The Basics:

1. What was the broad question being asked by this research project? What was the specific question being asked by this research project?
    a. Summarize the background information on the research topic in three sentences.
    b. What is the gap in the literature identified by the researchers? What question(s) are they trying to answer? What is their hypothesis and what should happen if the author's hypothesis is true?
    c. What are alternative hypotheses?

    The main question asked by the researchers is whether or not "people can modulate their mind wandering on the basis of their expectations of upcoming challenges in a task." They predict that it is indeed possible for people to control their mind wandering and hypothesize that mind wandering would decrease as an important task approached. Background information consists of 1) this topic has already been researched and proven that time wandering does negatively impact memory and learning and 2) people mind wander more when completing easy tasks rather than more difficult ones.

2. What experiments were done to test the hypothesis or investigate the research question?
    a. Explain the task design – what are participants instructed to do and what is being measured? Think about the independent and dependent variables.

    A large group of participants, both male and female, were recruited for this study. Each participant had to sit in front of a computer screen and click the space bar every time the clock on the computer screen struck 12:00, which was every 20 seconds, thus it was easily predictable. 20 thought probes also appeared on the screen in between trials where the participants had to answer whether they were mind wandering or not, and if so, if it was intentional. They also had to complete motivations surveys.

3. What evidence supports each of the conclusions?
    a. Before you read the discussion, summarize the main findings and link each one back to the research question(s). How does each result inform the hypothesis?

    The researchers found that the participants did indeed control their mind wandering because mind wandering increased after the critical event had occurred and then decreased as the next critical event approached. This was true for both samples. These results therefore allow the researchers to reject the null hypothesis in favor of the alternative and conclude that people can in fact modulate their mind wandering. The

researchers also found that intentional mind wandering was more common than unintentional mind wandering.

4. What are the major conclusions?
   a. What do the results add to the field? How do the researchers interpret their findings? Summarize any limitations identified by the researchers.

   Major conclusions include that 1) "people have fine-grained control over their mind wandering and can modulate their mind wandering on the order of seconds", and 2) the results oppose previous literature stating that mind wandering reflects failures of executing control because mind wandering could actually be beneficial when task demands are low as it could potentially allow people to multi-task and complete more goals.

The Critique:
1. Is the paper well written? How do you know? For week 2 & later, use this space to practice headlines & summaries of the articles via tweets.

   I believe the paper is well written, however it is more dense than other readings we have done so far. One can easily tell by just reading the abstract that this paper is for more of a scientific audience.

2. Do the conclusions seem logical given the data processed? Why or why not? Another way of thinking about this: do the results adequately support the conclusions that are drawn? Are there alternative explanations for the findings? What inferences about the hypotheses and questions can be made based on these results?

   For the most part. Given their data, it made sense for the researchers to conclude that people control their mind wandering, however it did not make sense for them to conclude that mind wandering could be beneficial during easier tasks. This is because they did not test varying difficulties and have no way of knowing if there are benefits to mind wandering. In fact, given the previous literature and research on the negative effects on multi-tasking, I'd say that Seli's conclusion is a huge stretch.

3. Are the conclusions important? How do you think this relates to everyday behavior?

   Yes, however as I stated above, they may not be fully accurate. It is important though to know that we can control our mind wandering. However, is it really mind wandering if we are fully controlling it or is it more of us just intentionally taking a break from a task.

4. What were the best aspects of the research presented, and how could the research be improved? Name at least one way to improve the experiment.

   The best aspect of the research presented was that Seli included two samples to further strengthen his research. One way in which the experiment could be improved though is by adding other tasks, including auditory ones.

5. How would you follow-up this experiment or study?

   I would follow-up the study by testing different age ranges, as well as including a variety of other tasks. I would also incorporate a multitasking aspect to it, where you could measure how mind wandering affects multitasking.

Additional Resources: What are the basic concepts that you need to know to understand the science presented in your paper? What other information or resources would help you better understand the paper? This is helpful to consider for your science communication pieces.

   You definitely need to know about previous research in the field, as well as basic concepts such as memory and multi-tasking.

Further Questions:
Write at least five comments or questions about the article to discuss with the class.
1. *Seli should've varied the difficulty within tasks and included auditory tasks as well.*
2. *We have no way of knowing if the mind wandering of the participants was really intentional or not because they were simply surveyed.*
3. *I'd like to hear more about Seli's argument regarding mind wandering being beneficial.*
4. *Why did Seli choose the age range that he did?*
5. *Was the task intentionally boring? I wonder what he results would look like if the task were more stimulating.*