EDU 320 – Synthesis Paper

Rebecca J Brydl

University of Mary

EDU 320 – Synthesis Paper

This paper discusses the important themes of what it means to be a teacher and how to apply those themes in a classroom setting. Each theme involves a description, an artifact, and how I will apply the theme in my classroom. Implementing each theme in the classroom is important because it will allow you to write well-developed lesson plans while teaching your students effectively and efficiently.

The Effective Teacher

Description

The effective teacher is someone who is committed to their students and their learning, is responsible for managing and mentoring student learning, and are members of the learning community. A teacher is committed to their students when they are constantly interacting with their students by keeping them engaged in the content to influence the cognitive and affective performance of the students. An effective teacher has clear lessons, a variety of instructions, allowing students to contribute ideas, and questions students at all times which all lead to an increase in student engagement in the classroom.

Artifact

See Appendix A to see a paper outlining examples of standards.

How it Will Be Used in Classroom

I will implement this theme in my classroom by constantly interacting with my students and keeping them engaged with the content throughout the school year. I believe engagement in the classroom is quite important because if you do not have your students engaged, it will lead to distractions and behaviors may begin to develop which will affect the class as a whole. I will develop a variety of instructions for my students to follow so they will be able to switch it up and

not have to follow the same generic instructions every time. Also, I will encourage the students the ask questions and contribute ideas to the content at hand or give ideas of what they want to learn about.

Understanding Your Students

Description

Being able to understand your students as a teacher is an important factor in a classroom. Not everyone is alike and all students have a preferred way of learning. It is important for a teacher to get to know their students because then a student-teacher relationship will be able to form allowing the students to feel comfortable with their teacher. Also, as more relationships form, a community will build within the classroom allowing for learning to take place while having fun.

Artifact

See Appendix B to see how I will get to know my students.

How it Will Be Used in Classroom

I will implement this theme in my classroom by getting to know each student individually to develop a student-teacher relationship with them. On the first day of school, I will have the students fill out the, “Introduce Yourself” worksheet so I will be able to begin to know who they are as well as their classmates. Once the students start to feel comfortable in the classroom and feel they are welcomed, they may start to open up and learn they can be themselves which will also allow me to get to know their personalities.

Goals, Standards, and Objectives

Description

Goals help us express our values that give us a sense of direction to where we want to go or be at in a certain point of time. Standards identify what we will learn which gives us energy and motivation to work on our goal. Objectives are related to the behaviors that must be achieved, the conditions under the behavior that must be demonstrated, and the ability the behavior must be performed at. Standards and objectives go back to goals because it is what we state in our standards and objectives that will help us reach our goal.

Artifact

See Appendix C to see a paper about standards, goals, and objectives.

How it Will Be Used in Classroom

I will implement this theme in my classroom by having the class create class goals that we will add to throughout the school year as they are completed. It will allow for student engagement and something for the students to work towards as an individual and as a class. I will use standards and objectives throughout my class by incorporating them in the lesson plans I create that the students will learn from when giving the lesson plan. The standards and objectives will help keep me on track along with the students who will work towards meeting the objectives I have set for each lesson plan within a unit.

Unit and Lesson Planning

Description

Lesson plans explain the objectives of a certain lesson and how the teaching is planned in order to accomplish those objectives. A lesson plan must contain an attention getter, the

objectives, the content going to be taught, feedback, and assessments. A unit plan contains numerous lesson plans to complete one unit of a subject.

Artifact

See Appendix D to see a Second-Grade lesson plan about construing maps.

How it Will Be Used in Classroom

I will implement this theme in my classroom by developing lesson plans for each lesson I will be teaching throughout the school year. Each lesson plan will help me get the information to the students in an organized manner while keeping the students engaged throughout each lesson plan. Each lesson plan will relate back to the standards which will guide me in what I will be teaching. Even though I will be creating lesson plans for each lesson, this does not mean I will have to use the lesson plan each time. I can have the lesson plans created for me to refer back to for guidance if needed in order to guide the students in the right way to grow in their learning.

Technology Integration in Instruction

Description

Integrating technology in instruction is an important factor in today's educational setting because of the growth of technology over the past years. Technology helps with supporting students' cognitive processes, allowing students more for higher-level cognitive skills, allowing students to engage in activities that would be difficult to hold in the classroom, and allowing them to generate solutions and assess themselves in future work. Allowing technology in the classroom helps with student engagement along with the students being able to engage in tasks that interest them and collaborate with their peers who are engaged in similar tasks.

Artifact

See Appendix E too see how technology will be integrated into a Second-Grade lesson plan about constructing maps (The highlighted portion).

How it Will Be Used in Classroom

I will implement this theme in my classroom by allowing the students to use technology when applicable to enhance their learning other than in the classroom through worksheets and other classroom techniques. I will have a smart board in the classroom in order for the students to interact with it throughout lessons and play videos on for the students to listen to/interact with during brain breaks or sing along to. Some students may struggle with math in the paper and pencil concept so in order to keep them engaged, I will find a program for them to play on by completing math problems in a fun and interactive way which I will also do with other subjects depending on the content being taught.

Questioning Strategies

Description

Questioning strategies that are effective allow students to come up with a response which allows them to become engaged in the learning process by conducting adequate responses. Questions can be created at different levels of cognitive complexity such as asking the students to recall or define facts that have already been learned or asking the students to go beyond what they have learned. No matter the question strategy that is used, it is important to include those questions in class because it will help the student's cognitive processes grow allowing them to create well-developed questions when asked.

Artifact

See Appendix F to see how questioning strategies will be used in a Second-Grade lesson plan about constructing maps (The highlighted portions).

How it Will Be Used in Classroom

I will implement this theme in my classroom by questioning the students whenever possible. Questioning the students allows their cognitive process to start working which enhances their ability to answer questions also while developing them. I will do this by telling the students that they could be called on at any time so they will stay engaged and be ready to answer any question at any point throughout the lesson. Also, as I or the students ask questions, I will ask other students for input on what they think about the question/answer so there is continual building occurring on the topic to keep the students' minds actively thinking.

Teaching Strategies for Direct Instruction

Description

Direct Instruction is a whole class model that allows students to master one new fact, rule, or sequence before the next lesson by practicing the procedure. Direct Instruction is used when the text in the books are not giving enough information to the students so in order to spike their interest, you can offer them a way to learn the material hands-on instead of worksheets. This can be mastered through guided practice and giving the students feedback about their performance on the procedure to help them master the content.

Artifact

See Appendix G to see a Direct Instruction lesson plan for a First-Grade science lesson about sound.

How it Will Be Used in Classroom

I will implement this theme in my classroom by incorporating demonstrations into my lessons instead of lectures which can get somewhat boring from time to time. This will allow modeling to take place which the students can learn from then either individually or group demonstrate it from what they learned. Another way I will implement this theme is through charting information in the from of a chart, table, or graph. This will allow the students to visually see the content being taught while contributing to the creation of the chart, table, or graph. Once the visual representation is created, it will be hung up for the students to refer back to or copy it in their notes.

Teaching Strategies for Indirect Instruction

Description

Indirect instruction involves a higher level of student involvement by observing, investigating, drawing conclusions from data or forming hypotheses. This involvement from students allows them to answer questions given to them or ones they developed about the content at hand. Indirect instruction helps keep students interested in their learning and promotes curiosity along with encouraging them to create alternatives to solve problems.

