Promoting Authentic Student Work

Recognising Questions that are Appropriate for Scientific Investigation

Learning Outcome in Focus

Nature of Science 2: Students should be able to recognise questions that are appropriate for scientific investigation, pose testable hypotheses, and evaluate and compare strategies for investigating hypothesis

Learning Intentions

By participating in this activity

1. Students will learn how to utilise a flow chart to assess whether their questions are appropriate for scientific investigation.
2. Students will develop success criteria for what makes a good question.

Preparing for the Extended Experimental Investigation (CBA1)

As students decide on their questions for the EEI they can use the flow chart and the success criteria developed to assess whether their question is an appropriate one for investigation.

Cut the following questions into strips.

1. Students are asked to use the flow chart to decide whether each of the questions are testable or non-testable and divide into two piles.
2. Students are then asked to take a question from the non-testable pile and using the flowchart, rewrite it until it makes it to the end point.
3. Generate a discussion on what makes a question suitable for investigation and develop criteria for same.

Why does a plant grow?	Will my plant grow?
What type of soil is best for plants?	Will the amount of water increase plant height?
Will the type of fertilizer affect the number of fruits produced by the plant?	Will a plant grow taller in California or Alaska?
Does the size of the pot affect the number of plant roots?	What kind of seeds do I need to grow a plant?

An tSraith Shóisearach do Mhúinteoirí

JuniorCYCLE for teachers

Write your question here

START HERE

Does the science behind your question relate to your topic?

NO

Great start! But you need to change or adjust your question, so that it can be investigated. Rewrite your question and start again.

YES

Can your question be investigated using the materials available to you?

YES

Can your question be investigated in the time available to you?

NO

YES

Does your question contain opinions? (e.g. best, better etc.)

NO

YES

Does your question allow you to identify variables i.e. things that can be measured or observed?

NO

YES

My variables are:

Can investigating your question help you understand how or why something happens?

NO

YES

Great! You have a question to investigate!

NEXT STEPS?