

## Sample Recommendations for Review of Assessments

### *Set One Overview*

I assessed portions of six multiple-choice Curriculum-Based Assessments (CBAs), Grade 2 Reading, Grade 3 Math, Grade 7 Math, Grade 5 Science, Grade 7 Science, and Biology, using Webb's Depth of Knowledge Framework, which provides descriptors of levels of work. There are four levels, with Levels 3 and 4 designating rigorous work. Level 4 does not apply to these samples, because those tasks are typically long-term, in-depth, and open-ended projects and assignments.

Generally, questions in each of the CBAs were at Levels 1 or 2. These levels include basic comprehension, following a well-known formula, interpreting, using inference, interpreting information from a graphic, and applying information. One challenge with multiple choice tests is that it is difficult to push to the highest levels of analysis. This is especially true since at Level 3, students are expected to justify their thinking. This is not done in a written manner in a multiple-choice test, but students must justify their answer in their head to ensure it is correct. However, it is possible, and the feedback I receive from teachers and leaders across XXX is that, when they look at the criteria I use, many of the state testing questions are reflective of Level 3 of Webb's DOK.

### *Grade 3 Math*

The majority of the questions in this CBA (and this is generally an issue with math problems) were at Level 1. Students are asked to use/follow a well-known formula, compute simple algorithms, and represent a math relationship in words, pictures, or symbols. See examples below.

- "Which set contains numbers that are easily divisible by 2?"
- "Nancy was baking an apple pie. She had 5 apples and she cut each apple into 8 slices. How many apple slices did Nancy cut for her apple pie?"
- "Which problem could be represented by the array shown below?"

However, there was an example of a Level 3 question. One criteria of a Level 3, rigorous question, is to recognize and explain misconceptions. Although students did not explain the misconception, in question 24, "Selena read 216 minutes during a reading competition at Hall Elementary. Yolanda read 472 minutes during the same reading competition. Which of the following strategies could not be used to determine how many more minutes Yolanda read than Selena?", they were required to identify the misconception, or the one that was not correct.

### *High School Biology*

Similar to the other two science CBAs, there were many questions at Levels 1 and 2 using recall, inference, application, and basic comprehension.

- “The production of energy-rich ATP molecules is the direct result of...” *Note: if students were directly given this information, it is a Level 1 Basic Recall.*
- “The presence of large numbers of mitochondria in the cells that line the small intestine suggests that the transport of materials into and out of these cells requires...”
- “Since oxygen gas is being released, it can be *inferred* that the plant is...”

However, as in the Grade 3 math example, students were asked to identify a misconception in Question 5 (Level 3): “Which is the *least accurate* statement about the reactants and products of photosynthesis and cellular respiration?”

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### *Sample Set Two*

*This set of recommendations is a bit different. Teachers chose an assignment, and we worked together to make them more rigorous. Based on my recommendations, each grade level chose another assignment, revised it, and sent it to me for additional recommendations.*

#### Kindergarten

This is a strong 2. Students are comparing and contrasting with sorting. The problem is multi-step and application oriented. Because they have to explain how the items are sorted, they are justifying their answer. They are also generalizing and connecting ideas (3). In order to push this to a low level 3, students could find three items at home (or in the classroom) that are similar, then follow the same procedures. This allows them to make real-life connections on their own.

#### Third Grade

In this thorough, multi-day lesson plan, there are a variety of levels addressed. At the beginning of the activity, it is clear that students are applying their knowledge of Mars and are using some higher order thinking skills (this would depend on the questions generated by the teacher and by the students). As you move through the creative project, you notice that the options for “launching” the expedition (see below) are not at a higher level. They are basic applications or summaries, which are both level 2.

Option 1: Create a brochure inviting people to the school on MARS

Option 2: Create a list of instructions with pictures showing how the school on MARS looks. What are the key features?

Option 3: Create a video showing explaining the school on MARS

#### Option 4: Create an advertisement for the school on MARS

However, the extension questions (see below) are clearly at a level 3. They require a high level of thinking, and also require students to move beyond information to real-life, authentic situations. I would recommend including these as a part of the standard assignment rather than using them as an extension.

- Students will design and explain their village, including options such as:
  - Garden, greenhouse (consider soil quality, air quality, heat, etc)
- Students will consider what is needed to sustain life
  - Pharmacy, doctor, etc...
- Students will redesign the school curriculum
  - What life skills, knowledge, do students need to learn to be a productive citizen on mars?
  - What kind of jobs (community helpers) will schools need to train students for?

If the extending questions are used as a standard part of the assignment, then this project is a high 3, pushing to a 4. Extended time is an indicator of a level 4, but the overall nature of the assignment should have critical thinking at its heart. That shift would need to occur to increase it to a 4. As it currently is designed for all students, it is a high 2.

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