Artifact

See Appendix H to see an Indirect Lesson plan for a First-Grade science lesson about sound.

How it Will Be Used in Classroom

I will implement this theme in my classroom by developing general questions for the students to review. Once the students have reviewed the questions, they will then use those questions to guide them in a phase of search and discovery while also developing their own questions to solve problems. A second way I will use this theme in my classroom is allowing the

students to self-evaluate themselves and other students in order to receive a different kind of feedback besides from the teacher. A third way I will use this theme in my classroom is to incorporate a good amount of group discussion to allow for student input and for the students to be engaged and hear ideas/comments from their peers.

Assessing Learners

Description

Assessing learners throughout a unit or within a lesson plan is important because it will allow the teacher to see where their students are at with the content. It also allows teachers to adjust their teaching strategies and for students to adjust their learning strategies if needed. There are multiple assessments teachers can use such as tests, quizzes, exit slips, and many other assessments that will benefit student learning and not all have to be graded.

Artifact

See Appendix I to see a Third-Grade math test along with the levels of Blooms Taxonomy.
See Appendix J to see a Performance Assessment about perimeter and area along with a rubric.

How it Will Be Used in Classroom

I will implement this theme in my classroom by assessing the students at all times whether it is through questions, exit slips, journals, performance tasks, essays, quizzes, and tests. These types of assessments will allow me to see where each student is academically and if I need to change my ways of teaching in order to improve student assessment. Not every assessment will be graded, but will be given as a review of the content for the students to file back through their memory and think about what they learned to answer the given question(s).

Conclusion

This class has been quite beneficial in myself growing as a pre-service teacher. I have been able to gain knowledge in multiple areas I have not learned about before such as how to create a well-developed lesson plan. I have created lesson plans in past semesters, but not as developed as the ones created this semester have been. With creating lesson plans or adding onto new ones throughout this class, has helped me learn how important it is to prepare a lesson in order to meet the needs of each student so they will grow academically in their learning. The greatest take-aways from this class have been learning how to develop each section of a lesson plan along with learning how to assess students. I have not created assessments before so it was interesting to be the test creator instead of the test taker. I enjoyed making the test because it allowed me to realize how much effort goes into making a test, but it can also be fun depending on the subject the test is on. I enjoyed taking this class as a whole as I learned a great amount of new information that I will be able to apply to my teaching strategies.

References

L Borich, Gary D. (2017). *Effective teaching methods: Research based practice.* University of Texas at Austin: Pearson Education, Inc.

Appendix A

Standard #1: Learner Development. The teacher understands how learners grow and develop, recognizing that patterns of learning and development very individually within and across the cognitive, linguistic, social, emotional, and physical areas, and designs and implements developmentally appropriate and challenging learning experiences.

a. In Junior High, I was in band and played the clarinet. We had band three days a week on Mondays, Wednesdays, and Fridays. At the beginning of each class, my teacher would write some measures on the board and as a class we would talk them out such as what the count was and what each note was. After we did that, we practiced the music. Then at the end of class, we would have to do an exit slip. We would either write it on a piece of paper and give it to him or he would verbally ask us questions about notes and measures.

Standard #2: Learning Differences. The teacher uses understanding of individual differences and diverse cultures and communities to ensure inclusive learning environments that enable each learner to meet high standards.

a. In 6th grade, my teacher invited a college student from DSU in Dickinson, ND to come to our class and talk to us about her culture since we were discussing different cultures in our class. This student was from Uganda and she taught us about her country and what it is like to live there. She also told us about how the culture is different there in contrast to here in the U.S. This helped us gain an understanding of how cultures are different and hearing it from another perspective besides the textbook gave us a new way to look at things.

Standard #3: Learning Environments. The teacher works with others to create environments that support individual and collaborative learning, and that encourage positive social interaction, active engagement in learning, and self-motivation.

a. During my grade school experience, I remember doing a lot of group work during certain classes such as math, art, or science. It was fun to do group work because we were able to socialize with our classmates even if our friends were not in our groups. The teachers usually picked our groups so no one would be left out. Depending on the assignment, our teachers gave us the option to work individually if we desired.

Standard #4: Content Knowledge. The teacher understands the central concepts, tools of inquiry, and structures of the discipline(s) he or she teaches and creates learning experiences that make these aspects of the discipline accessible and meaningful for learners to assure mastery of the content.

a. During high school, most of my teachers liked to make learning fun, especially before we had a test or quiz coming up. During my freshman year in Physical Science, my teacher would create a Jeopardy game we would play in class before a test or quiz which helped us study instead of her giving us a study guide and completing it on our own. She also split us into teams and one person from each team would be the spokesperson who would give the answer to the question when it was our turn. During my History classes, my teacher would create Kahoot's for us which we would play during class and was effective because he would put some questions from the test on there so we would know what to expect.

Standard #5: Application of Content. The teacher understands how to connect concepts and use differing perspectives to engage learners in critical thinking, creativity, and collaborative problem solving related to authentic local and global issues.

a. During grade school, we were learning about climate change one week and one way our teacher helped us understand temperature change was teaching us how to use a thermometer. She first taught us how to read a thermometer then gave us art materials to make our own. After we did that, she tied the concept of thermometers in to how temperature changes and can affect the world drastically, especially with global warming and the melting of ice and snow in Antarctica.

Standard #6: Assessment. The teacher understands and uses multiple methods of assessment to engage learners in their own growth, to monitor learner progress, and to guide the teacher's and learner's decision making.

a. In all of my classes from grade school to college, I have taken numerous tests in multiple formats. Teachers have given written tests such as fill in the blank, true and false, and multiple choice. They have also allowed us to take partner tests, open book/note tests, and verbal tests. Each of these test formats helped me grow in my test taking skills especially with my decision-making skills. Also, these test formats helped build my verbal skills in how I word my answers in both written and verbal tests.

Standard #7: Planning for Instruction. The teacher plans instruction that supports every student in meeting rigorous learning goals by drawing upon knowledge of content areas, curriculum, cross-disciplinary skills, and pedagogy, as well as knowledge of learners and the community context.

a. In my 7th grade English class, we learned about Greek Mythology for a couple of weeks and one assignment she gave us was to learn about a Greek god or goddess and make a poster about them which she gave us. We designed how the god or goddess looked then wrote interesting facts about them which were then hung up in the hallway for every one to see and read.

Standard #8: Instructional Strategies. The teacher understands and uses a variety of instructional strategies to encourage learners to develop deep understanding of content areas and their connections, and to build skills to apply knowledge in meaningful ways.

a. In each of Dr. Marman's classes I have taken so far, she has used one instructional strategy which I have found to be quite helpful. During each class, she has us turn and talk to those around us about the material we are discussing in class that do or material we have previously discussed. This helps up learn the material by getting a deeper understanding of what we talked about and to hear what others think about the material. I find this strategy to be quite beneficial because it breaks up the class and it isn't just her lecturing to us the whole class period, we are also contributing by discussing our thoughts amongst ourselves.

Standard #9: Professional Learning and Ethical Practice. The teacher engages in ongoing professional learning and uses evidence to continually evaluate his/her practice, particularly the effects of his/her choices and actions on others (learners, families, other professionals, and the community), and adapts practice to meet the needs of each learner.

a. During grade school, there were a few times where our teacher would invite our parents to the classroom to either help us with a project or watch us perform a play. I remember one time in 5th grade when my mom came into the classroom and helped us make a

project for the School Fall Gala. She had us paint trees and other objects that went along with topic for her project. It was great to have her in the classroom because she was able to build a relationship with my teacher and also with my classmates which is important.

