

Stage 1 – Desired Results

Established Goals

- Identify problems and plan/create solutions.
- Explain how models help us understand data.
- Compare data and determine its value.
- Apply multiple scientific principles to solve a problem and present it to peers.

Understandings: *Students will understand that...*

- Scientist help us solve problems in different fields
- Asking questions helps us solve problems
- Data can help us share our results and prove our findings

Essential Questions:

- What does a scientist do?
- How do questions help us solve our problem?
- How do models help us?
- How can we use data to explain our ideas?
- How can we share our information with our peers?

Students will know...

- Label and draw a picture of themselves as particular scientist
- Ask questions and use "I wonder" statements
- Compare and contrast different life cycles
- Compare and contrast the strength and weakness of the data
- Use accountable talk stems to engage in conversation with peers
- Apply learned scientific and engineering skills to solve a problem

Students will be able to...

Stage 2 – Assessment Evidence

Performance Tasks:

- Brain Pop Jr- Science Project Quiz
- Brain Pop Jr.- Plant Life Cycle Sequencing
- Leaf graph
- Plant a Tree PBL Task

Other Evidence:

- Science journals
- Participation rubric

Stage 3 – Learning Plan

Learning Activities:

- Lesson 1- What is a Scientist?
 - Discuss different types of scientists, what do they do, what is their field of work
 - Students will label and draw themselves as a scientist in their specific field of work
- Lesson 2- Asking Questions and Defining Problems
 - Watch Brain Pop Jr. video- Science Projects
 - Go outside with clip boards and have students write "I wonder" statements as they observe the world around them
 - As a class, come up with some questions that lead to defining a problem
 - Students will take Brain Pop Jr. Quiz
- Lesson 3-Develop and Use Models
 - Define and discuss what a model is and how it can be used in the scientific process
 - Show an example of a life cycle model
 - Students will label different life cycles on the computer
 - Quiz- plant life cycle sequencing task
- Lesson 4-Analyze and Interrupt Data
 - What is data? Have a discussion on students' ideas about the topic
 - Make predictions of leaf collection data

- Students will collect data (leaves) from two different locations outside the school
- Students will graph leaf collection and compare results
- Students will use accountable talk stems to discuss results of data
- Lesson 5- Plant a Tree (Problem Based Learning Task)
 - Pose the problem: Our town wants to give us a tree to plant outside our school. They want the students to decide what type of tree to plant, where to plant the tree and when to plant the tree during the year.
 - Students will work in pairs or groups to create a poster to convince the town of their choice of tree.