**Teacher Work Sample**

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**5th Grade**

**Solar System**

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**Part 1: Contextual Factors**

 The geography of Johnson City, the city in which Fairmont Elementary school is located, is one of a mountain deciduous region in the upper eastern part of Tennessee. The city is located at the foothills of the Smokey Mountains nearest Buffalo Mountain. Surrounding this city and school is a rich tradition of music diverse nature and is recognized as a college city due to East Tennessee State University. The community is one of diverse people with many ethnicities and cultures. The population of the school closely reflects the population of the city with 12.3 % African American, Asian 2.4 %, Hispanic, 2.6 % and 82.7 % Caucasian. The socioeconomic status also closely reflects that of the city with about 53 % economically disadvantaged. Johnson City is located closely to both the Virginia and North Carolina borders, which also lends to the diversity of the city. Many job opportunities come from a few large companies in the chemical and manufacturing industries, or in the medical industry due to the surround medical offices. Due to the range of parent’s careers, the parent’s influence in their child’s education varies from very active to very inactive.

 From my experience the political climate of the city probably leans more towards liberal than other Tennessee cities, this is most likely an influence from the amount of the population that are involved with the University. There are some supports for the educational growth of the city, with foundations like the Boys and Girls Club located in the city. There seems to be a decent amount of community support for elementary sports programs as many of the students are involved with at least one sports team like, soccer, football and baseball. The Tennessee Report Card for this school shows that this Title I school achieves at the A level on all TCAP tests for Math, Reading/Language, Social Studies, and Science. The after school programs available to the students range from community outreach programs and after school programs like Educare, “The Rock”, Homework Club and many other types of clubs based on hobbies and interests.

 The classroom factors lend greatly to the success of the classroom. I feel that the classroom is set up in an organized manner with plenty of access to technology. There are four groups of four tables and two groups of three. Rarely are all the desks being used in the class. The technology in the class spans from a projector, an overhead, 6 computers, a scanner, a printer, and access to both cable television and internet. Overall I have observed a lot of parent involvement with PTA and as substitute teachers. I have also observed heavy involvement of assistants in the classrooms that rotate with certain students as part of the IEP agreement set up with the school. These student assistants rotate as part of the class and come in an out during certain times of the day. The classroom is set at 73 degree Fahrenheit with most of the class time not reading in a dim lighted room, that is comfortable and far from distractions. The only viewable things out the windows are the construction sites for the new elementary school.

 The student characteristics consist of 84 students spilt up into four homeroom classrooms. The first class is spilt up into 21 students with 12 male and 9 female students. All the students in this class are Caucasian except for one student who is Latino/ Hispanic heritage. In this class there is also one student with learning disabilities and an assistant who helps him. The second class consists of 11 male students and 11 female students to equal out to 22 students, two which are of African American heritage. The third class consists of 22 students as well with 12 being male and 10 being female, in this class there are two students of interracial heritage and one African American Heritage. There is one student with an IEP for this class, but it does not require a full time assistant. The last class is the homeroom class of my mentor and consists of 21 students, one who has a full time assistant due to IEP suggestions and two with either Interracial or African American heritage. Only one student in all four classes speaks a second language according to my observations. The 84 students are diverse learners with a range of capabilities. Many students are achieving at a 6th or 7th grade level of Reading while some are still reading at a 2nd grade reading level. From what I can tell the students are very active in their community sports programs and in the PTA programs that the school runs. The students have varying interests witnessed by the different books the students read and participation in varying school programs.

 The student’s prior learning is appropriate based on what the Tennessee State Standards ask of fifth grade Science requirements and also the student’s prior learning is developmentally aligned with what they have learned up to this point in their fifth grade Science book. The Science book and my mentor teacher taught cells (animal/plant), food systems, and the requirements to sustain life which provides an introduction on the rare qualities that make Earth special in comparison to the other planets in the Solar System. Because the other planets are unable to support life, the Earth is used as a variable in which all other planets during the lesson can compare. This in turn puts the students in a good place with being able to comprehend the information on the Solar System. Some other prior knowledge that the students could use, is their study of space during their fourth grade year of Science, calculator usage in Math, and the knowledge of constructing data tables/graphs for the use of organizing information. From my pretest and also in discussion of the material, the students seem very capable of learning the Solar System based on their prior knowledge and also adapt their prior knowledge to the most current information about the Solar System.

 The instructional implications of my classroom is affected by all the factors above, with many students ranging in reading level and some with IEPs, I know I must communicate my plans with all the teachers in the 5th grade area and also with the assistants that might be involved in my lessons. I also know that since parents are heavily involved with the school, a lot of the work will be reflected back to the parents that I share with the students. I plan on sharing my lesson plans in a unit form with all the teachers so that they are able to assist in giving me feedback to help individual students better. I also know that I must read instructions clearly and repeat instructions for individual students in my class. Since there are students achieving so high, I must also plan to keep extra things to do for those who finish early. With technology being so available to the class I also plan on using technology as much as possible since the technology does have positive response to most of the students, primarily the ones achieving at lower levels. My plan is to involve the computer, projector and overhead as much as possible through a series of videos, PowerPoint and interactive media.

**Part 2: Learning Goals**

**List of Unit Learning Goals**

|  |  |
| --- | --- |
| **Learning Goal 1****(LG1)** | **The student will identify, compare, and apply the characteristics of objects in our Solar System** |
| **Learning Goal 2****(LG2)** | **The student will analyze stars, star constellations and star charts to better understand the purpose of studying the Solar System.** |
| **Learning Goal 3****(LG3)** | **The student will apply information about the Solar System to create organizational tools such as graphs, tables, drawings, or diagrams.** |
| **Learning Goal 4****(LG4)** | **The student will continue mastering the skill of using calculators and other mathematical technologies.** |

 All the learning goals for this unit align with Tennessee State Curriculum Standards found at <http://www.tn.gov/education/curriculum.shtml>. The main standard used for LG1 is *GLE 0507.6.1 Compare planets based on their known characteristics*, this standard is being achieved by creating tables of planetary characteristics, seeing scaled models, and terminology of key features of the planets. The secondary standard that applies to LG1 is *GLE 0507.6.2 Recognize that charts can be used to locate and identify star patterns.* This is done through the process of learning vocabulary of objects found in the solar system and their relation to each other. LG2 uses *GLE 0507.6.2 Recognize that charts can be used to locate and identify star patterns* as its main standard and primarily achieves this through direct instruction with stars, star charts and constellations. LG3 is aligned with the standard *GLE 057.Inq.3 Organize data into appropriate tables, graphs, drawings, or diagrams*. This standard is achieved through creating organizational data tools while participating in the first two learning goals. The first two learning goals examine a lot of information that must be organized into tables or charts so that students can better compare the data. The last learning goal aligns with standard *GLE 0506.1.8 Use technologies/manipulatives appropriately to develop understanding of mathematical algorithms, to facilitate problem solving, and to create accurate and reliable models of mathematical concepts.*  This standard is being achieved through the use of calculators in the unit and direct instruction with using calculators to multiply 2-3 step multiplication problems.

