Making a Rubric

Begin by reminding yourself of your learning objectives from earlier in the week. Then:

1. Begin by discussing what values you bring into assessing student work. Do you want a rubric that is analytic or holistic? Do you want to create a rubric for every individual assignment or write a more generic one that can be re-used? List some advantages or disadvantages of each type of rubric.
2. Imagine that instead of lecturing in the DSFP, you were instead writing a graduate level final exam on hierarchical inference in astronomy. Based on your learning outcomes and objectives, what sort of problem might you assign? What are the important qualities of the solution? List at least 2-3 possible qualities you will assess.
3. Now open a Jupyter notebook and outline a DSFP style problem. I have provided a template on the slack.
4. Now consider how the qualities above are weighed? What does an excellent response look like vs a satisfactory one? What points would you assign for different types of responses?
5. Next, revisit your choice of analytic vs holistic rubric. Is one a better or worse fit for this type of assessment? Use the examples below to make a rubric for one problem in your hierarchical inference problem-set.

Decomposition of motion into horizontal and vertical components	
2	Student decomposes the velocity (a vector quantity) into its vertical component v_y.
1	Student realizes that the motion should be decomposed, but does not arrive at the correct expression for v_y.
0	No attempt at decomposing the 2D motion into its vertical component.
Identification of maximum height condition	
2	Student successfully translates the physical question (the highest point of the ball) to an equation that can be used to help solve the motion (v_y = 0).
1	Student identifies the maximum height condition with minor mistakes.
0	Incorrect or missing identification of maximum height condition.

Points	If...
5	The student clearly understands how to solve the problem. Minor mistakes and careless errors can appear insofar as they do not indicate a conceptual misunderstanding.[a]
4	The student understands the main concepts and problem-solving techniques, but has some minor yet non-trivial gaps in their reasoning.
3	The student has partially understood the problem. The student is not completely lost, but requires tutoring in some of the basic concepts. The student may have started out correctly, but gone on a tangent or not finished the problem.
2	The student has a poor understanding of the problem. The student may have gone in a not-entirely-wrong but unproductive direction, or attempted to solve the problem using pattern matching or by rote.
1	The student did not understand the problem. They may have written some appropriate formulas or diagrams, but nothing further. Or they may have done something entirely wrong.
0	The student wrote nothing or almost nothing.