growth. She actually transferred her student to Monte Vista because she felt like the other school was not taking her struggles seriously as the student fell further and further behind. This student is extremely eager to please and is predictably well-behaved in every aspect. She wants to be seen as a good example and does not act out in class. Student 2 is shy but friendly and made many friends quickly after moving into the classroom.

**Other relevant characteristics**
Although Student 2 is aware of her struggles and relatively low ranking in the class, she is confident in herself and is not afraid to ask for help from me or her peers whom she knows can help her. Overall, this student wants to be recognized for her behavior and example in class, which she often is because she is so consistently on-task while many of her peers around her get distracted.

**Influence of all of these characteristics on your teaching**
I make extra effort to recognize this student during whole-class instruction when I know that she will have the right answer I am looking for. Even though she is not ashamed of her struggles, I know that her peers’ opinions of her are very important and it seems beneficial to her growth when she is able to demonstrate her knowledge in front of the class and in front of me. When I pair her up in a high-low buddy group I make sure to put her with a student that is usually on-task and reliably patient/kind. Student 2 is not the type of student to remind others to be on-task and would struggle to get through a reading or worksheet by herself instead of confronting her partner about being off-task.

### 3. Lesson Plans

**Lesson Title 1**
The Orbit of the Moon Around the Earth, Around the Sun

**Subject and grade Level**
Science Core-Phases of the Moon-2nd Grade
Approximate time
45 minutes

Rationale for methods
I chose to approach this unit with an inquiry-based format. I began each lesson with a type of question for the students that I wanted them to answer at the end of the lesson. With a topic so concrete as the phases of the moon, it is easy to simply memorize the order in which the phases come and go but I wanted the students to have a hands-on, working knowledge of WHY we see the phases at different positions. To do this, I started with a hands-on module of the Sun, Moon, and Earth in their general orbits. I then asked the students if we always see the whole moon every single night and then asked them to explore why we do not always see the full moon.

Content standards
2nd Grade Utah Science Core Standard 2.a: Observe and record recognizable objects and patterns in the night sky—Observe, describe, and record patterns in the appearance and apparent motion of the moon in the night sky.

Academic language/vocabulary objectives
Students will need to analyze and evaluate their modules of the Sun, Moon, and Earth to determine why they think we cannot see the full moon every night of the year

To accomplish these goals the students will need to know the terms: orbit, revolve, waxing, waning, and the eight phases of the moon (new moon, waxing crescent, first quarter, waxing gibbous, full moon, waning gibbous, last quarter, waning crescent).

Required materials, resources, and technology
- Technology Tool: Phases of the Moon Explanation for Kids https://www.youtube.com/watch?v=bWeaQctUp1c I chose this video for a couple of reasons. It explains the orbit of the Moon in terms students can understand along with diagrams and fun characters. It is also narrated by children with Indian accents, a part of education that I believe gets left behind. Too often, educational videos are narrated by people who have British accents or American accents, leaving any other culture accidentally associated with a lower level of intelligence. This was the best video I found for explaining the phases, but I feel like it also has a great potential cultural awareness lesson as well.

- Sun, Moon, and Earth Module including all supplies for construction (brads, thumb tacks, scissors, crayons): For students to color, build, and use as a tactile reinforcement of the concepts they will be learning

- Various Phases of the Moon decorations: To further reinforce the learning environment

- DocCam: Used to model how to build the module for all the students to see at once.
Earth, Moon Orbits

1. Color the Earth, the moon, and the sun.
2. Cut out the pictures.
3. Punch a hole in each strip at the star and the circle.
4. Push a brad through the circle in the center of the Earth picture and through the hole in the moon's strip. Open brad.
5. Push a brad through the star in the center of the sun pattern and through the hole in the Earth's strip. Open brad.
6. Show the orbits of the moon and the Earth by moving the patterns around the sun.
Lesson Objectives
1. The students will know that the moon orbits the Earth and that both the Earth and Moon together orbit the Sun to create the illusion of only seeing parts of the moon during a 28-day period.
2. They will know that it takes 28 days for the moon to orbit the Earth and 24 hours for the Earth to spin, which causes night and day.
These objectives align with the 2nd Grade Science Core Standard 2.a about the Night Sky.

Instructional Procedures
"Kiddos! We are starting a cool new unit. Any ideas of what it might be? (my mentor teacher and I decorated the room with Phases of the moon, planets, stars, etc... after school the day before as a new launch into this unit) Yes! We are learning about the night sky! First, I want everyone to look behind me at this line of circles on the cabinets. What are those? Awesome, they are the phases of the moon. What are the phases of the moon? Is there a giant mouse planet that eats a little bit of the moon every night and then the moon grows back? No! We are going to be learning why we can't see all of the moon every night for the next few weeks. Let's start by learning their names. Everyone point with me as we say them (model pointing and saying, 'New moon, waxing crescent' pause! Everyone what is a crescent? Yes! It is a C shape. I remember because it sounds like croissant, which is kind of shaped like a C! Everyone give me a C shape with their hand', first quarter, waxing gibbous 'practice saying gibbous with the class', full moon, waning gibbous, last quarter, waning crescent, new moon). Now, why did we say new moon two times? Does it happen twice? It's a cycle! Awesome job! The phases of the Moon come and go in a cycle, which means that when the Moon goes through the cycle once, it starts over and over and over again until the end of time. So, what we are going to do with this handy new knowledge we have acquired is build one of these bad boys (pull out ready-made module to show students). Why do you think we have these stick things coming out from each of these planets? No, it's not just to hold them there and look cool. It's because the Moon does this thing called revolve around the Earth. Everyone say revolve. It means that the Moon moves in a circle around the Earth, called an orbit. Everyone say orbit. I need quiet hands that can tell me what revolve means. Yes, I love your answer. And who has a quiet hand for orbit? Great! I love that you used the word revolve in your definition of orbit too! So, everyone hold onto your hats because while the moon is revolving around the Earth in its orbit, the Moon AND the Earth are revolving around the SUN in an even bigger orbit! How do you think that effects how much of the moon we can see? Just think about that for now and we will come back together after we have built our neat-o modules. When I say go, I need everyone born January-June to quietly go back to their seats, clear of their desks and wait for further instruction. Go! And now I need July-December to go their seats and clear of their desks. Great transition friends. Paper-passers I need you to help me pass out these modules but before that I need all eyes up here for a minute. When you receive your paper, you may begin coloring it. DO NOT CUT YET. I repeat, any scissors out before coloring is complete will be put into my personal scissor collection. When you are done coloring, you may cut out all of the pieces but be careful not to cut any of the lines in half because those are our orbits. (allow time for students to color and cut out their modules) Class, class! Now I need all eyes up here because I am going to show you how to build your own Sun, Moon, and Earth orbit. (scaffold on the doc cam how to push the thumb tacks through the correct holes first followed by a brad to construct the module). There are enough thumb tacks for each table to have one so you will need to share and be careful not to poke yourselves. After you have finished with your module I want you to talk in your groups about how the position of the Moon, Sun, and Earth affect how much of the moon we see. As a group you will elect a
spokesperson that will stand up and relay the ideas your table has about the phases of the moon. (give students time to construct their modules, manipulate them and discuss with group members) Starting with table 1 we will listen to each groups' ideas and use the proper hand signs when we agree rather than shouting out and talking while our friends are talking, yes? Wow, those are some great ideas and pretty much everyone was spot on! I love how every group used their modules to justify their reasoning too. In general I think we can agree that the position of the Moon, Earth, and Sun affect how much of the moon we see because only half of the moon is lit up at once and the position the Moon is in its orbit determines how much of that half we can see, which is why the phases change so often! Great work today. Let's put those modules safely in our tote trays. Do not take them home because we will be using them for a few weeks."