 All the learning goals achieve to hit multiple levels of Bloom’s Taxonomy. LG1 strives to meet all the levels up to the Analysis level with the study of data about the solar system through making comparisons of planetary characteristics and their orbital affects. The second learning goal reaches the Synthesis level with creation of unique products during the study of star patterns (constellations). LG3 reaches all levels of Bloom’s Taxonomy as the students are asked to create their own tables, drawings and diagrams based on their comprehension and application of known planetary data. The students also get to achieve all levels of this during the assessment process where students get to apply creativity and data to create their own result of solar system information. The final learning goal is a skill practice, so the highest level of Bloom’s Taxonomy achieved is the Application Level.

 The learning goals of this unit fits in to the natural flow of the both the science and mathematical studies of the students pacing for Benchmark testing. The student’s previous learning in Science was to examine the requirements for Earth to sustain life. The solar system unit compares the Earth to other planets why they most likely could not sustain life. In this unit the affects of the moon and Sun on the Earth are looked at and leads the students in to their next unit which is land features and weather. These two concepts are both affected by the objects found in the solar system. The unit also is appropriate on the level of state testing. The students are to be tested at the state level as a reflection of how much learning was achieved during the first 18 weeks of school. In this test the students are to know the objects of the solar system, how to read a star chart, and solar system terminology and will also be expected to use a calculator comfortably during the math portions of the test.

 This unit also is appropriate on students needs, because the students will soon start a math unit on graphs, this unit will give students more exposure to the concepts found in their next math unit. The students also need exposure to the scientific process of questioning things and how those questions lead to discovery. The learning goals are appropriate in because of the diverse group of learners of the 5th grade class. The student’s abilities range from varying abilities so each learning goal strives to align itself with accomplishing tasks for diverse learners such as my classroom. LG 1 is appropriate because many students can compare simple things already like size, color and temperature. With this learning goal I ask students to compare such things, while also allowing room for more advance students to compare harder concepts such as rotation and revolution of the planets. Making a diverse learning goal was important because I wanted to make sure all students had a chance to succeed at the goals of my unit. Other ways at which I attempted to make all my learning goals appropriate, is to include diverse types of learning within the goals. For example, LG1 asks students to be analytical and descriptive with how they approach the material. While LG 2 asks students to be more visual and make connections through diagrams and maps as they are guided through my unit. LG 3 and LG 4 ask students to be more mathematical and computational with how they approach the data from my unit.

 These last two learning goals are goals focused more by the school standards than what is required from fulfilling my Science unit. The last two learning goals were conceived through the request of partner teachers to help create more exposure to the concepts listed above. The students are to be tested on the state’s standards twice a year and are allowed to calculators and graphical organizers throughout those assessments. Because of this I created these two learning goals to help give these students that practice while still making those tools relevant to my lesson as seen in my Design for Instruction.

**Part 3: Assessment Plan**

 There are four learning goals for my planned Science unit and they are assessed through many different ways. The first learning goal (LG 1) aims at comparing the known characteristics, features and appearance of the objects in our solar system. The first learning goal is, “**LG1: The student will identify, compare, and apply the characteristics of objects in our Solar System**.” The students will look at scaled models of the planets, record data on the distance from the sun, temperature of the planet, size of equator, and the materials that make up the planet. The students will also examine key features and facts about what makes each planet different, while the students will also compare the characteristics of stars and what type’s materials make up stars. Some other concepts that LG1 will introduce to the students are other know objects in our solar system such as comets, asteroids, satellites (moons) and dwarf planets. At the end of the unit the students should be able to define terminology about the solar system, name the planets in order of distance from the sun, list known characteristics that make each planet different, describe other objects that could be found in the solar system, and relate the star’s purpose in the Universe, mainly the Sun’s affected on Earth. This learning goal is assessed through all three assessment phases as noted in the chart below.

 The second learning goal in this Science unit involves students in the process of analyzing the stars, constellations and star charts. The second learning goal (LG2) is stated as, “**LG2:** **The student will analyze stars, star constellations and star charts to better understand the purpose of studying the Solar System.**” During the process of achieving LG2 the students will apply known information about the temperature, size and color of stars. Then the students will examine star charts and constellations as a tool used for navigation and identifying the stars in the sky. At the end of this unit the student should be able to read a star chart and locate at least one constellation, describe the correlation of size, color and temperature of the stars, and explain in their own words the importance of studying stars in the solar system (e.g. to help the settles navigate the seas before the use of GPS). This learning goal is also assessed in all three phases as noted below.

 The third learning goal (LG3) examines a broader idea of how to apply all sciences to the essential idea that organizational tools such as graphs, drawings, tables and diagrams help increase the efficiency of scientific study. Both in communication and the scientific process, students will be exposed to some organizational tools used for studying the solar system, such as star charts. The third learning goal is stated as, “**LG3: The student will apply information about the Solar System to create organizational tools such as graphs, tables, drawings, or diagrams.**” During the unit the students will create a table of known characteristics of the planets, draw objects from the solar system, and analyze diagrams of planets, stars, and objects found in our solar system. At the end of this unit the students will be able to locate information on their table of planetary characteristics, replicate the pattern formed by stars as constellations and draw an object found orbiting the Sun. The student will also be able to read a diagram about the solar system and discuss this information with a peer during partner reading. This learning goal is assessed in the Formative and Post-Assessment phase of my assessment process.

 The last learning goal (LG4) relates to the students prior knowledge in calculator use and its purpose is to increase the student’s skill in learning mathematical technologies. Learning goal four is stated as, “**LG4: The student will continue mastering the skill of using calculators and other mathematical technologies**” The students will use their calculator to compare planetary information and as an assessment tool during identifying star constellations. By the end of the unit the students should be able to feel more comfortable using the calculator for multiplication sentences and other mathematical concepts on a fifth grade level. This learning goal is assessed through the Formative and Post- Assessment phases as noted in the chart below.