Standard #10: Leadership and Collaboration. The teacher seeks appropriate leadership roles and opportunities to take responsibility for student learning, to collaborate with learners, families, colleagues, other school professionals, and community members to ensure learner growth, and to advance the profession.

a. In 6th grade, our teacher had us do student led conferences a couple of times. Before we had conferences with our teacher and our parents, she would take us each individually out of the room and discuss our grades with us and we would discuss how we as students thought we were doing in school. When it was time for conferences that night, we would discuss with our parents what we talked about with our teacher early that day during school.

Appendix B


Introduce Yourself!
NAME _____
This is me!
Happy Birthday!
Month: _____
Day: _____
I am _____ years old.
When I grow up, I want to be a
_____
Favorites!
Subject _____
Book _____
Color _____
Sport _____
Food _____
Holiday _____
This is my family!
Brothers? _____
Sisters? _____
Pets? _____
Oldest, middle, or youngest? _____
I learn best when...
_____
I am happiest when...
_____

Appendix C

Standards and Objectives

1. The standards were developed through a collaborative effort with North Dakota Early Care and Education professionals.
2. The standards describe the skills, behaviors, and knowledge that all young children should know and be able to do to succeed in school.
3. The standards are organized to inform choices in curriculum and learning materials, to plan daily activities, and to inform intentional teaching practices.
4. The standards are there to show how important play is, early learning, and child development to ensure well-informed decision making on issues that might impact young children.
5. The standards are organized into the following elements: Domains, Sub-domains, Goals, Developmental Progressions, and Indicators.
6. The domains are broad areas of early learning and development from birth to 5 years that are essential for school and long-term success.
7. The central domains are: Approaches to Play and Learning, Social and Emotional Development, Language, Communication, and Literacy, Cognition, Social Studies, Creative Arts, and Perceptual, Motor, and Physical Development.
8. The developmental progressions describe the skills, behaviors, and concepts that children will demonstrate as they progress towards a given goal within an age period.
9. The term “emerging skill” is used for the youngest infant age group when specific skills, behaviors, or concepts have not yet emerged or are not yet observable.

10. Indicators are identified for each goal for children 36 months and 60 months of age. They describe specific, observable skills, behaviors, and concepts that children should know and be able to do at the end of 36 months or at the end of 60 months.

Appendix D

<table>
<tr><td colspan="2">Grade: Second</td><td colspan="2">Subject: Geography</td></tr>
<tr><td colspan="2">Materials: Paper, pencils, markers or colored pencils</td><td colspan="2">Technology Needed: None</td></tr>
<tr><td colspan="2">Instructional Strategies:
X Direct instruction
X Guided practice
☐ Socratic Seminar
☐ Learning Centers
☐ Lecture
X Technology integration
☐ Other (list)
☐ Peer teaching/collaboration/ cooperative learning
☐ Visuals/Graphic organizers
☐ PBL
☐ Discussion/Debate
☐ Modeling</td><td colspan="2">Guided Practices and Concrete Application:
☐ Large group activity
X Independent activity
☐ Pairing/collaboration
☐ Simulations/Scenarios
☐ Other (list)
Explain:
☐ Hands-on
X Technology integration
☐ Imitation/Repeat/Mimic</td></tr>
<tr><td colspan="2">Standard(s)
G.K_2.1 Construct maps, graphs, and other representations that contain symbols, labels, and legends.</td><td colspan="2" rowspan="2">Differentiation
Below Proficiency: The students can follow the instructions on the board and ask for help to position the objects in the classroom.

Above Proficiency: Drawing another map of a room the student is familiar with on their own.

Approaching/Emerging Proficiency: Being able to complete the map of the classroom.

Modalities/Learning Preferences: Visual</td></tr>
<tr><td colspan="2">Objective(s)
The students will be able to explain what a map is and the terms that go along with a map.
The students will illustrate and draw a map of their classroom with the correct symbols, labels, and legends.
The students will create a map of their room on their own at home then bring back to school the next day.

Bloom's Taxonomy Cognitive Level:
Understanding, Applying, Creating</td></tr>
<tr><td colspan="2">Classroom Management- (grouping(s), movement/transitions, etc.)
The students will be working on their maps individually but will break into groups of 2-3 after each student has finished their map of the classroom and discuss with one another how they made their maps and why they are important.</td><td colspan="2">Behavior Expectations- (systems, strategies, procedures specific to the lesson, rules and expectations, etc.)
Students will respect the spaces of others and of the room. The students will also follow the directions the teacher gave them. I will enforce this by only allowing 2-3 students to go to a part of the classroom so one area is not overcrowded and so no one is bothering one another.</td></tr>
<tr><td>Minutes</td><td colspan="3">Procedures</td></tr>
<tr><td>3-4</td><td colspan="3">Set-up/Prep: I will print off the "Reading a Map" worksheets to handout to the students and set out the materials the students will need to create their maps of the classroom.</td></tr>
<tr><td>10</td><td colspan="3">Engage: (opening activity/ anticipatory Set – access prior learning / stimulate interest /generate questions, etc.)
Pre-Assessment: Before starting the lesson, I will tell the students that we are going to learn about maps and I will hand each student a KWL chart (What I Know, What I want to Know, and What I learned). They will fill out the last section of the chart after the lesson is over.
I will ask the students if they have seen a map before and what it looks like. Have you seen a map before, if so, what does it look like? (Knowledge & Getting interest and attention)
I will show the students a map of the world and a video about maps.
https://www.youtube.com/watch?v=Czk4p5QmLSA
I will ask the students who has read a map before.
I will ask the students to share what they know about maps. What does a map all entail? (Recalling specific facts or information)</td></tr>
<tr><td></td><td colspan="3">Explain: (concepts, procedures, vocabulary, etc.)
First, I will tell the students we are learning about maps today and are going to create our own.</td></tr>
</table>

<table>
<tr><td>6-8</td><td>Second, I will define the vocabulary words we are going to use to make maps. A map is a picture or chart that shows rivers, mountains, streets, ect. In a certain area. A legend (map key) is a list that explains the symbols on a map. A compass rose is a circle printed on a chart to show direction (N, S, E, and W). Symbols are pictures used to represent a word or group of words. Before each word is defined, the teacher can check to see if any of the students know what the words mean and define them. (Diagnosing & checking) After each word is defined, I will ask the students if they wrote each definition down and if they can think of another way to describe each word for a higher level of understanding. (Managing, Encouraging higher-level thought processes & Comprehension)
Third, I will handout the “Reading a Map” worksheet to complete as a class.
Fourth, I will tell the students they are going to make a map of the classroom by their selves. Now that we have completed the “Reading a Map” worksheet as a class, can you make a map on your own with what you have learned so far? (Structuring & redirecting learning, Application & Synthesis)
Fifth, I will give a general layout of a map on the whiteboard with a title and the map key of the classroom for the students to look at.
Sixth, after each student has created their map, they will discuss with others how they created their map of the classroom. Each student will ask another student, “Why did you put that object in that area, how did you know to put it there, and what label did you give it?” (Evaluation)</td></tr>
<tr><td>15-20</td><td>Explore: (independent, concreate practice/application with relevant learning task - connections from content to real-life experiences, reflective questions- probing or clarifying questions)
As a class, we will complete the “Reading a Map” worksheet first. Next, after the general layout is on the whiteboard, the students will go in pairs and grab the materials (paper, pencils, markers or colored pencils) they will need to create their maps. After all the students have grabbed their materials, they can create their maps where they would like in the classroom. I will also encourage them to move around the room as they create their maps to get a better view of the classroom. After the students are done with their maps, they will get in groups of 2-3 and discuss how they created their maps and why they are important.
On the next day for 20-30 minutes, the students and the teacher will go to the computer lab to make their own city online using the website: http://www.citycreator.com/ Each student will make their own city, name it, and make a map key of the details they added to their city which they will know how to do from the previous day.</td></tr>
<tr><td>5-8</td><td>Review (wrap up and transition to next activity):
After all the maps are done and the students have discussed their maps with their groups, they will be given the option to present their map to the class if they want to.