**Adaptations/accommodations**

There are a few students who have IEPs need accommodations and adaptations (J., H., G., T.) but the objectives for this lesson are within those students' abilities. The discussion part of the lesson is where the accommodations come in. Each group is differentiated in the levels of ability, which helps encourage critical thinking from lower-level students through the supported help of their peers around them. They are able to voice their own thoughts and opinions as well as learn from their groupmates that might have a better understanding of the material than they do. At the same time, the gifted students (S., M., D., A.) will be challenged with explaining the material to their group mates and helping everyone understand the concept together.

**Assessment**

Initial formative assessment begins in the launch portion of the lesson where we meet at the rug and discuss our next unit. This is where I measure prior knowledge by asking probing questions and look for signals of understanding (thumbs up, sideways, down). I know a few of the students were introduced to the phases of the Moon in first grade but I am unsure of the rest.

The first objective in this lesson is for students to know that the Moon orbits the Earth and that both orbit the Sun. I will use formative assessment strategies with their manipulatives to measure their level of understanding throughout the lesson by walking around, engaging in mini-interviews, and checking for understanding from each student. My summative strategy at the end of the lesson will be for everyone to hold up their manipulatives and together as a class show how the moon orbits the Earth and how both the Moon and Earth orbit the Sun. I will use the results I see to determine whether re-teaching with a mini-lesson is needed before moving on the following day.

The second objective: to know that the Moon cycle takes 28 days and it takes 24 hours for the Earth to rotate will be a summative assessment directly after we watch the video in a call-response format. I will ask, “How many days is the Moon cycle?” utilize wait time, and ask the class to chorally respond. I will use the same protocol for the 24 hours to rotate question. I will use their responses to determine how well the class reached our goals.

**Lesson Plan 2**

**Lesson Title**

Names and Descriptions of the Eight Phases of the Moon
Subject and grade Level
Science Core - Phases of the Moon - 2nd Grade

Approximate time
30-40 minutes

Rationale for methods
I wanted the students to be able to describe what the various phases look like rather than just memorizing the order in which they occur. To do this, I felt it would be beneficial for them to have a hands-on activity in which they physically cut out and manipulate the pieces into the correct positions along with the correct descriptions to further their deep understanding. Since we are just introducing the phases, I allowed students to use the various models in our room to place their pictures in the correct order. I chose explicit instruction for this task rather than inquiry because it is a new topic and the reasoning abilities required for figuring it out are beyond that of 2nd graders.

Content standards
2nd Grade Utah Science Core Standard 2.a: Observe and record recognizable objects and patterns in the night sky-- Observe, describe, and record patterns in the appearance and apparent motion of the moon in the night sky.

Academic language/vocabulary objectives
1. The students will need to synthesize the eight individual phases into one cohesive "Moon Phase Cycle".

2. In order for students to adequately synthesize the information they have, they will need to know the eight phases of the Moon (new moon, waxing crescent, first quarter, waxing gibbous, full moon, waning gibbous, last quarter, waning crescent), cycle, and crescent

Required materials, resources, and technology
-DocCam: To model construction for all students at once

-Black construction paper: Background for the phases cycle

-Phases of the moon cut-outs: For students to cut out and arrange in the proper order as a tactile reinforcement of the concepts they are learning

-Phases of the moon descriptions: For students to cut out and attach to the proper phases

-Glue: To attach cut-outs to the paper

-Scissors: To cut out pieces
Phase 1 - **New Moon** - The side of the moon that is facing the Earth is not lit up by the sun. At this time, the moon is not visible.

Phase 2 - **Waxing Crescent** - A small part (less than 1/2) of the moon is lit up at this point. The part that is lit up is slowly getting bigger.

Phase 3 - **First Quarter** - One half of the moon is lit up by the sun at this point. The part that is lit up is slowly getting bigger.

Phase 4 - **Waxing Gibbous** - At this time half of the moon is lit up. The part that is lit is slowly getting bigger. Waxing means to slowly get bigger.

Phase 5 - **Full Moon** - The side of the moon that is lit up by the sun is facing the Earth. The entire moon is lit up at this point.

Phase 6 - **Waning Gibbous** - The moon is not quite lit up all the way by sunlight. The part of the moon this is lit is slowly getting smaller. Waning means to slowly get smaller.

Phase 7 - **Last Quarter** - Half of the moon is lit up but the sun. The part that we can see lit up is slowly getting smaller.

Phase 8 - **Waning Crescent** - A small part of the moon is lit up at this point. It is getting smaller by the minute.
Lesson objectives
1. The students will become familiar with the names of and a brief description of each of the moon phases by the end of this lesson. They are beginning to build a foundation for knowing the order in which the phases occur.
These objectives align with the 2nd Grade Science Core Standard 2.a for the Night Sky.

