

## Ladder of Discourse: Think Like a Scientist

### Rung 1: Tweet

A "Tweet" is a simple text to self connection you make to the text. For example, when reading about telescopes you might think, "I have seen a telescope before."

### Rung 2: Huh?

A "Huh?" is a vocabulary word, concept, or phrase that you don't understand when you read the text for the first time.

### Rung 3: Found It!

A "Found It!" can be one of two things. It could be a place where you used context clues to find an answer to one of your "Huh?'s". It could also be where you find what you are looking for in a text (your purpose for the reading). For example, if you were reading to learn about physical properties, you could find references to properties in the text or make a connection to a lab we have done in class.

### Rung 4: Discourse

A "Discourse" must include three key elements:

- It is your own unique thought, question, design solution, or idea for an experiment.
- It shows you are thinking beyond the text. It cannot be found in the text.
- It clearly connects to an element (bullet point) referred to in a Crosscutting Concept. It does not only connect to the title of the Crosscutting Concept, but it relates to a specific element (bullet point). These can be found on page A in your binder.

Remember, the Cross Cutting Concepts include:

1. **Patterns:** Do you see any patterns in what you read to the real world or to other science topics?
2. **Cause and Effect:** Do you see variables that you could test? Does one variable cause an effect on the other variable?
3. **Scale, Proportion, and Quantity:** If you changed the variables to a different size, amount of time, or energy, would there be a proportional change to another variable?
4. **Systems and System Models:** Could you design a system or use a current system to predict changes or design a solution to a current societal need or want?
5. **Energy and Matter:** If you were to track how the energy transferred or how the matter changed, could it help you understand how a system works or make any new conclusions?
6. **Structure and Function:** Can you see any way that the structures are shaped relate to the job they have to do or the way they behave?
7. **Stability and Change:** Can you see a way that a system is working to reach stability? Or, can you see how changes to a system can affect the stability of a system?