I will review the vocabulary with the class by saying the definition outload, then the students will write their answer on their whiteboards and I will walk around to see their answer. What questions do you have about maps in general, the vocabulary, or why maps are important? (Allowing expression of affect)</td></tr>
<tr><td colspan="2">Formative Assessment: (linked to objectives)

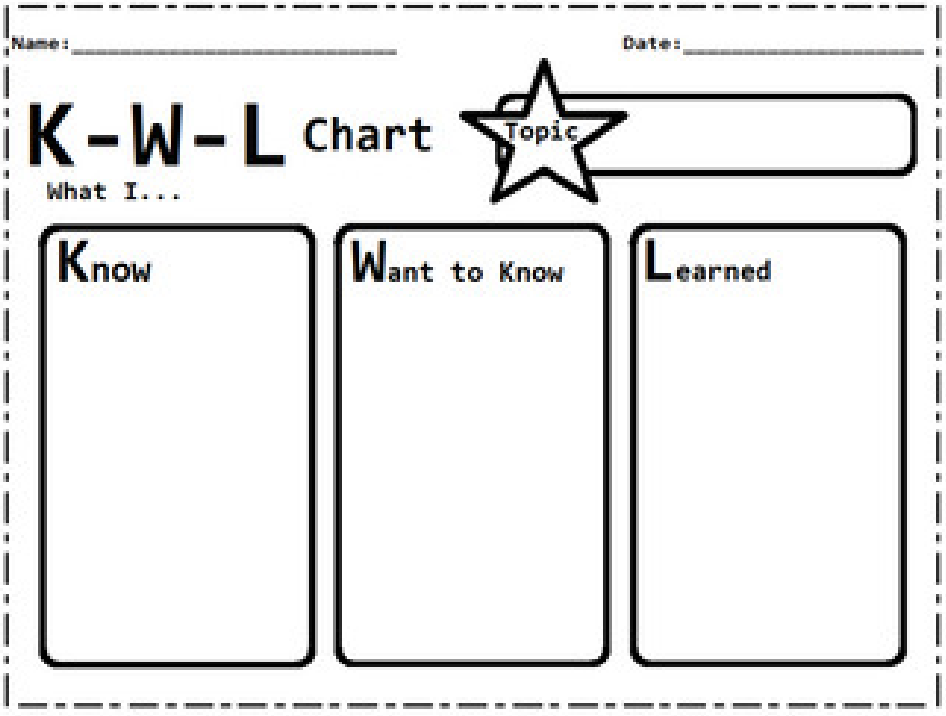
Progress monitoring throughout lesson- clarifying questions, check- in strategies, etc.:
While the students are in their groups of 2-3 after they create their maps, I will walk around and make sure the students are on the right track with their maps of the classroom.
Also, while the students are in their groups of 2-3 and after they discussed how they made their maps and why they are important, they will discuss about what was one easy thing about making the map and what was one hard thing about making the map.

Consideration for Back-up Plan: If unable to make the maps of the classroom individually, as a class we will make the map together on the whiteboard.</td><td>Summative Assessment (linked back to objectives)

End of lesson: Ask the class if they feel more confident in using maps and if they will be able to identify a map in another class. I will also pull each student aside and ask them to identify each vocabulary word picture and tell me what it is.

If applicable- overall unit, chapter, concept, etc.:</td></tr>
<tr><td colspan="2">Reflection (What went well? What did the students learn? How do you know? What changes would you make?):</td></tr>
</table>

Hannah Otto reviewed my lesson plan. The first thing she told me to change was to explain my classroom management a little bit more which I fixed already. The second thing she told me to change/improve was how I was going to enforce the behavior expectations which I explained above. She suggested that I should add something else to my engage section to want the students to be excited to learn about maps, which I fixed. Lastly, she suggested I should add something else to my summative assessment section, she said, "What if they lie?" I did fix this. She liked my lesson plan overall and gave me some good feedback. She liked my explain, explore, and review sections the most.



Appendix E

<table>
<tr><td colspan="2">Grade: Second</td><td colspan="2">Subject: Geography</td></tr>
<tr><td colspan="2">Materials: Paper, pencils, markers or colored pencils</td><td colspan="2">Technology Needed: None</td></tr>
<tr><td colspan="2">Instructional Strategies:
X Direct instruction
X Guided practice
☐ Socratic Seminar
☐ Learning Centers
☐ Lecture
X Technology integration
☐ Other (list)
☐ Peer teaching/collaboration/ cooperative learning
☐ Visuals/Graphic organizers
☐ PBL
☐ Discussion/Debate
☐ Modeling</td><td colspan="2">Guided Practices and Concrete Application:
☐ Large group activity
X Independent activity
☐ Pairing/collaboration
☐ Simulations/Scenarios
☐ Other (list)
Explain:
☐ Hands-on
X Technology integration
☐ Imitation/Repeat/Mimic</td></tr>
<tr><td colspan="2">Standard(s)
G.K_2.1 Construct maps, graphs, and other representations that contain symbols, labels, and legends.</td><td colspan="2" rowspan="2">Differentiation
Below Proficiency: The students can follow the instructions on the board and ask for help to position the objects in the classroom.

Above Proficiency: Drawing another map of a room the student is familiar with on their own.

Approaching/Emerging Proficiency: Being able to complete the map of the classroom.

Modalities/Learning Preferences: Visual</td></tr>
<tr><td colspan="2">Objective(s)
The students will be able to explain what a map is and the terms that go along with a map.
The students will illustrate and draw a map of their classroom with the correct symbols, labels, and legends.
The students will create a map of their room on their own at home then bring back to school the next day.

