

## Thinking Skills in the 21<sup>st</sup> Century



### How Do We Investigate?

- 1. Ask Questions** – Develop relevant and precise queries related to any endeavor
  - *Use metacognition:* Consciously monitor, describe, and reflect upon one's thinking (e.g. Is it a necessary question?)
- 2. Make Observations** – Perceive and select attributes of an object or experience
  - *Identify characteristics:* Identify distinct, specific, and relevant details that characterize an object, event or phenomenon
  - *Identify missing information:* Determine essential information that is not given or provided
  - *Develop hypotheses:* Use prior observations to develop a possible explanation for an apparent relationship between two variables
  - *Use metacognition:* Consciously monitor, describe, and reflect upon one's thinking (e.g. Would I use the same word?)
- 3. Solve Problems** – Describe a problem, identify an ideal outcome, and select and test possible strategies and solutions
  - *Make a decision:* Create and use appropriate criteria to select the best alternative in a given situation
  - *Brainstorm:* Work with others to withhold judgment while identifying varied, innovative and numerous alternatives for solving a problem
  - *Think creatively:* Use fluency, flexibility, originality, and/or elaboration in your thinking
  - *Use metacognition:* Consciously monitor, describe, and reflect upon one's thinking (e.g. Why is that a good solution?)

### How Is It Connected?



- 4. See Relationships and Find Patterns** – See a connection or interaction between two or more things
  - *Compare and contrast:* See similarities and differences among objects, events, and people
  - *Classify:* Extract relevant attributes of a group of objects, people, or phenomena that can be used to sort or the same
  - *Categorize:* Group objects or events according to some preconceived classification scheme
  - *Interpret analogies:* Identify a relationship between familiar items or events and similar items and events in order to problem-solve or initiate creative production
  - *Use metacognition:* Consciously monitor, describe, and reflect upon one's thinking (e.g. How are they organized?)
- 5. Plan and Predict** – Develop a detailed and sequence series of actions to achieve an end; stating in advance what will probably happen in the future
  - *Use metacognition:* Consciously monitor, describe, and reflect upon one's thinking (e.g. What might come next?)
- 6. Cause and Effect** – See and extract the most powerful reasons or results for a given event or action
  - *Use metacognition:* Consciously monitor, describe, and reflect upon one's thinking (e.g. Why might that be true?)

### Is It True? Does It Matter?



- 7. Point-of-View** – Recognize that people may have values and beliefs that influence their perspective
  - *Determine bias:* Ascertains information that is value laden
  - *Use metacognition:* Consciously monitor, describe, and reflect upon one's thinking (e.g. How are they different?)
- 8. Evaluate** – Create and use appropriate criteria to select the best alternative in a given situation
  - *Fact and opinion:* Distinguish between statements that can be proven and statements that reflect personal beliefs or judgments
  - *Identify missing information:* Determine essential information that is not given or provided
  - *Judge the accuracy of information and credibility of a source:* Determine the precision of evidence presented and assess whether the given information is believable, valid, and worthy
  - *Determine strength of an argument:* Extract reasons from an argument and evaluate the evidence as worthy
  - *Use metacognition:* Consciously monitor, describe, and reflect upon one's thinking (e.g. Why is that true?)