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| **Part 2: Desired Results** | | |
| **Learning Outcomes:** *State the specific learner outcomes from the program of studies. You may choose to integrate different subjects/learning outcomes for this project. If so, look for learning outcomes that link to your topic/question/problem.* | | |
| **Science**  ***General Learner Outcome:***  6-1: Design and carry out an investigation in which variables are identified and controlled, and that provides a fair test of the question being investigated.  6-2: Recognize the importance of accuracy in observation and measurement; and apply suitable methods to record, compile, interpret, and evaluate observations and measurements.  6-4: Demonstrate positive attitudes for the study of science and for the application of science in responsible ways.  6-7: Observe, describe, and interpret the movement of objects in the sky; and identify pattern and order in these movements.  ***Specific Learner Outcomes:***  *Science Inquiry*  *Focus:*   * 6.1.1: ask questions that lead to exploration and investigation * 6.1.2: Identify one or more possible answer to questions by stating a prediction or a hypothesis   *Explore and Investigate:*   * 6.1.3: Identify one or more ways of finding answers to given questions * 6.1.6: select appropriate materials and identify how they will be used * 6.1.7: modify the procedures as needed * 6.1.8: work individually or cooperatively in planning and carrying out procedures * 6.1.9: identify sources of information and ideas and demonstrate skill in accessing them. Sources may include library, classroom, community, and computer based resources.   *Reflect and Interpret:*   * 6.1.10: communicate effectively with group members in sharing and evaluating ideas, and assessing progress * 6.1.11: record observations and measurements accurately, using a chart format where appropriate.   *Attitudes*  *Students will show growth in acquiring and applying the following traits:*   * *Curiosity* * *Confidence in personal ability to learn and develop problem-solving skills* * *Inventiveness and open mindedness* * *Flexibility in considering new ideas* * *A willingness to use evidence as the basis for their conclusions and actions* * *A willingness to work with others in shared activities and in sharing in experiences*   ***Knowledge***  6.7.1: Recognize that the sun and stars emit the light by which they are seen and that most other bodies in space, including Earth’s Moon, planets and their moons, comets and asteroids, are seen by reflected light.  6.7.2.: Describe the location and movement of individual stars and groups of stars (constellations) as they move through the night sky.  6.7.3.: Recognize that the apparent movement of objects in the night sky is regular and predictable, and explain how this apparent movement is related to Earth’s rotation.  6.7.4.: Understand that the Sun should never be viewed directly, not by use of simple telescopes or filters, and that safe viewing requires appropriate methods and safety precautions.  6.7.5: Construct and use a device for plotting the apparent movement of the sun over the course of a day; e.g., construct and use a sundial or shadow stick.  6.7.6: Describe seasonal changes in the length of the day and night and in the angle of the Sun above the horizon.  6.7.7: Recognize that the Moon’s phases are regular and predictable, and describe the cycle of its phases.  6.7.8: Illustrate the phases of the Moon in drawings and by using improvised models. An improvised model might involve such things as a table lamp and a sponge ball.  6.7.9: Recognize that the other eight known planets, which revolve around the Sun, have characteristics and surface conditions that are different from Earth; and identify examples of those differences.  6.7.10: Recognize that not only Earth, but other planets, have moons; and identify examples of similarities and differences in the characteristics of those moons.  6.7.11: Identify technologies and procedures by which knowledge, about planets and other objects in the night sky, has been gathered,  6.7.12: Understand that Earth, the Sun, and the Moon are part of a solar system that occupies only a tiny part of the known universe.  **Language Arts**  ***General Learner Outcomes:***   * General Outcome 2 - Students will listen, speak, read, write, view and represent to explore thoughts, ideas, feelings, and experiences. * General Outcome 3 - Students will listen, speak, read, write, view, and represent to manage ideas and information * General Outcome 4 - Students will listen, speak, read, write, view, and represent to enhance the clarity and artistry of communication.   ***Specific Learner Outcomes:***  2.2: *Experience various texts*   * 2.2.1 - Experience oral, print, and other media texts from a variety of cultural traditions and genres, such as autobiographies, travelogues, comics, short films, myths, legends, and dramatic performances. * 2.2.2 - Explain own point of view about oral, print, and other media texts * 2.2.4 - Discuss common topics or themes in a variety of oral, print, and other media texts * 2.2.5 - Discuss the author’s, illustrator’s, storyteller’s, or filmmaker’s intention or purpose   2.4: *Create Original Text*  Generate Ideas   * 2.4.1 - Choose life themes encountered in reading, listening, and viewing activities, and in own experiences, for creating oral, print, and other media texts   Elaborate on the expression of ideas   * 2.4.2 - Use literary devices, such as imagery and figurative language, to create particular effects   Structure Texts   * 2.4.3 - Determine purpose and audience needs to choose forms, and organize ideas and details in oral, print and other media texts   3.3: *Organize, Record, and Evaluate*  Evaluate Information   * 3.3.6 - evaluate the appropriateness of information for a particular audience and purpose   3.4: *Share and Review*  Share ideas and information   * 3.4.1 - Communicate ideas and information in a variety of oral, print and other