**Assessment Plan Table: 5th Grade Solar System Unit**

|  |  |  |  |
| --- | --- | --- | --- |
| **Learning Goals** | **Assessments** | **Format of Assessment** | **Adaptations** |
| **Learning Goal 1:**The student will identify, compare, and apply the characteristics of objects in our Solar System | Pre-AssessmentFormative AssessmentPost-Assessment | Pre-Test: vocabulary test of Solar System characteristics. What I already know Q & A.Partner read of chapters and discussion, Q & A of planet scale, graphic organizersQuiz: What I learned about the Solar System, Quiz: Star, Quiz: Inner Planets, Quiz: Outer Planets, How to Build a Rocket Ship, Post-test: Vocabulary Test | Give ample time and provide warnings for time completion. Let students know it is a pre-test and not for a grade. During Q & A provide examples on correct discussion of solar system information.Walk around and assess on-task reading. Provide positive feedback on good question and dialogue during Q & A session. Complete an example of graphic organizers along with the students.Give plenty of time for quizzes and allow notes used on all unannounced quizzes, read the questions out. Provide an example of a successful rocket ship. Give heads up on graded version of the test Post-Test. |
| **Learning Goal 2:** The student will analyze stars, star constellations and star charts to better understand the purpose of studying the Solar System | Pre-AssessmentFormative AssessmentPost-Assessment | Pre-test: Vocabulary test of Solar System characteristics. Partner read of chapters and discussion, graphic organizers, Calculator Constellations, Quiz: What I learned about the Solar System, Quiz: Star, How to Build a Rocket Ship, Post-test: Vocabulary Test | Give ample time and provide warnings for time completion. Let students know it is a pre-test and not for a grade. Walk around and assess on-task reading. Provide positive feedback on good discussion of material. Complete an example of graphic organizers along with the students. Complete an example of how to find constellations.Give plenty of time for quizzes and allow notes used on all unannounced quizzes, read the questions out. Provide an example of a successful rocket ship. Give heads up on graded version of the test Post-Test. |
| **Learning Goal 3:**The student will apply information about the Solar System to create organizational tools such as graphs, tables, drawings, or diagrams. | Pre-AssessmentFormative AssessmentPost-Assessment | N/ACalculator Constellations, graphic organizers, Planetary distance scale, Question parts of a graph and how to read a graph.Quiz: What I learned about the Solar System, Quiz: Star, Quiz: Inner Planets, Quiz: Outer Planets, How to Build a Rocket Ship. | Provide examples and pre-plan must have information for graphic organizers, work examples of calculator problems and demonstrate proper calculator techniques. Walk students through parts of the graph. Give plenty of time for quizzes and allow notes used on all unannounced quizzes, read the questions out. Provide an example of a successful rocket ship.  |
| **Learning Goal 4:**The student will continue mastering the skill of using calculators and other mathematical technologies. | Pre-AssessmentFormative AssessmentPost-Assessment | N/ACalculator Constellations, Graphic organizers, Planetary distance scale. How to Build a Rocket Ship. | N/AProvide examples and pre-plan must have information for graphic organizers, work examples of calculator problems and demonstrate proper calculator techniques. Walk students through parts of the graph.Provide an example of a successful rocket ship and where to use the calculator. |

Each assessment was created with a learning goal in mind. The three unique assessment pieces line up with multiple learning goals. The first unique assessment is the Pre/Post-test and was created to assess LG1-3, through a multiple choice vocabulary test. The Post-Assessment portion will include diagrams and fill-in-the blank questions to assess a little deeper what the student learned from the unit. The test has questions included to ask about solar system terminology for LG 1 and LG 2, and then questions on star charts and information found on their planetary data are included as well. This is a straight 100-point test during the Post-test portion and will be matched up to the Pre-Test which is also a 100-point assessment.

 The second unique assessment is the Calculator Constellation worksheet. This worksheet lines up with LG 2-4, as it requires students to use a calculator to solve multiplication sentences to locate special dots on a worksheet. Once these students have circled the correct multiplication sentences, the students must use a star chart to find what constellation the multiplication sentences make. The student must then draw the constellation and write its name. The students will be graded by correctly naming the constellation and by correctly circling the right multiplication tables.

 The final unique assessment will the “How to Build a Rocket Ship” and will be graded by successful completion of the assessment. The students will have a total of four categories worth 25 points each. The students will get a forth of the points for correctly using the right parts to build their ship, a forth for neatness of presentation, a forth for using at least one of each part, and a forth for creativity of their rocket ship. I can quick assess this piece by comparing the correct parts of the ship to the correct labeling of the ship’s destination. Most parts are matched by inner and outer planets so that I am able to easily assess whether or not students can identify the difference in the two sets of planets. This assessment requires students to use LG 1-4 as students must look at graphs, tables, solar system facts and do simple calculator math to add the right parts to their rocket ship.

 The quizzes are daily small non-unique formative assessments to keep me informed on what they students are learning from each lesson and what might need to be retouched during my Review day. Examples are included of what will be asked during these small quizzes. These quizzes will be graded based on a 100-point scale and must contain information from their graphic organizers. I also will use a discussion checklist and graphic organizers to make sure that students are bringing up the desired information for each day’s activities. There are a total of four quizzes one for each new lesson taught in the unit.

 I made a diverse number of assessment tools in order to meet all the needs of the students based on students who are more visual and students that are more analytical. One adaptation I made was including opportunities for students to draw a fact they learned about the solar system and label what they drew. In the first quiz, “What I know About the Solar System?” the students get this opportunity. An example of an analytical assessment adaptation was the creation of the paper doll rocket ships. Students had to analyze data like the size of the planet, distance from the sun and the type of materials the planet was made out of to create a paper doll representation of a rocket that could visit that planet. This assessment was meant to help students that are better at comparing charts and graphs, instead of vocabulary and fill-in-the blank types of assessments. For the Post-Assessment or the Post-Test, the adaptations made for students with IEPs was to only give the students three choices to choice from instead of four on the multiple choice test. This involved sitting down with my mentor and determining which choice could cause confusion of trick the student in to the wrong answer. The students get this option on their state testing so we thought this would be an acceptable practice for their Post-Test.

**Part 4: Design for Instruction**

 According to the pre-assessment results and the alignment to my learning goals the student’s demonstrated that the focus of my lesson should be on the planets and their characteristics with is part of LG 1. The students seemed to do very well as a whole with LG 2, as they had a higher average for the material they were assessed on. In the assessment of LG 1 students showed that they could not distinguish many of the characteristics of the Inner planets, but did show higher understanding of the outer planets. Many students seemed to confuse Mercury, Venus and Mars, in terms of physical appearance in the night sky and in terms of what geological characteristics make up those planets. What content from LG 1 the students almost all got correct was the rotation and revolution of the planets. Since these particular students learned these concepts in the fourth grade with the phases of the moon, these students demonstrated on my pre-assessment that they had the fourth grade knowledge needed as a prerequisite. LG 1 stands out as the learning goal with the most room for improvement and opportunity to accomplish the most growth.

