**INITIATE & PLAN**
- Identifying a problem or need through curricular observation
- Defining relevant questions, researching, and considering possible answers and solutions
- Revisting observations and predictions to improve testable questions

**PERFORM & RECORD**
- Developing and safely carrying out an investigation
- Observing, collecting, and recording results

**ANALYZE & INTERPRET**
- Reviewing results carefully by examining data and identifying patterns
- Deciding what the results mean
- Evaluating and refining solutions

**COMMUNICATE**
- Explaining procedures and results through writing, speaking, visual, or electronic means
- Reflecting on the process and checking with peers

**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**
A strategy to make meaning or wonder about uncertainties.

**Searching**
Gathering information from a variety of sources, developing self-reliance in acquiring library and Internet skills.

**Interviewing**
Asking and corresponding to gain primary information.

**Inferring**
Using logic to draw conclusions from the results of investigating/verifying.

**Hypothesizing**
Making educated guesses or predictions based on evidence that may occur in the future, but speculations or what may occur in the future based on prior knowledge, but speculations of what may occur in the future.

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

**Designing**
The goal is to devise or invent a strategy to make meaning or wonder about uncertainties.

**Demonstrating**
Setting up apparatus, making it work, describing parts and functions, illustrating scientific principles.

**Constructing**
Putting together component parts to build or ask.

**Inventing**
Designing something useful, for the first time, with an “if…., then…., because….” statement format.

**Using Instruments**
Knowing the instrument’s party, how it works, how to adjust it, its proper use for a given task, its limitations, knowing how to store it and transport it safely.

**Calibrating**
Checking, adjusting, or determining by comparison with a standard (e.g., calibrating a thermometer, balance, timer or other instrument).

**Contrasting**
Looking for differences.

**Graphing**
Visually representing data.

**Reporting**
Organizing and presenting information in a written or oral format.

**Analyzing**
Identifying main features and subheadings, using sequential, logical organization.

**Reflecting**
Reflecting on the process and checking with peers.

**Defending**
Supporting your own and/or others’ concepts or processes by organizing them into key facts and ideas and having them checked with others.

**Teaching**
Making meaning and wonder about uncertainties.

**EXPLAIN**
- Forming explanations, judgments, and decisions based on justifiable reasons.
- Choosing an action from various alternatives based on justifiable reasons.
- Drawing conclusions from the results of investigating/verifying.
- Illustrating phenomena which cannot be directly observed.

**Selecting**
Choosing an action from various alternatives based on justifiable reasons.

**Using Concepts**
Using concepts, demonstrating learning, and/or relationships. Models are used to reinforce primary information.

**Recording**
Setting, documenting, illustrating, charting, working systematically, working regularly.

**Planning**
Working systematically, regularly organizing for future, seeing possible results.

**Defining**
Making educated guesses or predictions based on evidence that may occur in the future, but speculations or what may occur in the future based on prior knowledge, but speculations of what may occur in the future.

**Graphing**
Visually representing data.

**Outlining**
Emphasizing main features and subheadings, using sequential, logical organization.

**Reviewing**
Picking out important items, memorizing, associating.

**Reviewing**
Carefully examining data and identifying patterns.

**Explaining**
Using logic to draw conclusions from the results of investigating/verifying.

**Reporting**
Organizing and presenting information in a written or oral format.

**Analyzing**
Identifying main features and subheadings, using sequential, logical organization.

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