Instructional Procedures
"Friends it's time to continue on our Moon journey. Today we will be cutting out the phases of the Moon and gluing them in the correct order along with a description of what the phase looks like. We are doing this to further our knowledge on the phases of the Moon so that when it's time to test, we know exactly what the eight phases are! Here is a finished project that we can use for reference if any questions come up, but I will make a model along with you so that we are all in the same place. You'll notice that the new moon phase on the project we are making is on a different side than the big model we see in the classroom. Why do you think that is? Turn to your partner and discuss your ideas for 30 seconds. (Give students time to discuss with a neighbor, listen for key words in the conversations for students that might already know the answer). So, what do we think? Why did Miss Burningham put the new moon on two different sides? Exactly! I am so impressed! The phases of the Moon happen over and over and over again. What is that called? A cycle. A cycle is when a pattern of things start over again and again. When the Moon wanes down to new moon, what happens next? Yes, it starts to wax again into waxing crescent and restarts the cycle! That is why the new moon phase is on opposite sides of the models. With that, let's get started! When I say go I need everyone to walk back to their desks, clear them off and wait for instructions. Eyes up here, I am going to show you how to cut out the phases and glue them in the correct order. (Model cutting out a few phases and gluing them onto the black construction paper in the correct order using the models that are around the room). When you are finished with your model, turn to your partner and practice saying the phases to each other in order. I will put my model up on the board for reference and I need my paper passer to help me pass out supplies. Only pass out to the tables that have their desks cleared and are waiting quietly and patiently for their supplies. Once you have received your supplies, you may begin constructing your moon phases! (allow 15-25 minutes for students to construct their moon phases and practice phases with a partner). I would like you to keep these in your desks because we will be using them to help us for the next few weeks!"

Adaptations/accommodations
The accommodations in this lesson reside within the launch discussion before the students began constructing their models. Even my lowest students (H., J., G.) are able to construct the models without help, but it is the explanation and introduction at the beginning that needs to be structured and thorough. There are many terms that the students have not learned yet and are pivotal to understanding the phases of the moon (cycle, names of the phases, etc...). I will take more time at the very beginning of a lesson to frontload information to encourage deep understanding while the students build their models and test their knowledge.

The seating arrangement the class is in also aids in adaptations/accommodations because it is a differentiated mix where high students sit next to low students and are encouraged to work collaboratively. This brings a challenge for higher level students (S., M., D., A.) and continuous support beyond my abilities for the lower level students. As the students work I am walking around and sitting with students periodically to check in with informal interviews on the concepts newly introduced to check for understanding on an individual level.
**Assessment**
The main objective for this lesson isn't mastery, it's to build familiarity with the names of the phases and what they look like. I will use formative assessment strategies throughout the lesson to determine how well everyone is moving along. I will do this through hand signals (thumbs up, sideways, down), call-and-respond, and targeted interviews with each student. I will assess their knowledge by asking inquiry-based questions about the phases and what strategy they are going to use to construct their model.

This informal interview strategy will allow me to touch-base with each student to get a feel for how well they are understanding the material covered and whether they need re-teaching during the interview in that moment or if I need to do a whole-class mini-lesson the next day before moving on to the next objective in the unit.

**Lesson Plan 3**
**Lesson Title**
Phases of the Moon Song with Gestures

**Subject and grade Level**
2nd Grade Science Core- Phases of the Moon
2nd Grade Fine Arts Core- Music--Perform

**Approximate time**
20 minutes

**Rationale for methods**
I chose to reinforce the phases of the Moon through song because there is evidence that engaging that part of the brain for memorization results in long-lasting recall. I also want the song to be an aid to the students when they are testing their knowledge of the phases of the moon at the end of the unit.

**Content standards**
2nd Grade Fine Arts Core- 2.M.P.4: Sing folk, traditional, and call-and-respond songs in tune, using a natural, unstrained voice.
2nd Grade Science Core- Standard 2 Objective 2.a: Observe, record, and describe patterns in appearance and the apparent motion of the moon in the night sky.

**Academic language/vocabulary objectives**
Students will need to synthesize the information in the music and connect it to the knowledge they already have of the phases of the Moon. There are a few other phrases in the song that reinforces that the phases take 28 days to cycle through and that there are eight phases total.

The terms students will need to know are: the eight phases of the moon (new moon, waxing crescent, first quarter, waxing gibbous, full moon, waning gibbous, last quarter, waning crescent), waxing, and waning.
**Required materials, resources, and technology**
- Phases of the Moon sheet music: Enough copies for each student to have one. Copies of the lyrics will help each of the students learn the song quicker rather than simply listening to it over and over again until it is memorized
- Piano: To play the melody along with the students. This activity can still be done without a piano if the teacher is confident in their voice, but the piano certainly helps

**To the tune of "Cindy"**

*New moon, waxing crescent, first quarter looks like half! Waxing gibbous, full moon, about two weeks have past. Waning gibbous, last quarter it looks like half a moon, waning crescent, new moon the phases start again soon. Phases of the Moon! Waxing and waning! Phases of the Moon! Waxing and waning, new moon the phases start again soon. Phases of the Moon! Waxing and waning! Phases of the Moon! Waxing and waning, eight phases of the moon!*

**Lesson objectives**
1. The students will be able to sing the song and simultaneously perform gestures to aid them in presenting the phases of the Moon in the correct order for their assessment at the end of the unit.

   This aligns with the 2nd Grade Science Core Standard 2.a for the Moon phases.

**Instructional Procedures**
"Class class, we are going to swap rooms with Mrs. Asay for a couple of minutes so we can use her piano because we are going to learn a song to help us memorize the phases of the Moon! Before we go I need everything off of your desk so another student can sit in it when we switch. I will know you are ready to line up when all desks are cleared and eyes are on me, quietly waiting. Table 4, you look ready, go ahead and line up at the door, (wait for tables to be ready and excuse them only when all directions have been followed). When we enter the room, sit on the rug behind the piano and wait for instructions. (Once all of the students are seated quietly behind the piano, introduce the song which is called "Phases of the Moon" to the tune of the song "Cindy". Talk about why the song will help memorize the phases. Play the melody on the piano a couple of times to get the students familiar with how it sounds then read through the lyrics a couple of times before trying to sing it together as a class with the piano. Play the song through a few times while singing and then try without the piano. After a few tries add gestures for waxing and waning chorus to reinforce that the Moon grows bigger during waxing and smaller during waning. Practice until students seem comfortable with the tune and then switch back to the regular classroom). Save this sheet music so you can use it if you forget how the song goes when we are practicing!"

**Adaptations/accommodations**
Since the lesson is in sing/song format, I will have access to a piano, and we will practicing saying the lyrics before we sing them all together there isn't much else to be accommodated for. I do not have any ELL students and the students with IEPs are more than capable of learning this song with the rest of the class.

