Levels Rubric Check-list

Level 4

Before Error Analysis:

- I demonstrate recall of necessary facts and flexible use of skills
- I demonstrate a logical flow in my solution pathway by following appropriate procedures to routine problems
- My work explains why the concept(s) I am applying is(are) appropriate for routine and non-routine problems
- I demonstrate how to accurately approach, create a viable plan, and execute non-routine problems
- My written solution presents a logical argument justifying the accuracy of why my reasoning leads to a viable solution

During Error Analysis:

- I have no conceptual errors, demonstrated by my evidence, my accurate responses to both the procedural and reasoning questions on the question key, and is validated when I analyze the answer key
- I might have a minor procedural error that I find on my own during error analysis and is validated when analyzing the answer key
- I provide convincing reasons why I will never make these particular procedural errors again
- I apply accurate problem solving strategies and ask/highlight in my evidence the "brilliant failure question" I posed while solving the non-routine problem/task

Level 3

Before Error Analysis:

- I demonstrate recall of necessary facts and flexible use of skills
- I demonstrate a logical flow in my solution pathway by following appropriate procedures to routine problems
- My work explains why the concept(s) I am applying is(are) appropriate for routine problems
- I demonstrate how to accurately approach, and set-up a plan for non-routine problems. My written solution presents a logical argument justifying the accuracy of why my approach should lead to a viable solution
- I wrote reasoning and procedural questions that will eventually lead me to an accurate solution to the non-routine problem/task.

During Error Analysis:

- I have no conceptual errors to the routine problems, demonstrated by my evidence, my accurate responses to both the procedural and reasoning questions on the question key, and is validated when I analyze the answer key
- I might have a few procedural errors that I find on my own during error analysis and is validated when analyzing the answer key
- I might have a minor conceptual error in the non-routine problem, that I figure out from finding the answer to the reasoning question on the question key when analyzing my notes. My reasoning is validated when looking at the answer key.

- For my next steps:
    - I provide convincing reasons why I will never make these particular procedural errors again and I explain what I learned from my conceptual errors and how I will apply my new understanding when approaching, creating a plan, and executing my reasoning when faced with a non-routine problem that involves similar concepts (level up to 4-)
    - I have a plan that will lead to successful explanations (level up to 3+)

Level 2

Before Error Analysis:

- I demonstrate recall of necessary facts and apply basic skills
- One or the other:
    - I demonstrate a logical flow in my solution pathway by following appropriate procedures to routine problems
    - I demonstrate how to accurately approach non-routine problems
- I wrote accurate reasoning questions that will eventually lead me to an accurate solution to the routine problem.
- My work demonstrates that I am not sure of the reasoning needed to approach the non-routine problems.

During Error Analysis:

- I have a few conceptual errors in the routine problems, and have reached out to a peer/teacher for additional explanation in order to answer the reasoning questions on the question key.
- I have a few procedural errors that I find on my own during error analysis, with the support of the procedural questions on the question key and my notes.
- I have conceptual errors in the non-routine and have reached out to a peer/teacher for additional explanation in order to answer the reasoning questions on the question key and understand the answer key.
- For my next steps:
    - I explain what I learned from my conceptual errors and how I will apply my new understanding when approaching, creating a plan, and executing my reasoning when faced with a non-routine problem that involves similar concepts (level up to 3-)
    - I have a plan that will lead to successful explanations (level up to 2+)

Level 1

Before Error Analysis:

- I demonstrate recall of necessary facts and or apply basic skill
- I demonstrate a flow in my solution pathway by trying to connect appropriate procedures to routine problems
- I wrote accurate reasoning questions that will eventually lead me to an accurate solution to the routine problem.
- My work demonstrates that I am not sure of the reasoning needed to approach the routine problems.

During Error Analysis:

- I have conceptual errors in the routine problems, and have reached out to a peer/

teacher for additional explanation in order to answer the reasoning questions on the question key.

- I have procedural errors that I find challenging to figure out on my own, even with the support of the procedural questions on the question key and answer key.
- I annotate my notes after working in collaboration with my peers
- For my next steps:
    - I explain how the skills and concepts are connected for all of the routine problems and I explain what I learned from my errors and how I will apply my new understanding when approaching, and executing routine problems (level up to 2-)
    - I have a plan that will lead to successful explanations (level up to 1+)

Not Yet

Before Error Analysis:

- I do not demonstrate recall of necessary facts or apply basic skills that are applicable to the problem
- My work demonstrates that I am not sure of the procedures or reasoning needed to approach and execute problems, including recall & reproduction, routine and non-routine
- I could not think of the appropriate questions to ask that could lead to a possible correct solution pathway

During Error Analysis:

- Read question key, find the information in notes and write 2 more clarifying questions
- Read answer key and see if it answers your questions. If not, ask peer/teacher a question in order to annotate notes
- I annotate my notes as I work in collaboration with my peers
- For my next steps:
    - I re-do the problems on my own and explain my thinking as I go through the problem. (level up to level 1)