 The content of LG 2 assessed on my pre-assessment was completed with about an 80 % accurate rate, meaning that most of the students got the questions pertaining to this learning goal correct. Only one question was missed with great frequency, but that question was worded in a manner that caused confusion during the pre-assessment. The choices given on this question also caused some confusion because there were two possible answers that could have been right due to the wording of the question. This seemed to be the only question that caused confusion and hurt the results of my assessment, because of creator error. Because this learning goal seemed to have the smallest amount of growth allowed, I decided to make sure these concepts were delivered more like a review and time was not wasted re-teaching material the students were already comfortable with.

 The last two learning goals were not tested on my pre-assessment. The last two learning goals were based off the standards that the school asked Science to include. My administration and partner teachers requested that concepts like graphs and calculators be used in my unit as a review. These students must review these concepts on a weekly basis and this review typically happens on Monday lessons. Because of this I gathered information from the Math teacher on what the students were comfortable with doing on the calculator and then I looked to the Tennessee state standards for the requirement in graphs. Since reading graphs and using calculators are a skill taught in lower grades that the students build off of, I decided not to pre-assess these learning goals. I only intended to assess the first two learning goals in conjunction with the last two. Meaning, no assessment of the last two learning goals would be done without the concepts taught in the first two learning goals. Since the first two learning goals could act as standalone goals, I only pre-assessed this information to gather my data on the performance of those goals. The comparative model I used for the last two learning goals consisted of their previous calculator and graphical charts practices.

**Results of LG 1 and LG 2 Pre-Assessment**

**100%**

**75%**

**50%**

**25%**

**% Correct**

**LG1 LG2**

**Class 1**

**Avg.**

**LG1 LG2**

**Class 2**

**Avg.**

**LG1 LG2**

**Class 3**

**Avg.**

**LG1 LG2**

**Class 4**

**Avg.**

 The pattern I would like to see on my post-assessment is a good 30 % increase to LG 1 and a 10% to LG 2. I think an increase in scores like this would be realistic and even relevant to the amount of information the students will receive in a week long unit. I will not be surprised to see LG 1 increase from the pre-assessment to the post-assessment even more than 30 % because of the natural interest the students have in the Solar System. I also would not be surprised to see little or no change in the scores of LG 2 other than the students scoring better due to the creator error question being clarified during the teaching of my unit. With LG 3 and LG 4, I hope to see mostly 90 % accuracy rate on exercises assessing these learning goals. Because these students receive so much exposure to these concepts in the last two learning goals, the only performance issues I foresee is the performance of the students that typically struggle with mathematical concepts. Due to these predictions, I plan on spending more time teaching LG 1 during the Inner and Outer Planets lessons listed below in my Unit Overview table. With those lessons, I plan on spending more time with visual and written descriptions of each planet and constantly informally assessing the students to make those comparisons. One example of how I hope to do this, is during a ticket out the door or dismissal time I will ask students to tell me a different between two inner planets or what a planet might look like at the surface. I also hope that the engaging videos will put these concepts in a manner the students find fun and interesting to increase post-assessment scores.

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| --- |
| Design for Instruction Unit Overview |
| Monday | Tuesday | Wednesday | Thursday | Friday |
|  |  | Pre-Test on Solar System (15 minutes) | Introduction to the Solar System Lesson:**Topic: Solar System**What I Know/What I Learned Graphic Organizer- Students compare what they know to what they learned from scaffolding techniques in the classroom.Watch *Solar System* Video to recap and introduce. The Solar System in Centimeters Model- Instructor demonstrates creating a scale model using a calculator and distance from the Sun facts so that the instructor can pre-assess informally student’s knowledge of the planets. | Stars Lesson:**Topic: Stars, Constellations and Star Charts**“What I Know About the Solar System” Quiz.Watch *Star Cycles* Video to introduce the stages of the stars.Create Star Types Organizer to fill in data as the instructor reads to the class with popcorn reading strategies and group reading of the four types of stars. Read About Stars and Constellations in Textbook- With peer reading the students read to one another to fill in more information on stars.  |
|  |  |  | LG 1, LG 2, LG 3 and LG 4 | LG 1, LG 2 and LG 4 |
| Calculator Constellations Lesson:**Topic: Stars, Constellations and Star Charts.**Students take the Stars Quiz.Calculator Constellations Worksheet Assessment- Students use their calculator to test multiplication problems for validity. The problems represent stars and stars that are correct are circled to show a constellation. Then students must identify the constellation using a star chart.  | Inner Planets Lesson:**Topic: Inner Planets (Mercury, Venus, Earth and Mars)**Planetary Data Organizer – Created a 10 page flap book with data table to use as we collect data on the planets from reading. Students use a variety of reading strategies to complete information about the Inner planets. Some reading strategies are group, popcorn, and some peer or partner reading strategies. (Mercury, Venus, Earth and Mars)Inner Planets Video Clips from *The Magic School Bus* – Watched to review of reading the material for diverse learners.  | Outer Planets Lesson:**Topic: Outer Planets (Jupiter, Saturn, Uranus, and Neptune)**Students take the Inner Planets Quiz.Planetary Data Organizer-- We continued to use data organizer from the previous day to complete the outer planets. Students use a variety of reading strategies to complete information about the Outer planets. Some reading strategies are group, popcorn, and some peer or partner reading strategies.(Jupiter, Saturn, Uranus, Neptune)Outer Planets Video Clips from *The Magic School Bus* -- Watched to review of reading the material for diverse learners. | Rocket Ship Assessment Tool Lesson:**Topic: Solar System**Students take the Outer Planets Quiz.How to Build a Rocket Ship Assessment- Students create a paper doll representation of a rocket that includes parts that would most safely fly the rocket to an assigned planet. Check for understanding of the Planetary Data Organizer.  | Unit Review Lesson:**Topic: Solar System**Students take 15 minutes to review the unit through a reward based questioning session conducted by the instructor. Students that answer questions correctly get a ticket for their class rewards system. Solar System Post-Test- Students take the post-test for their final form of assessment.  |
| LG 1, LG 2, LG 3 and LG 4 | LG 1 and LG 4 | LG 1 and LG 4 | LG 1, LG 2, LG 3 and LG 4 | LG 1, LG 2, and LG 4 |

 My unit was built to incorporate many different learning strategies and techniques. Being a younger person and having a background in technology, I felt I had more opportunities to use a diverse amount of instructional procedures, that would both be at the correct developmental level of the students and also something that the students would find exciting. My three primary instructional procedures included video/technology portion of each lesson for those students with a more auditory or visual way of learning, a peer reading portion for those students who are more verbal or linguistic with their learning, and a visual/graphical organizers portion for those students more logical and visual path of learning. I broke up the three portions down below to explain how I reached each style of learning, which are more appropriate methods of learning for 5th graders. Each lesson is broken down in a format of an introduction video, peer reading exercise, graphic organizer and a formative assessment. The core of the lessons is the peer reading exercises and recording data.