**Assessment**
I will utilize the comfort of singing in whole-class to assess how well each student is picking up the song based on how accurately they sing the lyrics. I am not at all concerned about how good
the song sounds, I only want the song to be a tool for the students to use for the rest of their lives when analyzing the Moon's appearance. My formative strategy will include watching and listening for students that are not singing or are simply mumbling sounds to get by. If there is extra time, I will split students into smaller groups to better assess everyone's grasp on the lyrics and general tune of the song.

**Lesson Plan 4**

**Lesson Title**
Phases of the Moon in relation to the Sun and the Earth

**Subject and grade Level**
2nd Grade Science Core

**Approximate time**
40 minutes

**Rationale for methods**
Physical manipulation of concepts helps students remember what they have learned long after the class moves on to a new subject. Having the students color the various phases of the moon and where they are in relation to the Earth further reinforces deep understanding of orbits and why the phases appear as they do.

**Content standards**
2nd Grade Science Core Standard 2.a: Observe, describe, and record patterns in the appearance and apparent motion of the moon through the night sky

**Academic language/vocabulary objectives**
Students will need to analyze and evaluate the information they already know about the phases of the Moon's orbit in order to understand the pictures they are coloring.

In order for students to understand the diagrams they are coloring, students must know the terms orbit, revolve, the eight phases of the moon (new moon, waxing crescent, first quarter, waxing gibbous, full moon, waning gibbous, last quarter, waning crescent)

**Required materials, resources, and technology**
- Sun, Moon, and Earth diagram: To be colored by the students and used to synthesize their knowledge of the names of the phases with the location of the Moon in its orbit during each phase

- Crayons, colored pencils, markers, etc...: For coloring the phases
Moon Phases

Color the dark side of the moon black, then color the sun and the Earth. Why is part of the moon dark and part light each night?

New Moon

Waxing Crescent

Waning Crescent

Waxing Quarter

Waning Quarter

Waxing Gibbous

Waning Gibbous

Full Moon

Name:
**Lesson objectives**
1. The students will now be able to tie their knowledge of the names/descriptions of the phases with their manipulative module from day 1 of the unit by naming each of the phases as well as showing where the Moon is in its orbit around the Earth at the time the phase occurs. This objective aligns with 2nd Grade Science Standard 2.a.

**Instructional Procedures**
"Now that we know all of our phases of the Moon in order, we are going to color a diagram that shows us where the Moon is in its orbit around the Earth. I need a thumbs up, sideways or down if you remember what an orbit is. Okay, let's do a little reminder then. An orbit is the path a planet moves around something. In the case of the Moon and the Earth, the Moon orbits, or goes in a circle around, the Earth. At the same time, they are both orbiting the sun! We already know that we can only see the half of the moon that is lit up by the sun, but we can't always see a full moon, what is blocking the light? The Moon! Yes, depending on where the Moon is in its orbit, we can only see small portions of the lighted half of the Moon! As it orbits, we see the Moon appear to grow and then shrink. Which is why the phases are a cycle, because the Moon orbits the Earth in a circle. Knowing that, I need all desks completely cleared off. I will know you are ready to move on when desks are cleared, hands are empty, and all eyes are on me. This diagram is pretty self-explanatory, but I will make sure we are all on the same page just in case. You will color the Earth, Sun and Moon. There is a nifty dotted line and the word 'black' in the space of the Moon you are supposed to color black. That is the part of the Moon where the Moon is blocking our view of its lit half. Follow the dotted lines and instructions, because then you will correctly color the phases of the Moon. When you are done, I would like you to pair up with a partner, take out your Sun, Moon, and Earth manipulatives and begin practicing where the Moon is in its orbit during each phase. You may use both the Moon phase song we learned and this diagram to help you in your memorizing. (After all of the students are about finished and have practiced with a partner a couple of times, come back together as a class to practice all together)."

**Adaptations/accommodations**
My at-risk students require a lot of modeling and check-ins to get their work done. We have a lot of attention problems with students that just get distracted and forget what they are supposed to be doing. This is the reason that I seat my students in differentiated groups; everyone sits next to someone that is on-task and can answer questions about assignments while I am working with another student.

I always walk around and sit by targeted students for a couple of minutes to check for understanding and motivate to stay on-task. By differentiating the seating chart however, I maximize the time all of the at-risk students receive support because I am unable to help them all at the same time to level that they need. There are not any adaptations needed for this assignment since it is well within the abilities of all of my students, even those with IEPs.

**Assessment**
This lesson is more collaboration-based, because I want the students to discuss with their partners to develop deeper understanding. There is research that points to the moment a person truly understands a concept is when they are able to describe that concept to another person in a way that that person understands. As always, my formative strategy will be to walk
around the classroom as they work and conduct mini-interviews with each student to check for understanding and determine their level of understanding. I will have a better idea once students are working in partners to tie their two models together. I will be observant and watch for any students that are struggling and/or off-task. This unit moves quickly and loss of understanding on initial lessons is nearly impossible to catch-up.

I will use summative assessment strategies at the end of the lesson by asking the class to show their Moon in orbit around the Earth and say the phases at the proper location. This will be done by groups of tables rather than whole-class, so I can more accurately assess who has reached the objective, and who needs re-teaching. This will give me an idea of how well I have taught the unit thus far. If students are still struggling with the names of the phases, I will need to backtrack and re-teach before moving on to the final step.

**Lesson Plan 5**

**Lesson Title**
OREO Moon Phases

**Subject and grade Level**
2nd Grade Science Core- Night Sky
2nd Grade Fine Arts Core- Visual Arts--Create

**Approximate time**
15 minutes per small group (90 minutes for our class size of 24 students, which is perfect for our rotation time, but it could also be done in chunks throughout the day)

**Rationale for methods**
Students will use no other resources than the knowledge of the moon phases they have collected over the last few lessons to construct visual representations of each of the phases with OREO cookies. This is both a reinforcement activity and an informal summative assessment before the final summative assessment with their manipulatives.

**Content standards**
2nd Grade Science Core Standard 2.a: Observe, describe, and record patterns in the appearance and apparent motion of the moon through the night sky
2nd Grade Fine Arts Core Standard 2.V.CR.4: Repurpose objects to make something new

**Academic language/vocabulary objectives**
Students will need to evaluate and summarize their knowledge of the phases of the Moon to recreate the phases using the frosting in the middle of OREO cookies.

