



Inquiry Card

Where's the Water?

Type of Inquiry:

Technological Problem Solving

Process Skills:

Observing, modelling, selecting, measuring, gathering data, recording, constructing, inventing, comparing, contrasting, evaluating and reflecting.



The Scenario:

Irrigation is often necessary, especially during the dry season. It provides the water necessary for plants to thrive. Your job will be to design an efficient irrigation system for a field in your community.

Open-Ended Inquiry Questions:

- How can I ensure that my irrigation system provides water evenly across the field?
- How can I ensure that my system minimizes waste of water?
- How can I control when to start and when to stop the irrigation system based on the needs of the crop?

Instructions:

1. Describe the challenge to the young scientists.
2. Give them time to do research (on the Internet, in books, in textbooks) about the importance of irrigation and current techniques used to irrigate fields.
3. Explain the criteria that will be used to assess their system:
 - efficiency at watering the field evenly
 - minimizing the waste of water
 - ways to control the system based on the needs of the crop.
4. After they have designed their system, they should build a small scale model and test it.

Scientific Principles:

Irrigation is the artificial application of water to the soil. In addition to providing water, it is used to protect plants against frost and to suppress weed growth in grain fields. Irrigation can be in-ground, can be done with sprinklers or can even be installed on a moving vehicle to provide better coverage.



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