Instructions for Creating 3D Assessments

The science standards are written as an assessment guide. They are a statement of what the students should know and be able to do with that knowledge by the end of the lesson/activity/unit. The goal here is to create assessments that are aligned to the Idaho science standards that allow your students the opportunity to show they know how to do science (SEP), with science knowledge (content), and that they can think like a scientist (CCC).

Steps for Creating a Successful Assessment

1. **Read your standard:** Choose a standard that you are focusing on. There could be multiple standards that could apply to your topic, try and choose one that most closely aligns. Read it carefully and make sure you understand what it is your students are being asked to do. This will define what you are assessing.
2. **Choose a scenario, problem, or phenomena:** Three-dimensional assessment tasks are multi-component tasks. That is, they have multiple questions that students can answer that pertain to a single scenario. Scenarios describe some aspect of a natural phenomenon to be explained or engineering problem to be solved. These could be something simple you observe every day, or something your students find perplexing and interesting. If you need some inspiration, the Wonder of Science has a database of phenomena that are already aligned to the standards.
3. **Match the Science and Engineering Practice:** Identify the SEP in the standard. Use the Formats for Assessing with the SEPs to write questions and tasks that assess the standard. Make sure the assessment language matches. If the standard asks students to 'develop a model', then your students should be developing a model.
4. **Match the Cross Cutting Concept:** Make sure your assessment requires the students to think like a scientist by including questions that use one or more of the CCCs. Prompts for Assessing Using the CCCs includes sample questions you can write to match the standard and fit your scenario.
5. **Develop a Rubric:** Students should be aware of how they are being assessed, so they can hit the target! Remember that the rubric should address all three dimensions. The Science Practice Editable Rubrics can be a useful tool to begin writing the rubric.

6. **Administer, Review, Revise:** Assessment design requires many cycles of developing, testing, and revising tasks to ensure that you are getting an accurate picture of what students know and can do. A key is to be ready to revise your initial tasks, even when you've put a lot of work into them. Often, the challenge is not with our students but with the questions that we ask. Pay attention to how the students performed on the formative assessments compared to the summative to determine if they were appropriate. Look for learning gaps and determine if they are the result of the assessment or of the learning process.

RESOURCES FOR CREATING ASSESSMENTS

Link	Description
Kentucky Course Task Assessments	A state-wide project in which teachers wrote task assessments. Easy to search by grade level. Tend to be long, could take 2-3 days to complete.
Wonder of Science Performance Assessments	Science teaching guru Paul Anderson has compiled the task assessments that teachers have made at workshops. Some of them are a picture of the assessment written on chart paper, and will need to be typed up.
Stanford NGSS Assessment Project	Example assessments. Mostly middle school, but there are some elementary resources in here, especially in the embedded in instruction section.
NGSS Sample Classroom Tasks	Example assessments from NGSS for both middle and high school.