**Video Streaming** is used as an introductory or set piece for almost every lesson. One particular video I used was a *Brainpop* video from <http://www.brainpop.com/> was a video on star life cycles. The video was titled *Star Cycles* and was found in the Science section of the website. I used this video to introduce the stars lesson before we read from the Science book in peer reading styles. This particular video is done in an animation style that is streamed to the computer from *Brainpop’s* website. The video is shorter than 5 minutes in length and summarizes the life cycle of the stars based on using key terms that they define within the video. After the video is finished I summarize the video by having an informal assessment of asking students for clarification of what we saw in the video. The content of this particular video relates back to the LG 2 and stars types. The main purpose of the video is to give the students alternative learning style opportunities and give multiple exposures to the vocabulary of our unit. To implement this teaching strategy a computer with internet access is required, along with speakers for sound.

**Peer Reading** is used as an enhancement to the notes gathered and more engagement of the content. The core of the lessons from the unit are paired with peer reading exercises, as the school is a reading focused school, and also graphical organizers to place in the student’s Science journal. With these two peer reading styles, students get to read along with either a partner or the instructor, while getting the information in a verbal or linguistic style of learning. One section read in this manner was the Star Constellation sections their Science book. The students spilt up in to partners and read this section a paragraph at a time to each other. After the completion of reading this particular section, the students have to demonstrate their knowledge of constellation during my Calculator Constellation assessment. The assessment was conducted on the next day, and requires the students to achieve LG 2-4, as they must interpret a star chart, use a calculator and apply information from the partner reading to identify the correct constellation on the worksheet. The main purpose of this learning strategy is to include reading standards and school standards within the unit, while also accommodating the linguistic learners of the classroom.

**Visual and Graphical Organizers** are used as organization of the content in the unit lesson. The purpose of graphical organizers is to offer a more visual and logical approach to keeping up with the information the student discover throughout the unit. This particular part of the lessons makes up the second part of my core lesson. One particular organizer used is the Star Types organizer which is a four-page flap book with each flap labeled a different star. The stars were broken down into four categories and we recorded their temperature, size, color and a name of one of the stars. Then the students are assessed on the Stars Quiz by arranging the stars from coolest to warmest and then smallest to largest. Students were allowed to use their graphical organizer to assess their ability in translating the information we recorded in to written information about stars. This was done to accommodate many styles of learners, so that students that learn better by seeing the information knew where to gather that information for the test. Then the students who are better at reading the information from the textbook could recall the information based on the ordered method we talked about the stars. The students were also asked to name a star we talked about or that they read about. The assessment and organizer aligns with LG 2 and LG 3.

**Part 5: Instructional Decision-Making**

 With the way the context of my classroom was set up, I was able to teach the same lesson four times a day. Because of this, my decision-making evolved in each lesson to ensure the most positive response to my lesson. According to my Pre-test/Post-test data, it is apparent the most growth of the learners happened in correlation to what time they had my class. Many of the test scores improved over time probably due to the decisions I made to change a lesson based on the previous class’s response. Also I made sound decisions based on individual learners in each class. Some classes had more students that are working with IEPs or an assistant, with those students I had to take in consideration that note taking and other devices might take longer in classes that they are present in.

 One modification I feel drastically changed the response of three classes in a more positive aspect was changing the way I set up the “How to Build a Rocket Ship” assessment. During this assessment I was originally asking students to work alone or in groups of two to build a paper doll rocket to one planet. After giving the assessment to one class, I found three things wrong with the assessment. The first thing I found wrong, was the arrangement of the statements for the description of each rocket ship part. In many of the descriptions I tried to originally tell a story of what each part did and required the students to use higher order thinking to assess what that story meant. The problem with this was the time frame at which the students had to complete the assignment did not allow the students to ask for clarity on the statements. I found that the wording was not at a 3rd grade reading level and many of the students still perform at that level. So during my second class I decided to read each statement out for the class and have them change the general idea or information to better reference while putting together their rocket. For example, when a statement said “This part performs only in environments of icy conditions” was changed to “the part is meant for planets with rings”. This enabled the students to look directly at their planetary data chart and compare the planet they were building for to the column entitled “Rings” to search for rather or not that part would work. After these changes it enabled the students to assess which parts they needed more quickly. This modification did not change the alignment with my learning goals because students still had to complete what I originally intended them to do with this assessment. Since my intention of this assessment was to have students use their planetary data charts

 The second problem was the cutting and pasting of the parts together. With some of the student this was not an issue, but other students lacked the motor skills to cut out the intrigue parts neatly. So the first class struggled with getting all their parts cut out in a timely manner and some lower performing students even found the task daunting and frustrating. In order to reconcile this problem the classroom assistance, my mentor teacher and I assisted in cutting out parts. With those students that finished early, we even designated as helpers that would go around and assist with cutting parts out for the rocket ship. When the other classes started this assessment I went ahead and asked the students that finished early to help those struggling student cut out their shapes. I also started helping cut as soon as the students started on the project in order to allow the most time possible for completion. This modification did not interfere with my learn goals, but was required in order to successfully complete the assessment. This modification was conceived in order to better serve the students with IEPs and students that required assistance on non-traditional class projects.

 The third modification made to the assessment was done during the third time this lesson was attempted. In my third class there are more students with trouble staying on task and doing higher order thinking exercises. So in order to stay current and gaining similar responses with the other classes we conducted a guided version of the assessment, where I took a planet not chosen by any other students in the class and built a rocket with the class. While I chose the correct parts, I demonstrated the proper methods of determining which rocket part to chose, based on my planetary data. I had the students follow along circling the parts they thought fit in their planet’s rocket. Then I asked the students to color and double check their parts before cutting out the rocket. The assistants and my mentor teacher helped me check to make sure students were following along correctly. We still encouraged the students to make decisions by themselves based on their planetary data. The modifications done for the third class also echoed to the last class I taught the lesson to. This modification still upheld the purpose of assessing the learning goals aligned with the project which were LG 1 and LG 3.