In order to accomplish these goals, the students will need to have a working knowledge of the terms: eight phases of the Moon (new moon, waxing crescent, first quarter, waxing gibbous, full moon, waning gibbous, last quarter, waning crescent), waxing, waning.

**Required materials, resources, and technology**
- OREO cookies: 4 cookies for each student (each cookie makes two phases) -- to be used to construct models of the eight phases of the Moon.
- OREO Moon Phases worksheet: Used as a graphic organizer for the students' Moon phases
- Popsicle sticks: Used to scrape and spread frosting into the various phases
- Plastic baggies: To save students' OREOs for lunch rather than letting them eat 4 OREOs at 11:00 in the morning
- Sanitizer wipes: To clean hands and desks before starting project. It is flu season and doing this project with dirty hands and desks would be an excellent way to get everyone sick

Lesson objectives
1. Students should be able to visualize and recreate each of the Moon phases from their own memory along with their proper names.
This objective aligns with the 2nd Grade Science Core for Moon phases.

Instructional Procedures
With the age group in mind, this activity is best done in small groups during rotation time. I chose to group 4 students at a time based on their ability level to differentiate the requirements.
and level of scaffolding for the activity. I will replicate two different group interactions, the first being my gifted/talented students and the second, my students with disabilities and/or IEPs.

"Now that we have spent a great deal of time learning about the phases of the Moon, we are going to replicate the phases using *dramatic pause* OREO COOKIES!!! Before we get started, I need everyone to take one of these sanitation wipes and clean your hands very well, I don't want you all touching food with dirty hands and getting sick later. You each get four OREOs and **only** four. Each cookie will make two phases and how many phases are there in the Moon cycle? Eight, yes. That being said, you must be gentle with your cookies because if they break, you do not get another one. I will show you how to properly separate the two cookies but first let's talk about the waxing and waning of the Moon. What side of the Moon is visible while it is waxing? Think back to our modules and where the Moon is in its orbit while it is waxing. What side of the lighted Moon is visible during its waxing period? The right side, excellent. It grows and grows to full moon, then what happens to the visible side of the Moon? It shrinks to the left side! Great! We would be able to visualize that with a flashlight on a basketball. Half of the basketball will always be lit, but only a portion of that lit side will be visible to a person standing in the center of its orbit. Watch me separate this cookie. You cannot simply pull them apart, it will break. You have to twist it apart and the frosting will come off cleanly of one side. Now I have one cookie with no frosting and another cookie with a **full** circle of frosting. What do these look like? New moon and full moon, awesome! After you have constructed your new and full Moons, move on to the other phases. Gently use a popsicle stick to spread the frosting around or scrape it off to create the appearance of a crescent, gibbous, or quarter Moon. When you are finished you must present your phases to me for approval and then you may eat ONE OREO. The rest we will put in bags for lunch. (Give students time to manipulative OREOs into the phases and scaffold further where needed)."

"Now that we have spent a great deal of time learning about the phases of the Moon, we are going to replicate the phases using *dramatic pause* OREO COOKIES!!! Before we get started, I need everyone to take one of these sanitation wipes and clean your hands very well, I don't want you all touching food with dirty hands and getting sick later. You each get four OREOs and **only** four. Each cookie will make two phases and how many phases are there in the Moon cycle? Eight, yes. That being said, you must be gentle with your cookies because if they break, you do not get another one. I will show you how to properly separate the two cookies but first let's talk about the waxing and waning of the Moon. What does it mean when the moon is waxing? It's growing bigger, awesome! So then what does waning mean? Of course, it's getting smaller. Is the Moon actually growing and shrinking? No? What is happening then? Can we rephrase that to, 'As the Moon travels in its orbit, it blocks its own light from the Earth?' So then let's think back to some of the diagrams we have colored, what side of the Moon is visible during its waxing period? The right! Great memory. Once it gets to full Moon, what happens? What side can we see after that? The left, yes, they are opposites. Let's make sure our OREO phases are accurate, since we know what side is visible during different phases. Watch me separate my cookie, you can't just pull it apart because it will break. Instead, you have to twist them apart like this. The frosting will come off clean from one side and stay on the other. What do these two cookies look like? I have one that has no frosting on it and another that has a perfect circle of frosting. New moon and full moon! Those are the easy ones! I'm going to twist open another cookie to make two more phases. This one didn't come off so easily but most of the frosting is on this side so I'm going to use this
popsicle stick to scrape the frosting off of the other one and onto this one to make a crescent and gibbous moon. I'm trying to do them in order, so how should I put my cookies down so that they look like they are waxing phases? Yep! Just like that, frosting on the right side just like the right side of the moon in the sky. Let’s do the next one together. Here is a cookie for each of you, twist them apart and then we will see what phases we are creating. Most of you have some half and half looking cookies. What phases can we make out of those? You’re right, those look very quarter-y to me too. How should we scrape and spread? Yeah, scrape all of the frosting off of one half of each cookie and smear it onto the other side so we have half and half cookies. Where should we put them on our organizers? In the first and last quarters, rad, I like it. Okay, here are three more cookies for each of you and remember these are the only cookies you get so be gentle. (Allow students time to finish phases and be attentive for any mini-lessons and further scaffolding that is necessary. These students are less likely to ask for assistance or even realize that they need some re-teaching)."

**Adaptations/accommodations**

All of my students are able to complete the tasks required in this lesson, but each group needs a different level of support and scaffolding. The highest group needs a more in-depth analysis of why we can only see portions of the Moon and minimal instructions on how to create the phases with their OREOS, but the lowest group needs a brief inquiry mini-lesson on why the phases appear the way they do as well as guided practice on how to create the phases with their OREOs and popsicle sticks.

With the lowest group I also allowed (J. and H.) to reference previous models they had created to remember what each phase looks like because their recall skills are below average and in order to be successful, they needed that extra support.

**Assessment**

This activity is the capstone on the unit before testing the student's knowledge, so formative assessment is crucial to pick out any holes in their understanding that could be clarified or addressed before the final assessment. To do this I will constantly ask questions while they are working to encourage a discussion that might point to any misunderstandings or weak points in the objectives.

