1. **OBSERVING**: determining the properties of an object or event by using the senses
   a. Use the senses
   b. Observe similarities and differences
   c. Identify properties
   d. Observe change
   e. Observe patterns
   f. Make quantitative observations

2. **CLASSIFYING**: grouping objects or events according to their properties
   a. Classify into two groups based on 1 property
   b. Identify properties that can be used to classify
   c. Classify based on two properties
   d. Construct a simple classification system and name the properties used
   e. Develop two or more classifications for the same set of objects
   f. Develop a diagram of a classification system

3. **MEASURING**: describing quantitatively the length, area, mass/weight, volume, and/or temperature of objects using appropriate units of measurement
   a. Measure length in nonstandard units
   b. Estimate and measure length in metric units
   c. Measure mass in nonstandard units
   d. Estimate and measure weight with a scale
   e. Estimate and measure mass in metric units
   f. Measure volume with nonstandard units
   g. Estimate and measure volume in metric units
   h. Measure temperature with a thermometer
   i. Measure time in seconds, minutes, or hours

4. **RECOGNIZING SPACE-TIME RELATIONSHIPS**: identifying shapes, sequences, rates of change, motion and speed
   a. Identify symmetrical shapes
   b. Arrange objects in order based on size, mass, volume, and/or quantity
   c. Create a sequence from a set of objects
   d. Sequence events
   e. Relate two-dimensional to three-dimensional shapes

5. **COMMUNICATING**: using the written and spoken word, graphs, tables, diagrams, and other visual demonstrations
   a. Describe orally or in writing an object or event
   b. Describe orally or in writing properties that change
   c. Read a calendar
   d. Read a simple chart, table, map, or diagram
   e. Record data in a simple chart, table, or graph
   f. Construct a simple chart, table, or graph
   g. Use graphic forms to describe an object, event system, or change
   h. Obtain science information from varied resources
6. **INFERRING**: proposing an explanation based on observations and data, including identifying cause and effect relationships and distinguishing observations from inferences
   a. Identify causes and effects
   b. Draw an inference from a set of observations
   c. Distinguish between observations and inferences
   d. Identify observations that support an inference
   e. Evaluate and modify an inference based on additional observations

7. **PREDICTING**: anticipating the consequences of a new or changed situation using past experiences and observation
   a. Use repeated observations of an event to predict the next probable occurrence
   b. Use observations and prior knowledge to predict a possible outcome
   c. Predict an outcome from a trend in data

8. **INTERPRETING DATA**: finding patterns which lead to the construction of inferences, predictions, and hypotheses
   a. Identify relationships between objects and events
   b. Interpret data in pictures, charts, diagrams, tables, and graphs
   c. Identify relevant data
   d. Identify patterns in data
   e. Draw conclusions from observed data

9. **USING VARIABLES**: identifying variables in a system; selecting the ones to be manipulated and remain constant
   a. Identify conditions that cause a change
   b. Complete if/then statements
   c. Identify variables that are manipulated, responded to or held constant
   d. Construct a test to determine the effect of variable on a responding variable

10. **DEFINING OPERATIONALLY**: defining terms within the context of the students' own experiences; stating a definition in terms of "what you do" and "what you observe"
    a. Identify what is done and observed in an investigation
    b. Use what is done and observed in an investigation
    c. Use what is done and observed to formulate a definition

11. **FORMULATING HYPOTHESES**: making educated guesses based on observation, inferences generalized to include all objects or events of the same class
    a. Identify a question to be answered
    b. Identify prior knowledge and observations related to a question
    c. Form a hypothesis that is a generalization explaining the possible cause for an event
    d. Distinguish between observations and support a hypothesis and those that do not
    e. Evaluate and modify a hypothesis on the basis of observations
12. EXPERIMENTING: investigating, manipulating, and testing to determine a result
   a. Identify a problem to be solved
   b. Select appropriate materials for an activity
   c. Set up and conduct an experiment using control and experimental groups
   d. Design and conduct an experiment
   e. Write the sequence of events in an investigation
   f. Write conclusions to science activities

13. MAKING MODELS: observing, designing and/or constructing models
   a. Observe scientific models
   b. Construct three-dimensional models
   c. Construct scale models

14. USING LABORATORY MATERIALS AND EQUIPMENT: using materials safely
    and with a degree of skill
   a. Practice safety
   b. Use living organisms in a safe, humane manner
   c. Use a ruler or meter stick
   d. Use a scale or balance
   e. Use other science equipment (be specific, such as a graduate, magnifier, etc.)

15. PRACTICED THINKING SKILLS: Using thinking skills
   a. Recall/knowledge
   b. Comprehension
   c. Application
   d. Analysis
   e. Synthesis

16. CRITICAL THINKING
   a. Considering points of view
   b. Suspending Judgement
   c. Examining Complexities
   d. Clarifying issues and claims
   e. Developing criteria for evaluation
   f. Evaluating source credibility
   g. Examining root issues and purposes
   h. Evaluating arguments
   i. Examining assumptions
   j. Distinguishing relevant for irrelevant facts and considerations
   k. Supporting conclusions
   l. Recognizing contradictions
   m. Exploring implications and consequences