media texts, such as multiparagraph reports, questions and answer formats and graphs * 3.4.2 - Select appropriate visuals, print and/or other media to inform and engage the audience   4.1 *Enhance and Improve*  Appraise own and others’ work   * 4.1.1 - Work collaboratively to revise and enhance oral, print, and other media texts   Revise and Edit   * 4.1.3 - Revise to provide focus, expand relevant ideas and eliminate unnecessary information * 4.1.4 - Edit for appropriate verb tense and for correct pronoun references   Enhance Legibility   * 4.1.7 - Experiment with a variety of software design elements, such as spacing, graphics, titles and headings, and font sizes and styles, to enhance the presentation of texts   Expand Knowledge of language   * 4.1.9 - choose words that capture a particular aspect of meaning and that are appropriate for context, audience, and purpose   4.2 *Attend to Conventions*  Attend to grammar and usage   * 4.2.2 - Use complex sentence structures and a variety of sentence types in own writing   Attend to spelling   * 4.2.7 - Edit for and correct commonly misspelled words in own writing, using spelling generalizations and the meaning and function of words in context   4.3 *Present and Share*  Present Information   * 4.3.1 - Use various styles and forms of presentations depending on content, audience, and purpose   Enhance presentation   * 4.3.2 - Emphasize key ideas and information to enhance audience understanding and enjoyment   **Math**  Statistics and Probability (Data Analysis)  ***General Learner Outcome:***   * Collect, display and analyze data to solve problems.   ***Specific Learner Outcomes*:**   * SO.1. Create, label and interpret line graphs to draw conclusions. [C, CN, PS, R, V] * SO.2. Select, justify and use appropriate methods of collecting data, including: questionnaires, experiments, databases, electronic media. [C, CN, PS, R, T] [ICT: C4–2.2, C6–2.2, C7–2.1, P2–2.1, P2–2.2] * SO.3. Graph collected data, and analyze the graph to solve problems. [C, CN, PS, R, T] [ICT: C6–2.5, C7–2.1, P2–2.1, P2–2.2]   **Art**  Level 3  ***Purpose 2:***   * Students will illustrate or tell a story   ***Concepts:***  B: An original story can be created visually.  C: Material from any subject discipline can be illustrated visually.  **ICT:**  ***General Learner Outcomes:***  C1: Students will access, use, and communicate information from a variety of technologies.   * 2.2: organize information gathered from the Internet, or an electronic source, by selecting and recording the data in logical files or categories; and by communicating effectively, through appropriate forms, such as speeches, reports, and multimedia presentations, applying information technologies that serve particular audiences and purposes.   C3: Students will critically assess information accessed through the use of a variety of technologies   * 2.2: recognize that information serves different purposes and that data from electronic sources may need to be verified to determine accuracy or relevance for the purpose used   C7: Students will use electronic research techniques to construct personal knowledge and meaning   * 2.1: use a variety of technologies to organize and synthesize researched information * 2.2: use selected presentation tools to demonstrate connections among various pieces of information   F2: Students will understand the role of technology as it applies to self, work, and society   * 2.1: identify how technological developments influence one’s life * 2.2: identify the role technology plays in a variety of careers   F3: Students will demonstrate a moral and ethical approach to the use of technology   * 2.1: comply with the acceptable use policy of the school and school authority for Internet and networked services, including software licensing agreements   P1: Students will compose, revise, and edit text   * 2.2: edit and format text to clarify and enhance meaning, using such word processing features as the thesaurus, find/change, text alignment, font size and font style * 2.3: convert digital text files by opening and saving them as different file types   P3: Students will communicate through multimedia   * 2.1: create a multimedia presentation, incorporating such features as visual images (clip art, video clips), sounds (live recordings, sound clips) and animated images, appropriate to a variety of audiences and purposes * 2.2 access available databases for images to support communication   P4: Students will integrate various applications   * 2.2: vary font size and font style, and placement of text and graphics, in order to create a certain visual effect | | |
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| ***Enduring Understandings:***  *What are the big ideas that you want students to understand?*   * *The planet we live on is part of the universe.* * *There are relationships between the Earth, Moon, Sun, and other planets in our solar system.* * *The universe is large and full of galaxies, planets, stars, comets, moons, asteroids, and things yet discovered.* * *There is still so much to learn and explore in space, so many unknowns, which is why it is great for creative endeavours.* * *Collecting and graphing data is another way of describing the the world and space.*   ***Essential Questions:***  *In addition to your driving question, what other provocative questions will foster inquiry and understanding of the content?*   * *How does knowing about the movement of objects in the sky lead to the creation of a children’s book?* * *Why is it important to know about the moon and its cycles?* * *Can science contribute to captivating storytelling? Interesting and engaging stories?* * *How is the solar system organized?* * *How do the physical properties of the sun and moon affect the Earth?* * *Why does the moon look different at different times?* * *Why does the movement and relative position of the Earth cause changes for us?* * *What causes the seasons?* * *How has our knowledge of the sun, earth, the planets (of our solar system), and moon changed over time?