

Sample Performance Assessment

Content Area: Mathematics

Grade Level: Kindergarten

Instructional Unit Sample: Put it Together and Take it Apart

Colorado Academic Standard(s): MA10-GR.K-S.1-GLE.2

Concepts and skills students' master:

- Strategies for solving addition and subtraction word problems include acting out with objects and illustrating with drawings; both can be used to justify/explain an answer
- Represent addition and subtraction in a variety of ways (with objects, fingers, mental images, drawings, sounds, acting out situations, verbal explanations, expressions or equations) (MA10-GR.K-S.1-GLE.2-EO.a.i)
- Solve addition and subtraction word problems by adding and subtracting within 10 (MA10-GR.K-S.1-GLE.2-EO.a.ii)
- Model and solve addition and subtraction problems within the number 10 using objects such as coins and drawings (MA10-GR.K-S.1-GLE.2-EO.a.v)

Unit Description

This unit, [Put it Together and Take it Apart](#), focuses on the concepts of addition and subtraction. Across the six-week unit students begin by decomposing and composing numbers to five. Students explore a variety of visual representations including finger patterns, five-frames, and linking cubes. Students then connect these representations to symbolic addition and subtraction equations. Throughout the unit students are solving word-problems by using these representations. By the end of the unit, students progress to working with numbers to ten using the same visual and symbolic representations.

Performance Assessment Description

The kindergarten teachers have hired you as a children's book author to create a number book for the kindergarteners next year, similar to *Ten Little Ladybugs* by Laura Huliska-Beith. You will create a page in your book for each number from zero to ten showing either an addition or subtraction word problem with drawings.



RUBRIC: Put it Together and Take it Apart

	Above Mastery	Mastery of Grade Level Standards	Approaching Mastery	Novice	
Scoring Criteria	4	3	2	1	Weight
Complexity	Student chooses one number (e.g., 5) and shows all the addition and subtraction problems using the numbers from zero to ten.	Student includes both addition and subtraction problems throughout the book.	Student includes only addition or subtraction problems throughout the book.	Students book does not show either addition or subtraction problems.	X1
Accuracy	Student accurately uses symbolic notation flexibly (e.g., $_ + 6 = 8$, $9 = 4 + 5$).	Student accurately uses equations to model visual representation and word problem (e.g., numerals, equal sign and operation symbols).	Student's accuracy of the equations and representations is inconsistent (e.g., equations and visual do not match, equation uses equal sign or operation symbol inaccurately).	Student pays no attention to accuracy of equation (symbols and numerals) and representation.	X1
Structure	Student's representations show the structure of a variety of problem types (add to, take from, put together/take apart, compare).	Student's representations show the structure of each number <i>and</i> the structure of the addition and subtraction problems.	Student's representations show the structure of each number (e.g., dot patterns, ten-frames) <i>or</i> the structure of the addition and subtraction problems (e.g., separation of the addends, take away, difference models).	Student's representations might show an accurate quantity but lack structure around number and the addition and subtraction operations.	X1
				TOTAL	



Performance Assessment Development Template

Who is developing this performance assessment?	
Name: Colorado Content Collaborative in Mathematics	Position/Affiliation: Colorado Content Collaborative in Mathematics

I. CONTENT STANDARDS	
Content Area: Mathematics	
Colorado Academic Standards Specify the Colorado Academic Standard(s) that will be evaluated by the performance tasks. Colorado Academic Standards Online (hold CTRL and click to visit the website)	<ul style="list-style-type: none"> ➤ Represent addition and subtraction in a variety of ways (with objects, fingers, mental images, drawings, sounds, acting out situations, verbal explanations, expressions or equations) (MA10-GR.K-S.1-GLE.2-EO.a.i) ➤ Solve addition and subtraction word problems by adding and subtracting within 10 (MA10-GR.K-S.1-GLE.2-EO.a.ii) ➤ Model and solve addition and subtraction problems within the number 10 using objects such as coins and drawings (MA10-GR.K-S.1-GLE.2-EO.a.v)
Grade Level(s)	Kindergarten
Indicate the intended Depth of Knowledge (DOK) for this performance assessment.	<input type="checkbox"/> DOK 1 <input checked="" type="checkbox"/> DOK 2 <input type="checkbox"/> DOK 3 <input type="checkbox"/> DOK 4
What are some real-world situations that relate to the content standards above? Some examples are included in the Colorado standards under "Relevance and Application."	Any real-world situation involving adding to and taking away.
Summary. Provide a brief summary describing the task in the boxes below.	
Performance Task Name	Brief Description of the Task
Number Book	The kindergarten teachers have hired you as a children's book author to create a number book for the kindergarteners next year, similar to Ten Little Ladybugs by Laura Huliska-Beith. You will create a page in your book for each number from zero to ten showing either an addition or subtraction word problem with drawings.