Bloom’s Taxonomy Cognitive Level:
Understanding, Applying, Creating</td></tr>
<tr><td colspan="2">Classroom Management- (grouping(s), movement/transitions, etc.)
The students will be working on their maps individually but will break into groups of 2-3 after each student has finished their map of the classroom and discuss with one another how they made their maps and why they are important.</td><td colspan="2">Behavior Expectations- (systems, strategies, procedures specific to the lesson, rules and expectations, etc.)
Students will respect the spaces of others and of the room. The students will also follow the directions the teacher gave them. I will enforce this by only allowing 2-3 students to go to a part of the classroom so one area is not overcrowded and so no one is bothering one another.</td></tr>
<tr><td>Minutes</td><td colspan="3">Procedures</td></tr>
<tr><td>3-4</td><td colspan="3">Set-up/Prep: I will print off the “Reading a Map” worksheets to handout to the students and set out the materials the students will need to create their maps of the classroom.</td></tr>
<tr><td>10</td><td colspan="3">Engage: (opening activity/ anticipatory Set – access prior learning / stimulate interest /generate questions, etc.)
Pre-Assessment: Before starting the lesson, I will tell the students that we are going to learn about maps and I will hand each student a KWL chart (What I Know, What I want to Know, and What I learned). They will fill out the last section of the chart after the lesson is over.
I will ask the students if they have seen a map before and what it looks like. Have you seen a map before, if so, what does it look like? (Knowledge & Getting interest and attention)
I will show the students a map of the world and a video about maps.
https://www.youtube.com/watch?v=Czk4p5QmLSA
I will ask the students who has read a map before.
I will ask the students to share what they know about maps. What does a map all entail? (Recalling specific facts or information)</td></tr>
<tr><td></td><td colspan="3">Explain: (concepts, procedures, vocabulary, etc.)
First, I will tell the students we are learning about maps today and are going to create our own.</td></tr>
</table>

<table>
<tr><td>6-8</td><td>Second, I will define the vocabulary words we are going to use to make maps. A map is a picture or chart that shows rivers, mountains, streets, ect. In a certain area. A legend (map key) is a list that explains the symbols on a map. A compass rose is a circle printed on a chart to show direction (N, S, E, and W). Symbols are pictures used to represent a word or group of words. Before each word is defined, the teacher can check to see if any of the students know what the words mean and define them. (Diagnosing & checking) After each word is defined, I will ask the students if they wrote each definition down and if they can think of another way to describe each word for a higher level of understanding. (Managing, Encouraging higher-level thought processes & Comprehension)
Third, I will handout the “Reading a Map” worksheet to complete as a class.
Fourth, I will tell the students they are going to make a map of the classroom by their selves. Now that we have completed the “Reading a Map” worksheet as a class, can you make a map on your own with what you have learned so far? (Structuring & redirecting learning, Application & Synthesis)
Fifth, I will give a general layout of a map on the whiteboard with a title and the map key of the classroom for the students to look at.
Sixth, after each student has created their map, they will discuss with others how they created their map of the classroom. Each student will ask another student, “Why did you put that object in that area, how did you know to put it there, and what label did you give it?” (Evaluation)</td></tr>
<tr><td>15-20</td><td>Explore: (independent, concreate practice/application with relevant learning task - connections from content to real-life experiences, reflective questions- probing or clarifying questions)
As a class, we will complete the “Reading a Map” worksheet first. Next, after the general layout is on the whiteboard, the students will go in pairs and grab the materials (paper, pencils, markers or colored pencils) they will need to create their maps. After all the students have grabbed their materials, they can create their maps where they would like in the classroom. I will also encourage them to move around the room as they create their maps to get a better view of the classroom. After the students are done with their maps, they will get in groups of 2-3 and discuss how they created their maps and why they are important.
On the next day for 20-30 minutes, the students and the teacher will go to the computer lab to make their own city online using the website: http://www.citycreator.com/ Each student will make their own city, name it, and make a map key of the details they added to their city which they will know how to do from the previous day.</td></tr>
<tr><td>5-8</td><td>Review (wrap up and transition to next activity):
After all the maps are done and the students have discussed their maps with their groups, they will be given the option to present their map to the class if they want to.

I will review the vocabulary with the class by saying the definition outload, then the students will write their answer on their whiteboards and I will walk around to see their answer. What questions do you have about maps in general, the vocabulary, or why maps are important? (Allowing expression of affect)</td></tr>
<tr><td colspan="2">Formative Assessment: (linked to objectives)

Progress monitoring throughout lesson- clarifying questions, check- in strategies, etc.:
While the students are in their groups of 2-3 after they create their maps, I will walk around and make sure the students are on the right track with their maps of the classroom.
Also, while the students are in their groups of 2-3 and after they discussed how they made their maps and why they are important, they will discuss about what was one easy thing about making the map and what was one hard thing about making the map.

Consideration for Back-up Plan: If unable to make the maps of the classroom individually, as a class we will make the map together on the whiteboard.</td><td>Summative Assessment (linked back to objectives)

End of lesson: Ask the class if they feel more confident in using maps and if they will be able to identify a map in another class. I will also pull each student aside and ask them to identify each vocabulary word picture and tell me what it is.

If applicable- overall unit, chapter, concept, etc.:</td></tr>
<tr><td colspan="2">Reflection (What went well? What did the students learn? How do you know? What changes would you make?):</td></tr>
</table>

Hannah Otto reviewed my lesson plan. The first thing she told me to change was to explain my classroom management a little bit more which I fixed already. The second thing she told me to change/improve was how I was going to enforce the behavior expectations which I explained above. She suggested that I should add something else to my engage section to want the students to be excited to learn about maps, which I fixed. Lastly, she suggested I should add something else to my summative assessment section, she said, “What if they lie?” I did fix this. She liked my lesson plan overall and gave me some good feedback. She liked my explain, explore, and review sections the most.

Appendix F

<table>
<tr><td colspan="2">Grade: Second</td><td colspan="2">Subject: Geography</td></tr>
<tr><td colspan="2">Materials: Paper, pencils, markers or colored pencils</td><td colspan="2">Technology Needed: None</td></tr>
<tr><td colspan="2">Instructional Strategies:
X Direct instruction
X Guided practice
☐ Socratic Seminar
☐ Learning Centers
☐ Lecture
X Technology integration
☐ Other (list)
☐ Peer teaching/collaboration/ cooperative learning
☐ Visuals/Graphic organizers
☐ PBL
☐ Discussion/Debate
☐ Modeling</td><td colspan="2">Guided Practices and Concrete Application:
☐ Large group activity
X Independent activity
☐ Pairing/collaboration
☐ Simulations/Scenarios
☐ Other (list)
Explain:
☐ Hands-on
X Technology integration
☐ Imitation/Repeat/Mimic</td></tr>
<tr><td colspan="2">Standard(s)
G.K_2.1 Construct maps, graphs, and other representations that contain symbols, labels, and legends.</td><td colspan="2" rowspan="2">Differentiation
Below Proficiency: The students can follow the instructions on the board and ask for help to position the objects in the classroom.

Above Proficiency: Drawing another map of a room the student is familiar with on their own.

Approaching/Emerging Proficiency: Being able to complete the map of the classroom.

Modalities/Learning Preferences: Visual</td></tr>
<tr><td colspan="2">Objective(s)
The students will be able to explain what a map is and the terms that go along with a map.
The students will illustrate and draw a map of their classroom with the correct symbols, labels, and legends.
The students will create a map of their room on their own at home then bring back to school the next day.