My summative assessment will be when the student has finished their project, I will ask them to present it to me, including the names of the phases and the models they created with the OREOs. Because I am only allowing a few students to reference resources for the phases, I will know exactly who knows their phases and who does not, at which point I will determine where the hole is and incorporate a review at the end of the day so that they are fresh for their final assessment the next day.
4. **Reflection and evaluation of lessons, including analysis of assessment data.**

**Analyze student learning:**

**Student 1**

**Lesson 1:**
Student 1 had a greater amount of background knowledge for this unit than any other student in the class. During the first lesson he was useful for intervention with my lower students, which I utilized by taking him aside and asking him to walk around looking for someone that needed his help once he had finished his model. He took on this responsibility graciously and without being boastful. He followed directions quickly and efficiently, completing his model much faster than the rest of the class. He already knew that the Moon orbits the Earth and that both orbit the Sun.

![Image of student work](image.jpg)

**Lesson 2:**
During this lesson, Student 1 struggled with paying attention while I was modeling to the class how to construct the phases of the Moon. I assume this was because he was well above that level and didn't need any kind of explanation and therefore became bored of what was going on upfront. Unfortunately, he was also distracting the people around him and had to be reminded of what my expectations are when I'm addressing the class and/or giving instructions. After this gentle reminder he was quiet and efficient with his time. His phases were cut out sloppily but were in the right positions with the right labels. Although he had background knowledge of the Moon and its phases, he did not know their names or the order in which they occur but during
an interview I determined that he was already able to recite the phases in the correct order without looking at his chart.

Lesson 3:
Student 1 is a talented musician with both his voice and the piano. He takes private lessons after school and enjoys both. He has a lot of experience reading sheet music and picked up both the melody and lyrics much quicker than the rest of the class. He even offered to play the notes for me, which was him trying to be generous and thoughtful rather than a showoff in front of the class. I put him in charge of a small group to practice the song a few days later and it went very well. He was able to lead them without being bossy and everyone in that group excelled.

Lesson 4
During this lesson Student 1 was very active in the launch discussion at the beginning of the lesson. He was one of the few students that remembered the term, orbit, and demonstrated his knowledge with a thorough definition as well as a visual model with his hands. He was quick to finish coloring his model and immediately sought out people around him that needed his help and ended up sitting with the lowest student in our class throughout her work and paired with her to incorporate the manipulative. They were a great partnership, after checking in with them,
both were able to accurately show the location of the Moon in its orbit around the Earth at various phases. I am extremely impressed with his peer tutoring abilities.
discussion about the appearance of the phases and why the orbit of the Moon affects how much of the Moon we see, they asked if we could use one of the basketballs from our bin and a flashlight to show how it works. I didn't have time to do that lesson then, but I ended up doing a whole class visual lesson to show how the orbit changes how much you can see from the center of the orbit. I had heard of that lesson before but was skeptical of doing a whole-class with 2nd grade because of the class size and typical behaviors I see.

Student 1 finished his model fairly slowly because he took the time to make each phase look like a crescent and cover the appropriate areas of the cookie rather than rushing so he could eat it. Overall, his performance for this unit was exceptional. He learned new things to fuel his passion for space and was able to develop important social skills as well through peer tutoring. I would like to alter my instruction for him to include more critical thinking assignments and peer tutoring opportunities. He enjoys the extra work and explains concepts to his peers in ways I would never think of, but it works very well.
Lesson 1
Student 2 was extremely excited to begin this new unit because she loves looking at the moon. She tried her best to participate in the launch discussion by offering her opinions and thoughts on what certain terms might mean. She is always eager to participate and be called upon in class even when she isn't sure of the answer but has an idea she would like to share. I admire this quality in her because she is not afraid to be wrong and has contributed greatly to discussions in our class because she thinks outside of the box without concern for her peers' opinions. During the construction time of her module she needed lots of validation and asked many questions to make sure she did it right the first time. She drew a frowny face on her Moon because, "He is sad because he's so much littler than the Earth and Sun." Student 2 was unsure of how the Moon didn't go flying off on its own and needed a mini-lesson on gravitational pull. But overall constructed her module nicely and followed directions without being reminded.

Lesson 2
During this lesson Student 2 was characteristically attentive to instructions and followed them closer than any other student in the class. She was excited during the discussion portion because she knew the definition for "cycle" and was able to explain that it's kind of like recycling where you reuse stuff over and over again. Before constructing their models I suggested to the students that they cut everything out and place it on the black page before gluing in case they put too much space in between phases and have to squish them all together at the end of the cycle. She cut everything out and spaced it in a way that she liked, and I think it turned out very
well even though her waxing gibbous is facing the wrong way. I took a moment to ask her if all of her phases were facing the right way and she immediately saw the one that was out of place but the glue had already dried so I checked for understanding that it was facing the wrong way and left it at that. She needed me to read all of the descriptions to her because they are above her reading level but didn't need them repeated. Her retention is amazing and will serve her well later on in her academic life.
Student 2 was absent for lesson 3 but was eager to make up any missed work and specifically asked for any papers that she needed. I gave her the sheet music and sang it to her a couple of times and she caught the melody very quickly. Although the lyrics were difficult for her to read, she memorized them in about a day and was enthusiastic about singing the song (especially the chorus) at the top of her lungs with big gestures for the different phases and the "waxing and waning" chorus.

**Lesson 4**

This lesson was hard for Student 2 because she kept forgetting which way to hold her manipulative so that it matched the diagram on the paper. She was very excited to show me her sun because she used three different colors for it rather than coloring it "boring yellow". I worked one-on-one with her using her manipulative from lesson 1, singing the song, and using my own manipulative along with her to help get a good grasp on the order and location of the Moon at different phases. Once she got through it on her own she was excited to join a group of girls that were practicing together and was quick to come back and show me the progress she made. She had a rough start but powered through to develop a pretty good understanding of the concept. She was able to sing the song and move the manipulative to the right spot, but she does not understand why the location of the Moon affects how much of it we can see from Earth.
Moon Phases

Color the dark side of the moon black, then color the sun and the Earth. Why is part of the moon dark and part light each night?

