Challenger Learning Center of Northwest Indiana
Moon Base Explorers Indiana State Standards Alignment

The Moon Base Explorer program aligns with Indiana Science and Engineering Practices, as well as Engineering Design Standards:

Science and Engineering Practices:
SEP.1: Asking Questions and Defining Problems
SEP.2: Developing and Using Models
SEP.3: Planning and Carrying Out Investigations
SEP.4: Analyzing and Interpreting Data
SEP.6: Constructing Explanations and Designing Solutions
SEP.8: Obtaining, Evaluating, and Communicating Information

Engineering Design
K-2-ETS1-1: Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.
K-2-ETS1-2: Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.
K-2-ETS1-3: Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs.

The Moon Base Explorer program aligns with the following Academic Standards for Science in Kindergarten, First Grade, and Second Grade:

KINDERGARTEN

K-LS1-1: Use observations to describe patterns of what plants and animals (including humans) need to survive

K-ESS2-1: Use and share observations of local weather conditions to describe patterns over time.
K-ESS2-2: Construct an argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs.
K-ESS3-1: Use a model to represent the relationship between the needs of different plants and animals (including humans) and the places they live.

FIRST GRADE

1-PS4-2: Make observations to construct an evidence-based account that objects in darkness can be seen only when illuminated
1-PS4-4: Use tools and materials to design and build a device that uses light or sound to solve the problem of communicating over a distance

1-LS1-1: Use materials to design a solution to a human problem by mimicking how plants and/or animals use their external parts to help them survive, grow, and meet their needs

1-ESS1-1: Use observations of the sun, moon, and stars to describe patterns that can be predicted

SECOND GRADE

2-PS1-1: Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties
2-PS1-2: Analyze data obtained from testing different materials to determine which materials have the properties that are best suited for an intended purpose.
2-PS1-3: Make observations to construct an evidence-based account of how an object made of a small set of pieces can be disassembled and made into a new object

2-LS4-1: Make observations of plants and animals to compare the diversity of life in different habitats

The Moon Base Explorer program aligns with the following Academic Standards for English Language Arts in Kindergarten, First Grade, and Second Grade:

KINDERGARTEN

K.CC.1: Participate in collaborative conversations about grade-appropriate topics and texts with peers and adults in small and larger groups
K.CC.2: Ask and answer questions about key details in a text read aloud or information presented orally or through other media
K.CC.5: Follow simple two or three-step oral directions.

FIRST GRADE

1.CC.1: Participate in collaborative conversations about grade-appropriate topics and texts with peers and adults in small and larger groups
1.CC.2: Listen to others, take turns speaking about the topic, and add one's own ideas in small group discussions or tasks.
1.CC.7: Give and follow oral directions with two or three steps.

SECOND GRADE

2.CC.1: Participate in collaborative conversations about grade-appropriate topics and texts with peers and adults in small and larger groups
2.CC.2: Listen to others, take one's turn in respectful ways, and speak one at a time about the topics and text under discussion.
2.CC.6: Give and follow oral directions with three or more steps.

The Moon Base Explorer program aligns with the following Academic Standards for Integrated STEM in Kindergarten, First Grade, and Second Grade:

KINDERGARTEN

K.DM.1: Apply measurements (e.g., time) defined in grade level content standards to analyze real-world scenarios.
K.DM.2: Construct visual representations defined in grade level content standards (e.g., bar graphs) to determine patterns.
K.DM.3: Evaluate reasonableness of observations, results, and solutions throughout processes.

K.IPS.1: Form observations, ask questions, plan and conduct investigations to answer questions or solve problems.
K.IPS.3: Determine one or more viable solutions using data and information to resolve a given scenario.

K.AM.1: Apply modeling to represent physical or conceptual objects (e.g., plants, animals, base-ten blocks)
K.AM.2: Apply symbols and relationships (e.g., comparisons) to represent physical or conceptual objects (e.g., letters or numbers may represent objects).
K.AM.3: Describe that systems have parts that work together to accomplish a goal (e.g., plant life cycle, computer hardware and software).

FIRST GRADE

1.DM.1: Estimate to determine appropriate measurement tools to use and apply measurements (e.g., time, length) defined in grade level content standards to analyze real-world scenarios
1.DM.2: Construct visual representations defined in grade level content standards (e.g., bar graphs) to determine patterns.
1.DM.3: Evaluate reasonableness of observations, results, and solutions throughout processes.

1.IPS.1: Form observations, ask questions, plan and conduct investigations to answer questions or solve problems.
1.IPS.3: Determine one or more viable solutions using data and information to resolve a given scenario.

1.AM.1: Apply modeling to represent physical or conceptual objects (e.g., plants, animals, base-ten blocks)
1.AM.2: Apply symbols and relationships (e.g., place value, < = >, operations) to represent physical or conceptual objects (e.g., letters or numbers may represent objects).
1.AM.3: Describe that systems have parts that work together to accomplish a goal (e.g., plant life cycle, computer hardware and software).

SECOND GRADE

2.DM.1: Estimate to determine appropriate measurement tools to use and apply measurements (e.g., time, money) defined in grade level content standards to analyze real-world scenarios
2.DM.2: Construct visual representations defined in grade level content standards (e.g., bar graphs) to determine patterns.
2.DM.3: Evaluate reasonableness of observations, results, and solutions throughout processes.

2.IPS.1: Form observations, ask questions, plan and conduct investigations to answer questions or solve problems.
2.IPS.3: Determine one or more viable solutions using data and information to resolve a given scenario.

2.AM.1: Apply modeling to represent physical or conceptual objects (e.g., plants, animals, base-ten blocks)
2.AM.2: Apply symbols and relationships (e.g., place value, < = >, operations) to represent physical or conceptual objects (e.g., letters or numbers may represent objects).
2.AM.3: Describe that systems have parts that work together to accomplish a goal (e.g., plant life cycle, computer hardware and software).