Bloom’s Taxonomy Cognitive Level:
Understanding, Applying, Creating</td></tr>
<tr><td colspan="2">Classroom Management- (grouping(s), movement/transitions, etc.)
The students will be working on their maps individually but will break into groups of 2-3 after each student has finished their map of the classroom and discuss with one another how they made their maps and why they are important.</td><td colspan="2">Behavior Expectations- (systems, strategies, procedures specific to the lesson, rules and expectations, etc.)
Students will respect the spaces of others and of the room. The students will also follow the directions the teacher gave them. I will enforce this by only allowing 2-3 students to go to a part of the classroom so one area is not overcrowded and so no one is bothering one another.</td></tr>
<tr><td>Minutes</td><td colspan="3">Procedures</td></tr>
<tr><td>3-4</td><td colspan="3">Set-up/Prep: I will print off the “Reading a Map” worksheets to handout to the students and set out the materials the students will need to create their maps of the classroom.</td></tr>
<tr><td>10</td><td colspan="3">Engage: (opening activity/ anticipatory Set – access prior learning / stimulate interest /generate questions, etc.)
Pre-Assessment: Before starting the lesson, I will tell the students that we are going to learn about maps and I will hand each student a KWL chart (What I Know, What I want to Know, and What I learned). They will fill out the last section of the chart after the lesson is over.
I will ask the students if they have seen a map before and what it looks like. Have you seen a map before, if so, what does it look like? (Knowledge & Getting interest and attention)
I will show the students a map of the world and a video about maps.
https://www.youtube.com/watch?v=Czk4p5QmLSA
I will ask the students who has read a map before.
I will ask the students to share what they know about maps. What does a map all entail? (Recalling specific facts or information)</td></tr>
<tr><td></td><td colspan="3">Explain: (concepts, procedures, vocabulary, etc.)
First, I will tell the students we are learning about maps today and are going to create our own.</td></tr>
</table>

<table>
<tr><td>6-8</td><td>Second, I will define the vocabulary words we are going to use to make maps. A map is a picture or chart that shows rivers, mountains, streets, ect. In a certain area. A legend (map key) is a list that explains the symbols on a map. A compass rose is a circle printed on a chart to show direction (N, S, E, and W). Symbols are pictures used to represent a word or group of words. Before each word is defined, the teacher can check to see if any of the students know what the words mean and define them. (Diagnosing & checking) After each word is defined, I will ask the students if they wrote each definition down and if they can think of another way to describe each word for a higher level of understanding. (Managing, Encouraging higher-level thought processes & Comprehension)
Third, I will handout the “Reading a Map” worksheet to complete as a class.
Fourth, I will tell the students they are going to make a map of the classroom by their selves. Now that we have completed the “Reading a Map” worksheet as a class, can you make a map on your own with what you have learned so far? (Structuring & redirecting learning, Application & Synthesis)
Fifth, I will give a general layout of a map on the whiteboard with a title and the map key of the classroom for the students to look at.
Sixth, after each student has created their map, they will discuss with others how they created their map of the classroom. Each student will ask another student, “Why did you put that object in that area, how did you know to put it there, and what label did you give it?” (Evaluation)</td></tr>
<tr><td>15-20</td><td>Explore: (independent, concreate practice/application with relevant learning task - connections from content to real-life experiences, reflective questions- probing or clarifying questions)
As a class, we will complete the “Reading a Map” worksheet first. Next, after the general layout is on the whiteboard, the students will go in pairs and grab the materials (paper, pencils, markers or colored pencils) they will need to create their maps. After all the students have grabbed their materials, they can create their maps where they would like in the classroom. I will also encourage them to move around the room as they create their maps to get a better view of the classroom. After the students are done with their maps, they will get in groups of 2-3 and discuss how they created their maps and why they are important.
On the next day for 20-30 minutes, the students and the teacher will go to the computer lab to make their own city online using the website: http://www.citycreator.com/ Each student will make their own city, name it, and make a map key of the details they added to their city which they will know how to do from the previous day.</td></tr>
<tr><td>5-8</td><td>Review (wrap up and transition to next activity):
After all the maps are done and the students have discussed their maps with their groups, they will be given the option to present their map to the class if they want to.

I will review the vocabulary with the class by saying the definition outload, then the students will write their answer on their whiteboards and I will walk around to see their answer. What questions do you have about maps in general, the vocabulary, or why maps are important? (Allowing expression of affect)</td></tr>
<tr><td colspan="2">Formative Assessment: (linked to objectives)

Progress monitoring throughout lesson- clarifying questions, check- in strategies, etc.:
While the students are in their groups of 2-3 after they create their maps, I will walk around and make sure the students are on the right track with their maps of the classroom.
Also, while the students are in their groups of 2-3 and after they discussed how they made their maps and why they are important, they will discuss about what was one easy thing about making the map and what was one hard thing about making the map.

Consideration for Back-up Plan: If unable to make the maps of the classroom individually, as a class we will make the map together on the whiteboard.</td><td>Summative Assessment (linked back to objectives)

End of lesson: Ask the class if they feel more confident in using maps and if they will be able to identify a map in another class. I will also pull each student aside and ask them to identify each vocabulary word picture and tell me what it is.

If applicable- overall unit, chapter, concept, etc.:</td></tr>
<tr><td colspan="2">Reflection (What went well? What did the students learn? How do you know? What changes would you make?):</td></tr>
</table>

Hannah Otto reviewed my lesson plan. The first thing she told me to change was to explain my classroom management a little bit more which I fixed already. The second thing she told me to change/improve was how I was going to enforce the behavior expectations which I explained above. She suggested that I should add something else to my engage section to want the students to be excited to learn about maps, which I fixed. Lastly, she suggested I should add something else to my summative assessment section, she said, “What if they lie?” I did fix this. She liked my lesson plan overall and gave me some good feedback. She liked my explain, explore, and review sections the most.

Appendix G

<table>
<tr><td colspan="2">Grade: First</td><td colspan="2">Subject: Science</td></tr>
<tr><td colspan="2">Materials: Rubber bands, string, cups, paper clips, tape, and scissors</td><td colspan="2">Technology Needed: None</td></tr>
<tr><td colspan="2">Instructional Strategies:
X Direct instruction
☐ Guided practice
☐ Socratic Seminar
☐ Learning Centers
☐ Lecture
☐ Technology integration
☐ Other (list)
☐ Peer teaching/collaboration/ cooperative learning
X Visuals/Graphic organizers
☐ PBL
X Discussion/Debate
☐ Modeling</td><td colspan="2">Guided Practices and Concrete Application:
X Large group activity
☐ Independent activity
X Pairing/collaboration
☐ Simulations/Scenarios
☐ Other (list)
Explain:
X Hands-on
☐ Technology integration
☐ Imitation/Repeat/Mimic</td></tr>
<tr><td colspan="2">Standard(s)
Goal 1-PSA-4. Use tools and materials to design and build a device that uses light or sound to solve the problem of communicating over a distance.</td><td colspan="2" rowspan="2">Differentiation
Below Proficiency: The students can follow the instructions on the board and be able to work with their partner on the project.

Above Proficiency: Making another cup phone with different materials and seeing if they are different or are the same.

Approaching/Emerging Proficiency: Being able to complete the construction of their cup phones.

Modalities/Learning Preferences: Hands-on</td></tr>
<tr><td colspan="2">Objective(s)
The students will discuss what forms of communication they have used and seen.
The students will predict what will happen if the make a cup phone.
The students will plan how they are going to make their cups phones such as what materials they are going to use.
The students will design their cup phone with their partner.