New Moon

Waxing Crescent

Waxing Quarter

Waxing Gibbous

Full Moon

Waning Crescent

Waning Quarter

Waning Gibbous

Name:
Lesson 5
Student 2 also struggled with this lesson because she is not very good at visualizing the phases and then replicating them. She could remember the order they came in and what the crescent moons looked like but needed brief re-teaching on the quarter and gibbous moons. She was cheerful and enthusiastic throughout the project even though she was struggling and continued to ask for help regularly to improve her understanding. Her OREO phases turned out pretty sloppy and she used her fingers for spreading instead of her popsicle stick but was fully engaged in the discussion about the visible sides of the moon during waxing and waning. She pointed out that it is confusing for waxing to mean the Moon gets bigger because her mom gets her eyebrows waxed to make them smaller. I think that knowing they are opposite will actually help her down the road after she hasn't studied it for a while.
Overall, Student 2 seemed to have a pretty shallow understanding of the phases of the Moon. She knows the order they come in and where they are in its orbit at the various phases, but she was unable to understand why it appears different based off of where it is located. I am going to spend more targeted time with her on future lessons to make sure nothing is left with a hole in it after moving on to new topics. She was engaged, excited and enthusiastic about all of the lessons and even woke up early to see the Super Blue Blood Moon. Student 2 was very disappointed that the clouds were covering it.
Analyze teaching effectiveness:
Discuss the instructional decisions you made before or during instruction, due to time constraints, students’ needs, other alterations:

Lesson 1
- I ended up structuring the construction process way more than I planned and it stretched the lesson far longer than anticipated. I did this because my students were not trustworthy with their push pins. I caught a couple of students trying to poke each other and not using their materials responsibly so the lesson had to split into two parts to allow time for my mentor teacher and I to poke holes in everyone's models, so all of the students would be safe from each other. It was disappointing that I couldn't trust them with those tools.
- The students picked up on the terms 'orbit' and 'rotation' very quickly because they were able to reinforce the definition of the terms by physically manipulating the models they built. I am pleased with the outcome of the lesson because that was my goal going into the lesson and the rationale for the manipulatives I chose.
- The independent discussions within groups was a disaster. I thought that my students would be able to handle that responsibility but what I thought would be a valuable component of the lesson and the development of critical thinking turned into a talk-about-recess-time. I had to end the discussion early and bring it back around to whole-group to accomplish the goals I had in mind for the discussion. I think the problem was that my students do not have a lot of experience discussing independently without a lot of structure. This could be fixed by explicitly teaching my expectations for discussions as well as consideration of a new seating chart that is differentiated, as well as discouraging chatting with neighbors.
- Both of my students performed very well but Student 2 could have used more scaffolding and structure. Some of her questions arose out of a lack of confidence in what she was doing, but a lot of it was genuine confusion and lack of understanding. I could solve that and be better prepared by being more observant of my students and those that typically struggle.
- The lesson went fairly well aside from the discussion chaos and danger in push-pins. The only things that I would change would be to make the discussion a structured whole-class scenario and perhaps pre-punch all of the holes necessary before passing out the papers to be colored and cut-out.

Lesson 2
- Learning from my first lesson, I decided to change the partner discussion to a structured whole-class discussion because my time was limited, and I did not want to waste time reining the class back in. Instead of asking students to discuss the new moon with their neighbor I asked them to take 10 seconds to form an opinion and be ready to share. Instead of calling on students with their hands raised, I called on students that I know
typically tune out during this kind of discussion and was pleasantly surprised by the ideas that they offered

- The models were beneficial for developing the students' familiarity with the phases of the Moon by offering hands on manipulation and interaction. Not only did the students have to cut out the phases and descriptions but they had to rotate the phases to face the proper direction.

- I suggested to the students that they cut everything out first, lay it on the paper in a way that fits, and then glue it so that it would be spaced properly, but most students chose to ignore that advice and instead glued as they cut pieces out, resulting in messy, nonsensical diagrams. This happened because I thought of it after signaling the students to start working. I gave them an attention call and gave them that direction, but it interrupted the flow of the lesson and was missed by most of the students.

- Both of my students followed the direction of cutting out first and then gluing but they were among the few. I think that more consideration to the wordage I use would greatly improve the effectiveness of my lessons. Focus Student 2 would benefit from a plan to gradually release responsibility because I feel like she lacks confidence in the assignments she works on and tends to second-guess herself.

- The only alteration I would make to this lesson would be to be more specific in my directions for the construction of the models. Even though I modeled how to cut out the pieces and put them together, I should have thought ahead to the tendencies of 7 and 8-year-olds to determine a better set of directions.

**Lesson 3**

- Switching classrooms went very smoothly and did not take a lot of time, however, I ended up spending all 15 minutes playing on the piano and singing with the class instead of splitting into small groups without the piano because most of them had a hard time picking up the melody of the song, which was the most important part of this lesson because the lyrics can be memorized later on.

- The piano was great for this lesson and I am not sure how it would have gone without the piano. It was fun, and the students enjoyed a switch up in the routine. It was engaging and exciting for all of the students. Even after we had finished that lesson the students continued humming and singing the song quietly to themselves as we worked on other lessons.

- I was not anticipating how long it would take for the students to pick up on the song. I wish that I had scheduled more time in our day to work longer but I solved that problem by incorporating the song in our lining up for recess, lunch, and to go home.

- Focus Student 1 did an excellent job because he is musically talented and receives private lessons in both piano and voice. Student 2 was absent the day we switched classes and needed a targeted mini-lesson to learn the melody of the song and practiced repetition to memorize the lyrics, which are above her reading level.
If I could alter this lesson I would schedule more time to practice the song as a class before moving on. The students were very disappointed that they did not have the chance to practice in small groups and perform for each other. I managed to squeeze a little time at the end of the day, but it would have been more effective directly after learning the song.

Lesson 4

• I spent a little more time scaffolding how to connect their two different models together rather than assuming they would be able to make the connection themselves. There were a few students that have the logical reasoning skills to figure it out, but the rest of the class would have been completely lost, off-task, and distracted. Using what I discovered from my previous lessons, I decided to be a little more cautious rather than regret wasting time re-gaining everyone’s attention.

• Having the two models to compare helped students synthesize their knowledge of the names of the phases with where the Moon is located during each phase. This physical manipulation further reinforced their deep understanding and aided my lower-level students with their achievement of the lessons objectives.

• I should have specified the partners and chosen them myself. I assumed everyone would pair up with someone right next to them but ended up with students that are distracted and did not work responsibly together. I could have easily fixed this by specifying who the partners were to be, which would have made my lesson a little more effective. As it was, most of the students worked well together but there were a few groups, the students that typically fall behind, that were off-task and did not make the most out of their practice time.

• Student 1 thrived in this lesson and was able to use his advanced knowledge of the Moon to help those around him that needed a little more support while I was working with other students. Student 2 struggled a little bit but after a mini-interview and some one-on-one practice, she was just as proficient as the other students around her. She likely would have been more successful if she had not missed so many days of school during this unit, but she was quick to ask for help and managed to catch up with her classmates.

