

# REFLECTION FOR LEARNING

*(in science)*

The metacognitive system is the “mission control” of the thinking process and regulates all the other systems. This system sets goals and makes decisions about which information is necessary and which cognitive processes best suit the goal. It then monitors the processes and makes changes as necessary. (Marzano, 2000) Research on metacognition, particularly in literacy and mathematics, makes a convincing case that instruction and support in the control and regulation of thinking processes can have a strong impact on achievement (Paris, Wasik, Turner, 1991; Schoenfeld, 1992).

In our class, this task is designed to help you do a number of things: to bring closure to the class topic; to reflect on the topic and how it relates to others; to encourage you to explore some aspect of the topic not covered in class... etc. Typically this reflection will be between 250 and 500 words. There are three main threads you can follow:

1. Aha! “I did not know that...”
2. Transfer. “This new information reminds me of...”
3. Application. “I can use this information to...”

A rubric for designing/assessing online reflective responses is below. (\*The total points recorded for a typical response will usually be weighted X3 on the guide below for a total of 12. You do NOT have to complete all three areas of this rubric to earn a full score. You might only cover one area exceptionally well.)

Rating	Content	Personal reflection	Application
4	My reflective response is thorough. It is of specified length and depth. My response makes meaningful connections to important ideas from the information covered in the lesson/unit. I support my responses with relevant details from the lesson or other reliable sources of information.	My reflections are thoughtful and complete. I reveal personal feelings about new information or skills learned. I extend the information in this lesson/unit a little further by digging deeper in to some aspects.	I raise ideas for how this information might be further explored either in my studies or my life. I make suggestions for either how I will apply the information or skills, or how I could adapt it.
3	My reflective response is adequate but could be more thorough. It is quite less than specified length and depth. I make some connections to ideas from the lesson/experience. I support my responses with some details and facts, but they are not completely accurately supported by the details from the lesson. Minor misconceptions may be present.	My reflections are adequate, but could be more thoughtful. I reveal some personal feelings about the information or skills learned. I poke at a few aspects not covered this week.	I briefly mention ideas I might explore but don't really get into specifics.
2	My reflective response is incomplete. It is likely less than a paragraph in length. The connections I make to other ideas or information are weak. I provide only weak or incomplete supporting evidence. Significant misconceptions may be present.	My reflections are brief. I reveal very little about my personal feelings or experiences. There is little reflection or questioning; it sounds as if I'm not really interested in the topic.	I include a topic that might be explored, but I give no details.
1	My reflective response is random or unrelated to the work of the lesson/unit. It is a couple of sentences in length. My writing is disorganized and unconnected to any important ideas.	My reflection is limited or superficial. I don't reveal any personal feelings or ideas.	I don't mention any topics.