Bloom’s Taxonomy Cognitive Level: Understanding, Applying, Analyzing, Creating</td></tr>
<tr><td colspan="2">Classroom Management- (grouping(s), movement/transitions, etc.)
The students will be designing their cup phones with a partner. They will decide what materials they want to use and one student from each group will gather the materials.</td><td colspan="2">Behavior Expectations- (systems, strategies, procedures specific to the lesson, rules and expectations, etc.)
Students will respect the projects of the other groups and will keep their spaces neat and tidy. The students will follow the directions the teacher gave them by moving the groups throughout the room so there are few distractions/disruptions.</td></tr>
<tr><td>Minutes</td><td colspan="3">Procedures</td></tr>
<tr><td>2-3</td><td colspan="3">Set-up/Prep: I will set out the supplies needed to make the cup phones. The supplies are paper and styrofoam cups, rubber bands cotton string, fishing line, paper clips, and tape.</td></tr>
<tr><td>5-7</td><td colspan="3">Engage: (opening activity/ anticipatory Set – access prior learning / stimulate interest /generate questions, etc.)
I will ask the students what sounds is. After I receive their feedback, we will do the rubber band experiment to show how sounds produces vibrations. The students will put a rubber band around a cup to see how the rubber band vibrates to make the sound. After the experiment, I will take the rubber bands to avoid distractions and disruptions.
I will draw a web diagram on the board with the word communication at the center.
I will ask the students, “What are different ways people communicate?” I will give them two examples such as sign language and school bells.
After the students have given examples, I will tell them we are going to make our own way of communication over a distance with a partner.</td></tr>
<tr><td></td><td colspan="3">Explain: (concepts, procedures, vocabulary, etc.)</td></tr>
</table>

<table>
<tr><td>8-10</td><td>First, I will tell the students we are going to make cup phones out of the materials I set out.
Second, I will explain how to make a cup phone with the materials provided.
Third, I will partner up the students by drawing sticks with their names on it to avoid students being left out.
Fourth, the students will go with their partners and plan how they are going to make their cup phone and build it.</td></tr>
<tr><td>15-20</td><td>Explore: (independent, concreate practice/application with relevant learning task - connections from content to real-life experiences, reflective questions- probing or clarifying questions)
Have the students make their cup phones with their partners. The students will talk with their partners about what materials they are going to use for their cup phones. Next, after they have decided what materials to use, one student from each group will grab the materials (paper and styrofoam cups, cotton string, fishing line, paper clips, and tape). Third, the students will make their cup phones with their partners. After each set up partners have created their cup phones and tested them out, as a whole group, we will discuss what worked and what did not work.</td></tr>
<tr><td>3</td><td>Review (wrap up and transition to next activity):
I will ask the students, “What do you think is the most important way to communicate?”
I will ask the students, “Why is sound important?”</td></tr>
</table>

<table>
<tr><td>Formative Assessment: (linked to objectives)
Progress monitoring throughout lesson- clarifying questions, check-in strategies, etc.
While the students are with their partners making their cup phones, I will walk around and make sure they are on task and see if they need any help or clarification.

Consideration for Back-up Plan: If there are not enough materials for each group to make the cup phones, we will either make the cup phones as a class or make bigger groups.</td><td>Summative Assessment (linked back to objectives)

End of lesson: Have the class write a short reflection on why they think sound is important and what they think the most important form of communication is.

If applicable- overall unit, chapter, concept, etc.:</td></tr>
</table>

<table>
<tr><td>Reflection (What went well? What did the students learn? How do you know? What changes would you make?):
Mary Wagner commented: “Great use of activities, good use of images and good flow chart, you reviewed afterward!”
Teresa Falter commented: “Should second graders cut the hole (the hole in the cup for the string)? Great job!” I now know that I will cut the holes myself into the cups before hand so the students do not hurt themselves or others.
Amber Schoppe commented: “Great experiments and very interactive.”
Two members of my group marked each one met except the first component. I did not fully have an attention-getter for this lesson which I will have to incorporate maybe a video about sound? I thought my rubber band around the cup experiment would be a great attention getter, but maybe not?</td></tr>
</table>

Appendix H

Indirect Instruction Lesson Plan

Grade: First

Subject: Science

Instructional Strategies: Indirect Instruction, Learning Centers, & Cooperative Learning

Standard

Goal 1-PSA-4. Use tools and materials to design and build a device that uses light or sound to solve the problem of communicating over a distance.

Objectives

1. The students will apply what they learned about cup phones the previous day to go through each sound station.
2. The students will question what the outcome of each sound station will be.
3. The students will collaborate to compare and contrast the sounds they heard during each station with another group.

Bloom's Taxonomy: Apply, Analyze, & Create

Indirect Instruction Assignment

After reviewing the material from the previous day about sound and communication, the students will be partnered up and will complete the sound stations. There are four stations: a drum and paper clips station, saying "Ahh" station, a rubber band station, and the slinky station. Each group will receive a paper with questions to answer for each station. Each group will do the four experiments and observe what will happen before the experiment, then answer the questions given after the completion each experiment. Since there is only one group per station at a time, the other groups who are not at the stations will be independently working on a classifying sound worksheet on their own with the objects given to them. With the classifying sound worksheet, the students will drop each object given to them on their desk at a specific height (10cm) then will describe the sound they heard. After going through each object, they will then put each object on a time line numbered one to ten of loudest sound to softest sound and highest pitch to lowest pitch. After they mark both timelines, they will compare their own timelines then compare with their peers of the sounds they heard and where they marked the object on the timeline.

Names: _____

Station 1

In front of you is a drum, place a three-six paper clips on the top. Tap on the drum and write down what happened to the paper clips.

Before you do the experiment, what do you think will happen?

In the space below, draw a picture of what happened to the paper clips.

What do you think will happen to the paper clips?

What did you see?

What did you hear?

Was there a vibrating noise, what did it sound like (soft or loud)?

Do you have any questions about this station after doing the experiment?

Station 2

Touch the side of your throat and say, “Ahhhh.” Do this twice, quiet and loud.

What did you feel as you said ahh?

What did you feel when you made a quite ahh?

What did you feel when you made a loud ahh?

What did you hear after each experiment?

What do you think happened?

Do you have any questions about this station after doing the experiment?

Station 3

In front of you is a piece of wood with two nails in it and one big and one small rubber band. Place one rubber band around the nail and experiment with it. Repeat with the other rubber band. Before doing the experiment, answer this question:

What do you think will happen when you pull on the rubber band?

Draw a picture of the experiment in the space below if what happened?

What happened with each rubber band?

What did you hear?

What did you see?

Which rubber band made a loud sound?

Do you have any questions about this station after doing the experiment?

Station 4

In front of you is two Slinky's, one plastic and one metal. Have each partner grab an end of the slinky and pull each end to the ends of the table/desk. Each let go at the same time and observe what happened.

Before you do the experiment, what do you think will happen?

What happened after you each let go of the plastic slinky?

What did you hear?

What did you see?

What happened after you each let go of the metal slinky?

What did you hear?

What did you see?

Do you have any questions about this station after doing the experiment?

