

## CMS Assessment 2.0

In a [previous blog post](#), I wrote about my critical review of three Course Management Systems (CMSs) and why I chose Canvas to use with elementary school students. Since that time, I have used Canvas to create a digital assessment for my second graders. You can read about the first iteration, [CMS Assessment 1.0](#), here.

After critically considering my own CMS Assessment 1.0, I made several changes. CMS Assessment 1.0 initially consisted of a 15-question quiz. To create CMS Assessment 2.0, I created an entire assessment page within Canvas. That page has three buttons, each of which links students with a different part of the assessment. The finalized assessment now includes three parts:

- Part 1:** 15-question quiz to be taken inside the Canvas CMS.
- Part 2:** Sorting task to be completed in Scratch Jr., a sorting app with which students are already familiar.
- Part 3:** Open-ended design task to be completed as a drawing and writing assignment on a sheet of paper that I will provide to students.

Click this [link](#) to view a screencast where I demonstrate CMS 2.0.

### Assessment Aligns With Professional Standards

The three parts of the assessment meet many Next Generation Science Standards, as well as one Common Core English Language Arts Writing Standard as described in detail here.

#### Next Generation Science Standards

- PS1.A: Structure and Properties of Matter – Different kinds of matter exist and many of them can be either solid or liquid, depending on temperature. Matter can be described and classified by its observable properties.

[In Part 1, students classify materials as solid, liquid, or gas. In Part 2, they sort items by their observable properties of color or texture.](#)

- PS1.A: Structure and Properties of Matter – Different properties are suited to different purposes.

In Part 3, students solve an open-ended design problem in which they have to determine which materials to use and defend their choices.

- K-2-ETS1-1. Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.

In Part 1, students answer questions that require them to define a problem and develop a solution.

- K-2-ETS1-2. Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.

In Part 3, students solve an open-ended design problem in which they must draw and label their solution.

- K-2-ETS1-3. Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs.

In Part 1, students answer questions that require them to compare strengths and weaknesses of how different materials perform.

- ETS1.B: Developing Possible Solutions - Designs can be conveyed through sketches, drawings, or physical models. These representations are useful in communicating ideas for a problem's solutions to other people.

In Part 3, students solve an open-ended design problem in which they must draw and label their solution.

- Science and Engineering Practice – Analyzing and Interpreting Data – Analyzing data in K–2 builds on prior experiences and progresses to collecting, recording, and sharing observations.

In Part 1, students answer questions for which they must read a table of data and interpret the meaning.

#### Common Core English Language Arts

- W.2.8 Recall information from experiences or gather information from provided sources to answer a question. (PARTS 1, 2, 3)

In Parts 1, 2, and 3, students must answer questions and complete tasks while recalling information that they learned throughout the module.

## Assessment Will Inform Instruction

When I began creating this assessment for CMS Assessment 1.0, my plan was to create a summative assessment, a quiz that would act as a post-assessment and finalize instruction of this module. However, based on best practices, I will give this assessment before the scheduled end of the module. If students do well, then we will move onto the next module as scheduled. However, if students are not successful (scoring 70% or better), I will use this assessment as a formative assessment. I will either work with individual students who need additional help or I will reteach the entire class, as necessary.

Once I determine that students are ready to attempt the assessment again, I will only require them to retake the parts that they did not answer correctly (Part 1) or attempt successfully (Parts 2 and 3) the first time.

## Link Between CMS and Student Learning

Canvas is a robust CMS with a lot of power and flexibility. My school does not use Canvas as its district-wide CMS but Canvas provides the option to teachers to scratch-build courses for free. It provides me with the desirable features of built-in scoring, grade tracking, discussion groups, and messaging. At the same time, it allows me to create static pages that my students can easily visit and use, such as the one in this image.

Grade 2

Home Grade 2 - Physical Science

Pages

Assignments

Syllabus

Quizzes

Here are three short assignments to find out what you have learned in class. Each button links to a different assignment.

Do each assignment, one part at a time. It's okay to ask Mrs. Van Loo if you do not understand the directions. We will go through Part 1 together because I will read the questions out loud for you.

Part 1 Quiz

Part 2 Scratch Jr Sort

For Part 3, get a printed sheet from Mrs. Van Loo.