* * *How have humans applied technological skills to explore space?* * *How can data collection and graphs help me solve problems?* * *How can creating graphs help me solve problems?*   ***Knowledge:***  ***What knowledge will students acquire as a result of this plan?***  *Think: Nouns! Ex: Vocabulary, definitions, facts, formulas, critical details, important events or people, sequence and timelines, etc.*  *Students will know…*   * *stars emit light.* * *the moon, planets and their moons, comets, and asteroids reflect light.* * *sun safety for their eyes.* * *seasonal changes in length of day and night compared to the angle of the sun above the horizon.* * *the moon’s phases are regular and predictable.* * *other planets have moons.* * *moons around other planets are different from each other but have some similarities.* * *other planets revolve around the sun.* * *planets have characteristics and surface conditions that are different from Earth.* * *how information has been collected about planets and other objects in the night sky.* * *proper sentence and paragraph structure.* * *verb tense, spelling, and pronoun references.* * *how to tell a story* * *Interpret line graphs to draw conclusions* * *analyze graphs to solve problems*   ***Skills:***  ***What should students be able to do as a result of this plan?***  *Think: Verbs! Ex: Thinking skills (compare, infer, analyze, interpret), communication skills (listening, speaking, writing), study skills (note taking), interpersonal, group skills, research, inquiry, investigation skills, etc.*  *Students will be able to…*   * *discuss the location and movement of individual stars and constellations.* * *describe how the movement of objects in the sky is related to Earth’s rotation.* * *build and use a device for plotting the sun's movement over a day.* * *illustrate phases of the moon through drawings and models.* * *recognize other eight planets that revolve around the Sun* * *identify the differences between Earth’s and other planets surface conditions* * *express some similarities and differences of the various moons.* * *experience a vast array of stories about the night sky from a variety of cultural traditions and genres.* * *discuss what multiple stories have in common and what the storyteller’s intention is* * *explain their own point of view regarding stories.* * *gather a life theme from a reading activity and own experiences to create their own story.* * *use literary devices to enhance their stories.* * *organize ideas and details for the story.* * *communicate ideas and information.* * *select appropriate visuals and images to engage audience* * *work collaboratively to share ideas and help others edit their work* * *edit their work for proper verb tense, pronoun references, spelling, sentence structure and paragraph structure.* * *experiment with different design elements for proposal and story* * *create and label a line graph* * *choose appropriate method of collecting data* * *justify choice of methods for data collection* * *graph data collected*   ***Cross Curricular Competencies***  ***What competencies will you integrate into your plan?***   * *Critical thinking*   + *Students will be analyzing and questioning evidence within the various science projects (sun dial, moon phase models).*   + *Students will be reflecting and evaluating reasons behind their thoughts and beliefs in regards to the children’s book about their planet.*   + *Open mindedness, fairness, and integrity during collaborative times to edit work with peers as well as when learning about different cultural night sky stories.* * *Problem Solving*   + *Identify known information and what is needed to clarify the problem (eg: science experiments, their story, building the portfolio, and applying learned information to another area)*   + *Approaching the projects with creativity, flexibility, and determination.* * *Managing Information*   + *Students will have to organize information being learned in order to apply it to their planet as well as organizing their portfolios and story books* * *Creativity and Innovation*   + *Creating a children’s book about their discovered planet*   + *Students will create a portfolio how they want to exhibit their planets information in order to get chosen as the next Earth.* * *Communication*   + *Clarify purpose of portfolio to get picked as the next earth, will need to be able to express their findings.*   + *Demonstrate respect and responsibility when communicating with others*   + *Sharing their book with members of the community and other classes.* * *Collaboration*   + *Working together to help with story creations, building objects for sky observation, editing stories and portfolios.*   ***Literacy/Numeracy***  ***How will you integrate literacy and numeracy into your plan?***  *I will integrate literacy by having the students create a children’s book about the planet they discovered. During our planet discovery adventure we will be looking at a variety of literature regarding the night sky from different cultures, perspectives, and genres. Literacy will also be integrated through learning about other planets, moons, stars, and constellations. The students are in a competition to have their planet chosen as the next Earth and will need to create a portfolio that defends their planet using written components.*  *I will integrate numeracy by having the math unit “Collect and Display Data” integrated within the unit. Students will be collecting data about the moon, their planets, and other sources throughout the unit. These data collections will be done with surveys the students create and implement around the school, moon phases observed nightly during unit, and other classroom activities. The survey and graph regarding their discovered planet will be in their planet portfolio as well to show what their planet has to offer and evidence of interest from the students population.* | | |
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