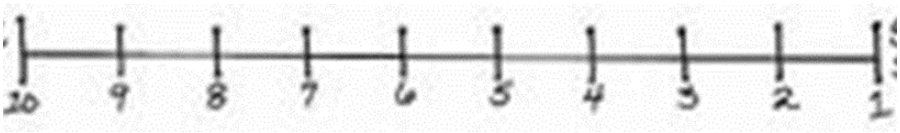
Name: _____ Date:_____

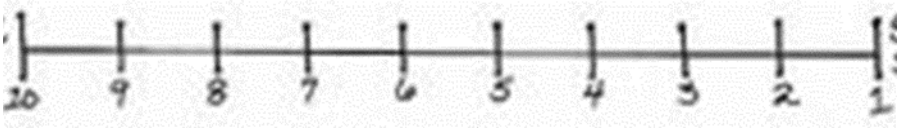
Classifying Sound

1. Drop each object from a 10cm height. Observe and describe the sound each object makes.

Object	Description of Sound	Object	Description of Sound
cloth		can	
scissors		eraser	
paper clip		book	
crayon		ruler	
straw		pencil	

2. Arrange the sounds. Place them on a scale of 1-10.

Loudest Sound  Softest Sound

Highest Pitch  Lowest Pitch

3. How do your two scales compare?

Appendix I

Multiplication and Division Test- 3rd Grade

Name _____ Date _____

Section 1: True and False

Directions: Read each statement below carefully. Place a **T** on the line if you think a statement it **TRUE**. Place an **F** on the line if you think the statement is **FALSE**. If you have questions, raise your hand and ask the teacher.

1. True or False? _____
    a. 2 x 10 = 4 x 5
2. True or False? _____
    a. 5 x 10 = 50
3. True or False? _____
    a. 8 ÷ 2 = 10 ÷ 2
4. True or False? _____
    a. 20 ÷ 2 = 5
5. True or false? _____
    a. 10 x 2 = 40 ÷ 2

Section 2: Matching

Directions: Match the correct equation from column A with the correct answer in column B. Each answer is only used once. If you have questions, raise your hand and ask the teacher.

Column A	Column B
1. _____ 2 x 10 ÷ 2	A. 6
2. _____ 5 x 5	B. 72
3. _____ 15 x 2 ÷ 5	C. 25
4. _____ 120 ÷ 10	D. 10
5. _____ 9 x 8	E. 12

Section 3: Multiple Choice

Directions: In this section, each question has four choices and there is only **ONE** correct answer. Read each question carefully and circle your answer. Please show your work for each problem. If you have questions, raise your hand and ask the teacher.

1. $35 is divided equally among 7 children. How much money will each child get?

   A. $4 C. $35
   B. $5 D. $7

2. 9 x 5 = _____

   A. 50 C. 4
   B. 14 D. 45

3. Joey bought 4 shirts for $15 each. How much money did Joey spend?

   A. $45 C. $30
   B. $60 D. $80

4. Aaron has 42 fish in his boat. He puts them into 9 equal groups. How many fish are left?

   A. 6 fish C. 51 fish
   B. 378 fish D. 33 fish

5. Alexis sold 7 necklaces. Her friend sold 8 times as many necklaces as Alexis. How many necklaces did Alexis' friend sell?

   A. 15 necklaces C. 56 necklaces
   B. 8 necklaces D. 66 necklaces

Section 4: Fill in the Blank (Completion)

Directions: Read each question carefully and answer the question by putting the answer (s) in the blank provided. Please show your work. If you have questions, raise your hand and ask the teacher.

1. What number do you multiply by to find the next 3 numbers?

   Number multiplied by: _____

   8, 16, 32, 64, ____, ____, ____

2. What number do you divide by to find the next 2 numbers in the missing blanks?

   Number divided by: _____

   1,024, 256, 64, ____, ____

3. _____ x 9 = 99
4. 100 ÷ _____ = 25
5. _____ ÷ 4 = 7

Section 5: Essay and Restricted Response

Directions: Answer each question with 3-4 complete sentences. If you have questions, raise your hand and ask the teacher.

1. What is the relationship between multiplication and division?

2. What are the three numbers in a division problem called and what does each mean?

A. _____ B. _____ C. _____

Answer Key

Section 1

1. True
2. True
3. False
4. False
5. True

Section 2

1. D
2. C
3. A
4. E
5. B

Section 3

1. B
2. D
3. B
4. A
5. C

Section 4

1. 2; 128, 256, 512
2. 4; 16, 4
3. 11
4. 4
5. 28

Section 5

1. Multiplication and Division are closely related because division is the inverse (opposite) operation of multiplication. When we divide, we separate into equal groups. When we multiply, we are joining equal groups.
2. A. Dividend B. Divisor C. Quotient
    a. The dividend is the total number
    b. The divisor is how many groups there are
    c. The quotient is how many are in each group

Feedback

I sent my test to Kyla Wanzek. I did not have to make any corrections on the test after she took it as my "student." Kyla wrote, "It's organized into sections which I think is helpful for students. You were also very specific about the directions for each section and I think you had great essay questions." She did not think that I had to make any changes to my test.

Bloom's Taxonomy Levels:

Section 1: True and False

1-5. Apply- Determine

Section 2: Matching

1-5. Applying- Solve

Section 3: Multiple Choice

1. Analyzing- Divide

2. Applying- Solve

3. Understanding- Group

4. Understanding- Group

5. Apply- Calculate

Section 4: Fill in the Blank (Completion)

1. Apply- Calculate

2. Analyzing- Divide

3-5. Applying- Solve

Section 5: Essay

1-2. Remembering- Explain

Appendix J

Perimeter and Area

Name _____ Date _____

At Cake-A-Licious Bakery, they are preparing for a wedding order. The bride and groom have requested a rectangular tiered cake for their wedding day. The area of the base of the cake is 160 inches squared. The bride and groom want each layer (working from the bottom to the top) to have half the area of the layer underneath.

Directions: Create a five-tiered cake for the wedding. Be sure to include the area and perimeter of each layer. The first layer has been done for you. Use the equations we have discussed in class to find: The Area and Perimeter of each tier along with the Length and Width. **Show your work!**

Base Tier

L = 16 in Width = 10 in

Area: 160 in^2

2nd Tier

L = Width =

Area:

3rd Tier

L = Width =

Area:

4th Tier

L = Width =

Area:

5th Tier

L = Width =

Area:

Performance Assessment Rubric: Perimeter and Area

Requirements	4	3	2	1
Mathematical Concepts	Explanation shows complete understanding of the mathematical concepts used to solve the problem(s).	Explanation shows substantial understanding of the mathematical concepts used to solve the problem(s).	Explanation shows some understanding of the mathematical concepts needed to solve the problem(s).	Explanation shows very limited understanding of the underlying concepts needed to solve the problem(s) OR is not written.
Neatness and Organization	The work is presented in a neat, clear, organized fashion that is easy to read.	The work is presented in a neat and organized fashion that is usually easy to read.	The work is presented in an organized fashion but may be hard to read at times.	The work appears sloppy and unorganized. It is hard to know what information goes together.
Mathematical Errors	90-100% of the steps and solutions have no mathematical errors.	Almost all (85-89%) of the steps and solutions have no mathematical errors.	Most (75-84%) of the steps and solutions have no mathematical errors.	More than 75% of the steps and solutions have mathematical errors.
Completion	All problems are completed.	All but one of the problems are completed.	All but two of the problems are completed.	Several of the problems are not completed.
Mathematical Terminology and Notation	Correct terminology and notation are always used, making it easy to understand what was done.	Correct terminology and notation are usually used, making it fairly easy to understand what was done.	Correct terminology and notation are used, but it is sometimes not easy to understand what was done.	There is little use, or a lot of inappropriate use, of terminology and notation.
Strategy/ Procedures	Typically, uses an efficient and effective strategy to solve the problem(s).	Typically, uses an effective strategy to solve the problem(s).	Sometimes uses an effective strategy to solve problems, but does not do it consistently.	Rarely uses an effective strategy to solve problems.