

Smarter Science – A Model for Inquiry

Initiate and Plan

Definition of Initiate and Plan

- the first stage of problem solving
- identifying a problem or need through curious observation
- defining testable questions, researching and considering possible answers and solutions
- revisiting observations and predictions to improve testable question

Process Skills of Initiate and Plan

Process Skill	Description
Observing	
Questioning	
Searching	
Interviewing	
Inferring	
Predicting	
Hypothesizing	
Modeling	
Investigating	

Initiate & Plan

WHAT IT IS

INITIATE & PLAN

- Identifying a problem or need through curious observation
- Defining testable questions, researching and considering possible answers and solutions
- Revisiting observations and predictions to improve testable question

PROCESS SKILLS

Observing

Observing

Using the 5 senses to find out about objects and events: their characteristics, properties, differences, similarities, and changes. Observation can be made directly with the senses or indirectly through the use of simple or complex instruments.

Questioning

Questioning

A strategy to make meaning or wonder about uncertainties.

Searching

Searching

Locating and using several sources, developing self-reliance in acquiring library and Internet skills.

Interviewing

Interviewing

Asking, interviewing, and corresponding to gain primary information.

Inferring

Inferring

Using logic to draw conclusions from the results of investigating/problem-solving.

Predicting

Predicting

Predictions are not random guesses but speculations of what may occur in the future based on prior knowledge, observations, and reasoning.

Hypothesizing

Hypothesizing

Making educated guesses or predictions based on evidence that must be tested through experimentation to establish credibility. Hypotheses guide investigations from which further predictions can be made. Hypotheses generally follow an "If..., then...." statement format.

Modeling

Modeling

Constructing physical/concrete or abstract representations of ideas, objects or events to clarify explanations or demonstrate relationships. Models are used to reinforce concepts, demonstrate learning, and/or illustrate phenomena which cannot be directly observed.

Investigating

Investigating

Gathering background information, formulating problems/hypotheses.