 All three modifications improved accomplishing the learning goals aligned with the “How to Build a Rocket Ship” assessment. By making the modification above, I was able to informally assess the student’s reactions better to the assessment. The three classes that received modifications seemed to enjoy the project better as a whole and understood the purpose of the assessment. Since the assessment became clearer, the students were able to focus more on creatively attempting their rocket. Also the students were able to successfully complete the assessment, whereas the first class that attempted the assessment had difficulty completing the assessment and had to do so during their recess or the next day. Because of these students attempting the assessment in two different sittings, the students may have not been as successful with the project. This I felt compromised the response I got from the assessment and made it harder to determine if my learning goals were met. So the three modifications I made not only allowed for clearer results on my assessment, but also create a more enjoyable experience with a project that was meant to reach out to multiple diverse learning styles.

 Another time when student’s response altered the way I looked at present my lesson occurred when all four classes struggled to find the desired info from their reading to record in their planetary data chart. From the Stars lesson I taught on the first day of teaching I found that when students worked on peer reading of the material, the students understood what they read but could not locate what was important information and non-important information. During the original process of my unit I hoped that the students would find the information and present it to the class in a group discussion format that would be conducted at the end of the reading time. What I found out from the first day, is that students wanted to tell too much unneeded information and overwhelmed the process. Not only did the note taking process get bogged down, but struggling students or students with lower performance levels could not keep up in the note taking process. So instead of letting the students present all the data they found during their peer reading sessions, I asked students to write down things they wanted to keep in their Science journal while reading and I would give them the information that they might find on a test. This modification seemed to work better for the high performing and low performing students both, while also achieving my learning goals more successfully. With LG 1, a lot of the goal relies on the students understanding the characteristics of the planets and not how the planets got their name. What I found before modification is that students wrote down things that were nonsensical in comparison to what was important. For example, the word sun comes from the Latin word sol. This statement was not being assessed by me, state standards or school standards. Also this statement would encourage off-task behavior as students wanted to know where the Latin word sol came from and such.

 My modification to the process of gathering notes improved accomplishing LG 1 because I acted as a filter for off-task moments, unneeded information and the creation of more confusion that was not needed for struggling students. With more clarity in the note taking process students were less stressed and content with the factual information presented in their graphical organizers and notes. This modification also helps prevented students from writing information in the wrong area of their notes and also offered a better model of how to find the important information from the Science book. Because I could emulate non-fictional text usage the students received more exposure on how to interpret non-fictional text which is also a school standard not listed in my learning goals. With my modification I not only became more efficient in the teaching of the material but I also achieved hidden school standards set by the administration of the school. Because of the positive response to my modification I continued to present the notes to my students after they read the material in the same manner that I did the first time I came across the predicament. The evidence of the success in my modification came from better quiz results on the Inner and Outer Planet portions for the unit in comparison to the Stars lesson quiz results.

**Part 6: Analysis of Student Learning**

**Whole Class:**

 For my analysis of Student Learning I sampled just my homeroom’s achievements throughout my unit. I will first break down the results of the pre-test and post-test assessments based on the class as a whole. My homeroom class is labeled as Class 4 in all of my TWS. Below is the table of data that the students scored on the both the pre-test and post-test assessments. My goal for my unit was to achieve almost a 30 % increase on LG 1 and a 10 % on LG 2. The overall increase of scores for the sample Class 4 is reflective of the entire group of 84 students. The combined increase in scores was 22 % which would be reflective of my goal since there was less room to grow with LG 2. LG 1 had about a 33 % increase in correct answers on the posttest from the pretest with Class 4, while LG 2 had about an 11 % increase in correct answers from LG 2. Averaged together these two learning goals show that my target was met while teaching my unit and I was successful at teaching these two learning goals. The assessment data also includes the assessment of LG 4 within the posttest but I have no data to compare. If I take in consideration that students might have did a little worse because of having to read graphical tables and data, then my post assessment scores might have increased a little more which would show that my target for completing my LG 1 and LG 2 were even more successful.

 The unique assessments I created to show the completion of LG 3 and LG 4 were very positive in response with all four classes. I recorded the data for Class 4 to show how accurately the students achieved these two learning goals. Below is a table of the scores and as you can see most students successfully completed these assessments with 100 % accuracy which goes to show that these learning goals were more of a review than a new horizon for the students. Becoming familiar with these two learning goals was important to see because as I mentioned earlier, neither of LG 3 or LG 4 were standalone assessments. The students must be able to incorporate the information achieved during LG 1 and LG 2 in order to complete any assessment of LG 3 or LG 4.

 What the graph below tells me about the student’s learning was that almost all students had a positive response to the lesson and was able to answer the same questions previously test in the pre-assessment with a higher percent of accuracy. Not only were the students able to achieve this greater level of learning, the students also were able to incorporate all of the learning goals for unique assessments not recorded in my graph. All but the exception of one student grew with some percentage towards achieving all learning goals. One student, Student P, was unable to achieve LG 1 and actually dropped in percent accurate from the pre-test to post-test. Student P is a student that did struggle throughout the unit, primarily with having interest in the unit material. She often became frustrated with learning the names of the planets and also keeping up with reading during peer reading exercises. The largest growth came from Student B; this would make sense that she would be one of the students to grow at this rate. She is a very bright and is able to learn at the same rate as others when given the opportunities to learn. Student B is a low reader and still struggles to read proficiently at a 5th grade level, but with peer reading exercises I can see the benefit of having a peer read with her. The rest of Class 4 showed the predicted outcome of growth at about 22 %. The two outliers mentioned above were the only two students to show anything differently. One group of students from sample Class 4 I would like to comment on was the group of students that made 47’s on the pretest. These students represent the average student of the 5th grade I taught my unit to. Over all of the classes, 47 were the most scored percent on the pretest. From looking at my graph and the data tables, most of these students managed to score in the near 80 percentile on the post-test, except one student which was Student S and was one of my IEP students mentioned in the Contextual factors for this class. All students from sample Class 4 participated in both assessments except Student Q who was absent the entire unit.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| --- | --- | --- |
|  |  |  |
| Student | Pretest | Posttest |
| A | 73 | 96 |
| B | 33 | 84 |
| C | 27 | 56 |
| D | 73 | 100 |
| E | 33 | 68 |
| F | 53 | 80 |
| G | 80 | 96 |
| H | 80 | 100 |
| I | 87 | 100 |
| J | 47 | 84 |
| K | 47 | 88 |
| L | 53 | 92 |
| M | 68 | 72 |
| N | 87 | 88 |
| O | 83 | 96 |
| P | 53 | 40 |
| Q |  |  |
| R | 47 | 76 |
| S | 47 | 52 |
| T | 47 | 80 |
| AVG= | 58.8421053 | 81.4736842 |

