In the second half of the course, each student is asked to summarize a paper into a **"doodle version"** (see [here](https://pubs.aip.org/physicstoday/online/42701/Translating-scientific-papers-for-the-public) for an example), and present the result to the rest of the class. The topic of the paper should be single-star or binary evolution, and presentations will likely take place in the first week of December.

This is the procedure:

* **Choose a topic**, either by making a choice from the list below, or by proposing a topic yourself, as long as it is within the scope of the course. Find a paper discussing your topic, and try to distill the important information. You can find and download papers published in astronomical journals via the [ADS abstract service,](https://ui.adsabs.harvard.edu/) or follow new publications on the [Arxiv](https://arxiv.org/list/astro-ph/new).  When you have chosen your paper, you have to discuss your choice with the teachers before you proceed. You can submit your choice in an Assignment, which will be announced at the beginning of November.
* You will be asked to **distill your paper into a "doodle version"** (see [here](https://pubs.aip.org/physicstoday/online/42701/Translating-scientific-papers-for-the-public) for an example). We will have dedicated practicum session on **Wednesday October 8th** to provide you with the right tools to do this! We will also talk about how to best read and choose a paper during this session.
* **Prepare a journal-club style presentation of your doodled paper** of at most 15 minutes. This time will be strictly adhered to. No need for slides, you just have to take us through your doodled paper. Often there will be too much to discuss in 15 minutes. It is key that you use your time well to explain: I) why did you pick this specific paper? (what makes it stand out?) II)  How does it relate to the topic of your choice?  III) What are the key findings of this paper? (and why should we care?)  
  It is more important to be clear than to be complete! You should build on the knowledge we gained in the lectures: use this as a starting point: no need to repeat what everybody should already know from the lectures.
* You will be asked to hand in your doodled paper right before you present it. The *paper doodle and its presentation* will constitute **30%** of the final grade.   
  **Grading** will be based on the following **criteria**:
  1. How well you explain why you picked this paper, and why it is relevant.
  2. How well you explain the main result(s) and conclusion(s) of the paper (keeping in mind the background knowledge of your fellow students),
  3. How well you explain the connection of these results to what we learned during the course.
  4. If you have successfully managed to distill your paper into a doodle version:  
     extra points for creativity (artistic or otherwise).

Below is a (non-exhaustive) list of possible topics; you can also suggest a topic yourself. Note that the topic of your presentation should be different from the topic your MESA case study.

1. Evolution of the first stars (population III)
2. Evolution of super-AGB stars
3. Formation of black holes in stellar core collapse
4. Testing stellar evolution theory using binary stars
5. Effects of rotation on the evolution of massive stars
6. Effects of binary evolution on stellar rotation
7. Properties and evolution of contact binaries
8. Formation and evolution of blue stragglers
9. Binary progenitor evolution towards Type Ia supernovae
10. Progenitor evolution of Type Ib/Ic supernovae
11. Progenitor evolution of gamma-ray bursts
12. Progenitor evolution of binary black hole mergers