Reading Check in: Astronomy Text: Chpt 6.1 -6.2. Radiation and Telescopes

Students were to read and take "three step notes". This process involves students first reading a section to completion, then putting the book aside. From memory, the student then attempts to write down all of the important point and examples that they can remember after that 'first pass' (In class, Mr. Clark describes this as 'catch what you can!'). Ideally, this process would be thoughtful and deliberate probably taking at least ten minutes or so of trying to 'frame out' the reading. Important in this process, is to leave 'blank space' where the student knows there is an idea which is incomplete or which they simply forgot.. but do remember there was 'something important' about the idea.. (this will be filled in later).

Once that sequence is complete, the student may once again, reference the text book.. attempting to capture any new information which would 'fill in the blanks' from their first pass. Ideally, they would also form new questions, perhaps about connections between ideas which still weren't clear, or perhaps questions about 'how they know' the fact that is being described. **This stage is called the "messy notes" stage** because now, there original document is a mix of original writings, questions, things crossed out and added, etc..

The last step: Taking out a new sheet of paper and reconstructing the 'messy notes' into a new document, which strives to look like a text book.. with bold headings and big ideas.. examples and references and illustrations of key points and other, interesting details, to bring the series of ideas to life. This is what studying looks like… doing this process.. is not about creating a piece of paper to hand in, it is about engaging in a process which actively creates learning and knowledge in the brain.

Student may submit copies of their 'messy notes' for extra credit to this homework assignment.

Minimum requirement: Respond to the following questions from the reading (Chapter 6,1 and 6.2).

1. How is visible light related to other forms of light? How does the figure (6-3) contribute to this idea?

2. Why does the term "radiation' cause so much fear in people? What is the correct 'definition' of 'radiation'?

3. What is the term 'atmospheric window' a reference too? Is there a connection to the evolutionary biology of eyes?

4. Draw diagrams showing both ‘reflecting’ and ‘refracting’ telescopes.. Use labels and arrows (vectors) to show the path of the light rays as they form an image.

5. How are the two telescopes fundamentally different? How are they ‘the same’?

6. Why does a radio telescope (or the microwave telescope used to first detect the Cosmic Background Microwave Radiation) look soooo different from ‘optical telescopes’ (reflecting and refracting as show on page 108 in the reading).