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|  |  |  |
| --- | --- | --- |
|  |  |  |
| Student | LG 3 | LG 4 |
| A | 100 | 100 |
| B | 100 | 100 |
| C | 100 | 100 |
| D | 100 | 100 |
| E | 100 | 100 |
| F | 100 | 100 |
| G | 100 | 100 |
| H | 100 | 100 |
| I | 0 | 100 |
| J | 100 | 100 |
| K | 100 | 100 |
| L | 86 | 100 |
| M | 100 | 100 |
| N | 100 | 100 |
| O | 100 | 100 |
| P | 100 | 100 |
| Q |  |  |
| R | 94 | 100 |
| S | 94 | 100 |
| T | 100 | 100 |
| AVG= | 96 | 100 |

 |

**Class 4 Whole Class Selection- Pre-Assessment vs. Post Assessment**

%

 CO

R

R

E

C

T

Students Assessed on LG 1 and LG 2

 CO

R

R

E

C

T

**Subgroup:**

The subgroup I selected from this unit coincides with performance level based on reading proficiency and reading above or below grade levels. Since the school I taught this unit to had a high degree of focus on reading and *Accelerated Reader*, I wanted to compare the trends within the high-readers vs. low-readers on LG 1. High-readers are students reading above their grade level and reading on a daily basis to accumulate AR points. While low-readers are students reading below their grade level and are not accumulating AR points as frequently. This subgroup was chosen purely based on how much emphasis the school puts in reading and how both of these groups deal with a heavy reading influence environment. I am selecting four students from both groups to represent their response to LG 1 and their initial response to the pre-test. The high-readers are Student D, Student G, Student H, and Student I. The low-readers are Student C, Student P, Student S and Student T. Below are my tables and graphs to show pretest vs. posttest assessments of LG 1.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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|  |  |  |
| --- | --- | --- |
| **Column1** | **Pretest** | **Posttest** |
| Students HR |  |
| D | 73 | 100 |
| G | 80 | 96 |
| H | 80 | 100 |
| I | 87 | 100 |
|  |  |  |
| Students LR |  |  |
| C | 27 | 56 |
| P | 53 | 40 |
| S | 47 | 52 |
| T | 47 | 80 |

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|  |

 As seen by the graph the High-readers (HR) performed at almost 20 points more on both the pre-test and post-test assessments. The reason for this probably coincides with having a lesson based of reading activities and student’s prior knowledge from reading comprehension. Students at the HR level of reading were probably more familiar with the terminology on the pre-test. The HR students probably recognized the words easily and did not have trouble reading the questions during the pre-test phase. The students performing at the Low-readers (LR) level probably did not recognize the terminology during the pre-test assessment and struggled with reading the questions/answer choices. Also the LR students probably had trouble dealing with activities that dealt with reading comprehension and lacked the exposure to read proficiently all the information that HR students could. In terms of reaching LG 1, HR students had a higher level of success because of exposure to reading the material during activities. The HR students also had less room to grow due to having pretty successful pretest assessments. The LR students struggled with achieving LG 1 with success, except for two students who had some of the furthest room to grow during my unit. What I think this data shows is that students who are actively reading in both the AR program and at home, have a greater chance at word exposure for new content. Also these students seem to struggle less with reading based activities and are strong at making good choices while testing. Students that are not active in reading with the AR program and outside of school have less success with word exposure in a new terminology and also struggle with reading based activities such as the ones found in my unit. What I mean by this, is students who can decode new words and find word roots, can probably handle a vocabulary test with more success than a student that cannot decode words. With my pretest and posttest of LG 1 containing mostly vocabulary from my Solar System unit, the students of the LR group were put at a disadvantageous with getting the correct answer. Most of the students in the LR group are issued IEPs and took a modified version of the test that reduced on choice off of the multiple choice part of the posttest.

**Individuals:**

 Student G and Student P are students that demonstrated different levels of performance before my unit and during my unit. Both students are female students and they are both without IEPs or any references to their ability to learn outside of the teacher’s knowledge on how these students perform. During the pre-assessment phase of the lesson, these two students are assessed pretty accurately to their prior knowledge of my unit. Student G is a student with high reading ability, active parents who are also teachers and also participates positively in class. Student G’s participation includes asking higher-order thinking questions, checking for understanding and answering questions given be the teachers to assess the students informally. Student P is a student with low reading ability, little to no parent involvement at the school, and participates mostly negatively in class. Student P’s participation consists of talking out, arguing with other students and off-tasks behaviors. Student G went from scoring in the 70 percentile on the pre-test to scoring in the top 90 percentile on the post-test. She most likely did this through asking questions when she was confused on the material and participating in class discussions. Student P actually dropped in achievement from the pre-test to post test and this is most like because of this student’s participation was not on the unit. Student P was also one of the few students that complained that the planets sounded alike and she was confused by why we studied the solar system.

 It is important to me to study these two students because I wanted my unit to appeal to both students. I wanted to create a unit that would take students like Student P and give them a reason to want to learn the material so that they accomplished all of my learning goals and had fun doing so. What I feel like I understand better now with Student P and Student G is that Student P does not take interests in being in a classroom environment. She prefers activities that are more stimulatingly aligned with sports, social gatherings and has learned to do the minimum to get through class. This portrayal of school probably stems from being raised by an older sibling and not having much emphasis on the importance of school in her home life. Student G probably gets the opposite effect, as she spends most of her time involved in learning both at home and at school. Knowing these types of students can help you better plan a unit and prepare for students such as these two students. There are multiple things I learned about preparing for these styles of learning. First, you do not want to reduce the quality of your learning goals down so that the Student Gs are bored and become off-task. Secondly, you can probably take a student like Student P and try to offer more active approaches to the unit lessons so that they get to tap into their love of sports or social interactions. Lastly, a classroom is going to be a diverse range of these two students and everything in between. Knowing what the performances of different types of students can help in the preparation of achieving learning goals. Student G, achieved all the learning goals from my unit with high success, while Student P struggled and only achieved LG 3 and LG 4. My reasoning on why she probably only achieved those two learning goals, goes back to her interest in my unit material being non-existent and that exposure to those two learning goals is so high in all of the school, that Student P’s room for growth was not that high.