• A change I would make to improve the effectiveness of my lesson would be to have partners pre-selected in a differentiated manner. Peer tutoring has been a very successful strategy in our classroom and I would like to continue encouraging those relationships between students.

Lesson 5

• I was fortunate enough to have a mom-volunteer in our room the morning that I taught this lesson so instead of teaching each of the groups myself, I was able to split half of the groups and give them to her with a brief explanation of my goals for the lesson. Because I had extra help, I was able to double the amount of time that each group had
at the OREO table, which allowed me a little more targeted instruction time in my small groups.

- The OREOs were great! All of the students were motivated to listen and participate. Not only was it a fun activity but because they were in small groups I was able to make it an effective learning opportunity as well. Each of the students took their time to evenly spread and scrape the frosting into the correct phases.

- I should have bought an extra box of OREOs because the second box I brought was mostly broken. My students were very patient and understanding but noticeably disappointed when they had to use broken OREOs for their Moon phases. I only bought enough OREOs for every student to have four cookies but having extras would have been wise.

- I was very pleased with my two focus students and the care they took to create accurate models of the Moon phases. Student 1 did not need any extra support for constructing his model, but Student 2 required a few mini-lessons within the small group. She would have benefitted from extra support throughout the unit.

- The only change I would make to this lesson would be to bring an extra box of OREOs in the event that some of the OREOs in the packages come cracked. It is disappointing to the students when they are given broken cookies to work with.

**Overall**

- I used A LOT more scaffolding than I wrote into my lesson plans because the more time I spent with the class, the more I saw how much support they needed in order to be successful. There is a broad spectrum of abilities in our classroom, which I have found to be a challenge when differentiating and/or keeping all of my students engaged all at once. I found that peer tutoring and OVER PLANNING was the key to success. There is a group of about 6 students that finish their work very quickly but accurately and are accustomed to asking, "Now what?" I came up with extra reading and writing assignments for when they finished their work that was a big hit! My mentor teacher has short leveled readers about the solar system and all of the planets that I used as extra work for the students who finished early. All of my lessons took 10-15 minutes longer than I anticipated but I did not have to cut any portions out (thankfully). It was not a bad thing that the lessons stretched longer because my students were constantly engaged, there wasn't a lot of wasted time during transitions, and everyone seemed to enjoy the lessons and the things they were learning.

- I added an integrated writing lesson in the middle that used a Scholastic News article on reasons why you might want to visit the Moon and reasons why you might now want to visit the Moon. I incorporated an opinion piece because it is in the 2nd Grade Writing Core Standards and the students loved it. It started in small reading groups where I read with each of the groups, launched the lesson for later in the day, and helped each student start thinking of their opinions and how they wanted to write their paper. Later in the day I gave them a graphic organizer called an OREO chart (lots of OREO lessons I
guess) O-Opinion R-Reason E-Evidence O-Opinion. It's a little organizer that helps them put their thoughts into order and write an opinion paper. After everyone finished their papers, I opened up the front of the classroom (and the teacher's chair) to anyone that wanted to share what they wrote, and I was absolutely blown away by the topic sentences, structure, and general quality of the writing we achieved. Almost everyone shared with the class and it was a very fun lesson.

- After my first lesson I created a much more structured management plan for the lessons because I felt like I was wasting time with individual corrections and warnings, etc... I was much more specific with my expectations and regularly checked for understanding of those expectations before moving on. I feel like it greatly improved the effectiveness of my lessons and the amount of learning that occurred because there were not as many interruptions to the flow of the lesson. The students loved the Phases of the Moon song and dance. We practiced it while lining up for lunch and recess, they would come in still singing it, and I think it was a huge factor toward their success in the final assessment of the unit. 100% of my students passed their assessment, which was a one-on-one presentation with their manipulatives. I asked them to tell me the phases in order and show me where the Moon was located during each phase. Most of my students sang the song while they tested, and I could tell the rest were singing it in their heads but were too shy to sing it by themselves. I feel like all of the physical models and diagrams helped to carve the images into their minds because they were constantly looking at the Moon cycle whether it was in an assignment, a reading, or a decoration in the classroom. We fully immersed them in this lesson and I feel very good about the results.

- The independent discussions were not great. A lot of insightful things were said by a handful of students but for the most part it turned into talk-about-recess-with-your-group-time. I was pretty disappointed because I know that discussion is a huge part of student learning and I was hoping to engage critical thinking through my differentiated seating chart, but I ended up stopping most of the discussions early because the time was being misused. I think that I could solve that problem by explicitly teaching my expectations for independent discussions as well as keeping the activities moving and changing. I'm not sure how much experience they have with that type of instruction and it would be worth addressing with the students because I believe it is an excellent way to develop ideas. 2nd Grade is the youngest grade I have taught so far, and I am learning new things about how ideas need to be approached, how to handle certain situations, the level of modeling that is required, etc... I am also in the middle of a new seating chart that is focused around 3 students that are the main instigators of distraction in groups. They are all wonderful, smart kids, but they forget what is appropriate during certain times, which I think can be fixed with re-teaching the classroom rules and expectations. We met with a behavioral specialist during one of our PLCs and she highly recommended a few alterations to the classroom management in our room and we have already started seeing positive results from the small changes we have made.
• Both of my focus students performed wonderfully, and I am not sure there is much that I would change. I think that I would have more "in-between" work planned and established rather than grasping desperately for something to give my kids that finish quickly. I might change the order in which things are introduced. For example, I think it would've been beneficial to teach the song earlier to help with their models, but it wouldn't make any sense to them if it was the first lesson before the phases were even introduced. I think it might be a good two-part lesson with lesson one, however. Learning the names of the phases and what they look like would certainly help them construct the models without needing as much structure and scaffolding.

• I would eventually love to have an entirely integrated unit where all of my subject matter is covered in math, language arts, social studies, music, etc... I feel like the best way for students to develop deep understanding is for that full immersion into the subject. The writing assignment that I added last minute really engaged students that were barely floating along, disinterested in the subject matter because it gave them the opportunity to apply their personal opinion to the topic. If they thought the Moon was stupid, they were able to do so by telling me why they wouldn't want to visit the Moon. All without realizing they were learning about the Moon and becoming engaging writers as well!

• I would consider this unit a great success. My students enjoyed the lessons, they tested very well in their final summative assessment, and it was fun to teach. I like this unit because it can also be modified slightly to fit similar objectives in older grades. I gave a copy of my Moon Phase song to the school's music teacher because she thought it would be great for her 6th graders too.