Part 3 Design a Dog House

For comparison, the other system I use with my students is Seesaw. With Seesaw, entries made by my students and me go into a journal, a stream of information. If students want to find something, they have to locate it in the stream. With Canvas, it is static and only moves if I move it. This gives me a lot of control as far as creating an experience that is easy for my students.

If you would like to read more about why I chose Canvas, you may read my [prior blog post](#), where I critically reviewed several CMSs and explained for why I chose Canvas for working with elementary school students.

Although this assessment is designed as a summative assessment, an assessment OF learning, students may still learn from completing the assessment. After they answer the 15-question quiz in Part 1, they get immediate feedback that shows them the correct answers for the 13 multiple-choice format questions. Many students may benefit from the immediate feedback they will receive from the CMS. Students will also see that the remaining two questions are waiting to be graded by a teacher.

#### **Rubric 4.0**

Earlier this semester I created [Rubric 4.0](#), a tool with which to assess other assessments. When I created Rubric 4.0, I considered the project-based learning environment in which I teach and the projects my students create. Although the assessment I am describing here is a quiz more than a project, I used Rubric 4.0 to assess it. Since the first iteration of this assessment, I have added several elements to better meet my own Rubric 4.0 criteria, including voice-overs for written directions, along with two additional activities.

##### 1: Timely feedback

Although this assessment is designed to be summative, I will give timely feedback soon after the assessment has been completed. If students perform poorly, I will review with them, give them additional time to prepare, and allow them to retake the assessment. Any summative assessment can be used as a formative assessment and can be retaken, allowing students to demonstrate mastery of a subject (Wormeli, 2010).

##### 2: Direct and specific feedback

Rubric 4.0 calls for summative feedback to be written, provided in a timely manner, and specific to the student (does not compare students with each other). I will provide feedback in this manner, in order to meet this criterion.

### 3: Aligns with established goals

As noted earlier, established goals are from the Next Generation Science Standards (NGSS). Both short-term and unit-specific goals have been identified based on NGSS. This 3-part assessment was specifically written to align with unit-specific goals.

### 4: Transparent learning targets

Throughout our time in class, learning targets are written on the whiteboard in the classroom in the form of I Can statements. We discuss these statements early and often.

### 5: Self-assessment component

Self-assessment is an important skill for students to acquire. Although I deem it an important component that should be found in most assessments, it is not built into this assessment.

### 6: Multiple means of representation (requires only target knowledge, skills, and abilities (KSAs) to complete)

Target KSAs for this task are:

- knowledge of how to use an iPad
- the ability to sign in on one application
- fine motor skills to do drawing and writing in Part 3 of the assessment

One non-target KSA for this assessment is that it requires a lot of reading. To accommodate students with difficulty reading, I have already recorded voice-overs of my written instructions in Canvas. When students do the quiz, Part 1 of the assessment, I will read the quiz questions aloud.

### 7: Requires transfer of knowledge to demonstrate understanding

Part 3 of this assessment requires students to complete an authentic performance-assessment that is based on a real-world problem. Students are asked to design a doghouse, which requires that they apply what they have learned, that they “do the subject” (Wiggins & McTighe, 2005, p. 47).

### 8: Social component

Throughout this physical science course, students have many opportunities for working in groups, including solving the over-arching design problem in pairs. This particular

assessment does not have a social component built in. To meet this criterion, however, I could give this assessment twice - once individually and once to partners.

### 9: Technology component

This assessment will afford many opportunities for students to interact with technology. They will use three applications on their student iPads: Canvas, Scratch Jr., and Seesaw.

### 10: Multiple means of action and expression

Students do not have a menu of choices to complete this assessment but there are several means of expression across the assessment. They take a multiple-choice quiz, sort objects using an iPad app, and make a drawing on paper.

## **References**

Wiggins, G.P. & McTighe, J. (2005). Understanding by design. Alexandria, VA: Association for Supervision and Curriculum Development. Retrieved from <http://p2047-ezproxy.msu.edu.proxy1.cl.msu.edu/login?url=https://search-ebcsohost-com.proxy1.cl.msu.edu/login.aspx?direct=true&db=e000xna&AN=133964&scope=site>

Wormeli, R. [Stenhouse Publishers]. (2010, November 30). Rick Wormeli: Formative and summative assessment [Video file]. Retrieved from [https://youtu.be/rJxFXjfB\\_B4](https://youtu.be/rJxFXjfB_B4)

## **Images**

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