**Part 7: Reflection and Self-Evaluation**

 In the reflection of my entire unit, I believe the unit was an overall success in terms of achieving my learning goals. Some learning goals had more room for improvement than others, so the growth towards my goals was more visible. This improvement was very visible throughout my teaching and also in the post-assessment phases. The one learning goal I feel I had the most positive response to was LG 1, I feel there was the most success with this learning goal. With LG 1 I feel that the students knew the least amount of the content found in all of the learning goals since this content was primarily a new skill for fifth graders and built upon their knowledge found in their fourth grade Science content. Because of the room to grow, the students could only do better as long as I taught efficiently. One reason I believe that I achieved this goal successfully came to me a week after the unit was finished. The students had opportunities to answer questions about Science with me on a field trip. Most students could answer the questions about the characteristics of the planets, they learned a week prior, than they could answer questions about their current material. I found that many of the students enjoyed learning about the solar system so they retained the knowledge. One of the main features of the LG 1 was learning the planets’ characteristics and comparing them to the other planets. During our field trip I would ask questions like, “What planet is similar to size of Earth and has a thick atmosphere?” or “Which planet rotates on its side due to a possible collision with another object in our Solar System?” The students had zero to little trouble comparing the two planets a week after they took the post-assessment. This made me feel comfortable with stating that LG 1 had been achieved. One thing I would like to add about the student sample that received these questions on a field trip, this field trip was for students that are in homework club or tutoring. So many of these students were the students at the lower end of the performance on the pretest and posttest, knowing that this sample of students achieved and retained the goals of LG 1 was one piece of evidence that this was one of the more successful areas of my unit.

 The second piece of evidence comes from the analysis of my assessments. My data gathered for LG 1 showed the largest increase in student achieve in comparison to the other three learning goals. Since LG 2 was already achieved at a decently high success rate on the pretest, there was not as much room for achievement in that particular LG. After analyzing the results of my pre-test, I knew I needed to put more emphasis on reaching LG 1. What I did in my lessons to reflect this emphasis was constantly use videos, diagrams, models, reading strategies and creative assessments to get the students involved in the concepts of my unit. My focus was to surround the students with areas of interest and learning techniques for all the material found in my unit, but primarily when working on LG 1. I know from my contextual factors that the classrooms were very diverse, from the performance level to the after school interests. What I wanted to do was offer an outlet to achieve all the learning goals the best way I could for the context of my classes. The best way I sought to do this was by creating an exposure to the same material through reading, technology and visual diagrams as stated in my Design for Instruction portion of my TWS. Because my unit offered many chances to accomplish the learning goals, all the students had to do was find a way that they thought the material seemed interesting and attempt to learn the material.

 The learning goals I feel I was least successful in achieving was LG 3 and LG 4. Not because of my inability to teach to the goal, but my inability to control and track the progression of these goals. These learning goals were reworded and redesigned to fit in my unit from state standards and school standards, these learning goals were what my partner teachers would like to see their students achieve on a long-term basis. These two learning goals as described in other parts of my TWS were meant for a continuing growth and I did not have the pre-assessment of the student’s progress for these areas. I feel I was not successful with LG 3 and LG 4, because I could not track where the students were or are going with these two learning goals. Also as my assessment results for the sample Class 4 showed, most students had 100 % completion of these goals even when these two learning goals were measure along the side of LG 1 and LG 2. Meaning that even with the added distraction of trying to achieve LG 1 and LG 2, the students were achieving these goals with great success. As also previously mentioned, I decided to include these learning goals in my lesson so that the students still got the graphical-math organizer and calculator exposure that is often seen with Science units. The reason I feel that these learning goals were so easily achieved comes from the amount of emphasis the school and the fifth grade teachers put on the students to learn these concepts. Every Monday is a calculator and math practice in the Science/Social Studies classroom of the fifth grade, which is the classroom I taught in. Not being successful with these learning goals as much as I was with LG 1, is not so much a reflection of the students performing poorly in these areas, but a reflection of the students already overly exposed to the goals I created for my unit. If I had conducted a pre-test on these two learning goals, I do not think the results would be good indicators of student’s prior knowledge, because the only way to have shown results in the posttest would be to offer a new concept at which the concept might not be relevant to my unit.

 Two professional learning goals derived from my experience with this unit and the TWS. My first professional learning goal will be to find more ways to reach out to those few students that found no interests in my unit. I know that many students were happy with my unit and could not wait for me to teach again, but there were a few students that still found their experience with me being the same old experience with being at school. I want to find ways to reach out and make the material fun for them too. With Science I feel there are tons of things to do to make the subject fun and most students learn when they are having fun. I think this will be an ongoing professional learning goal of mine and it aligns with my goals for student teaching. I have developed ideas on how I would have done some things differently to reach out to those uninterested students better, like while teaching the position of the planets I could have went outside and made students represent the planets orbiting the sun. This could have reached out to students like Student P from my Class 4 sample. Two ways I hope to improve this goal is spend more time with research in creating unique and wonderful ideas for lessons I plan to teach. I will try hard to test those ideas and evolve them over the course of my teaching career, until I have 100% of the class interested in my lessons. The second way I hope to improve this goal is spending more time with getting to know my students when I get my own classroom. I hope to dive in deeper to what the students do for fun and what is relevant to them. Then I can apply my lessons to their interests and real-world relevance.

 The second professional learning goal that derived from my teaching experience is creating more activities that the students can take home and continue their learning of my unit. I feel that one of the best ways to teach is through immersion into the world I am sharing, if students are totally surrounded by the content, and then they will find more interest in classroom time. The way I hope to improve this professional learning goal is by reading more outside literature on whatever my subject material may be and then sharing that literature with the class to encourage my fascination in what they are learning. I also plan on becoming more passionate about what I am teaching. Even if I do not care about the subject material I have noticed a direct link with how excited I am and how closely the students pay attention. If I treat the material like something exciting that I want to tell them, the students become more involved and feel immersed in the subject material. The students will feel pressured in a positive way to know more about what we are learning in class and will want to find resources to share in that excitement.

**Resource List**

**Videos:**

Brainpop Videos- *Solar System, Star Cycles*

<http://www.brainpop.com/>

Magic School Bus Videos – *Mercury, Venus, Earth and Mars; Jupiter, Saturn, Uranus, Neptune, & Pluto.*

[*http://streaming.discoveryeducation.com/*](http://streaming.discoveryeducation.com/)

**Literature:**

DK Eyewitness Books *Universe* by Robin Kerrod

**Textbook:**

*Tennessee SCIENCE: A CLOSER LOOK* (Macmillan/McGraw-Hill) Grade 5, 2008.