II. Claims, Skills, Knowledge & Evidence	
Claims. <i>What claim(s) do you wish to make about the student? In other words, what inferences do you wish to make about what a student knows or can do? Define any key concepts in these claims.</i>	Successful completion of this task would indicate... ➤ Strategies for solving addition and subtraction word problems include acting out with objects and illustrating with drawings; both can be used to justify/explain an answer
Skills. <i>Refer to the standard(s), grade level, and DOK levels you listed in Section I. Given this information, what skills should be assessed? All skills should align with the above claims.</i>	Student should be able to... ➤ Represent addition and subtraction in a variety of ways (with objects, fingers, mental images, drawings, sounds, acting out situations, verbal explanations, expressions or equations) (MA10-GR.K-S.1-GLE.2-EO.a.i) ➤ Solve addition and subtraction word problems by adding and subtracting within 10 (MA10-GR.K-S.1-GLE.2-EO.a.ii) ➤ Model and solve addition and subtraction problems within the number 10 using objects such as coins and drawings (MA10-GR.K-S.1-GLE.2-EO.a.v)
Knowledge. <i>Refer to the standard(s), grade level, and DOK level you listed in Section I. Given this information, what knowledge/concepts should be assessed? All knowledge should align with the above claims.</i>	Student should know/understand... ➤ Strategies for solving addition and subtraction word problems include acting out with objects and illustrating with drawings; both can be used to justify/explain an answer ➤ Knows the symbols of +, -, =
Evidence. <i>What can the student do/produce to show evidence of the above knowledge and skills?</i>	Student will show evidence of skills and knowledge by... Students will create a number book for the numbers from zero to ten. High quality books will: ➤ Provide a word problem for each of the numbers from zero to ten ➤ Show a visual for each word problem from zero to ten ➤ Write an equation for each word problem from zero to ten ➤ Include at least one addition and subtraction word problem



III.A. PERFORMANCE TASKS: Instructions to the Student
<p><i>Think about the performance assessment process from a student’s perspective. What instructions does the student need? Make sure the instructions are <u>fair and unbiased</u>. Instructions should be detailed, clear, and written at the appropriate grade level.</i></p>
<p><i>Give the student an overview of the performance assessment (i.e., purpose of the assessment, tasks the student will need to complete, etc.).</i></p> <p>The kindergarten teachers have hired you as a children’s book author to create a number book for the kindergarteners next year, similar to Ten Little Ladybugs by Laura Huliska-Beith. You will create a page in your book for each number from zero to ten showing either an addition or subtraction word problem with drawings.</p>
<p><i>Stimulus Material. Describe what stimulus material the student will receive. For example, the stimulus might be a story or scenario that the student reads, analyzes, and to which the student provides a response.</i></p> <p>Ten Little Ladybugs by Laura Huliska-Beith (or any other early childhood number book)</p>
<p><i>Explain to the student what documents/materials they have for the performance assessment. Explain what the student should <u>do</u> with those documents/materials.</i></p> <p>N/A</p>
<p><i>Describe in detail any safety equipment that is required. Is safety equipment provided onsite, or are students expected to bring their own safety equipment?</i></p> <p>N/A</p>
<p><i>Explain what students need to do when they complete each task (e.g., submit work to the educator, move on to the next task, etc.).</i></p> <p>Submit work to the educator.</p>
<p><i>Provide any other relevant information for the students’ instructions.</i></p> <p>N/A</p>



III.B. PERFORMANCE TASKS: Instructions to the Educator

Think about the performance assessment process from an educator's perspective. What instructions do educators need? Instructions to the educator should be clear and concise.

Before the Performance Assessment is Administered

How should the educator prepare the site where the performance assessment will be administered? Be as specific as possible.

This performance assessment can be done over the course of the entire unit but should be completed at school to ensure the work is that of the student.

What materials should be provided to students? Be as specific as possible.

Students should be provided manipulatives to use throughout the creation of the number book. Students will also need materials for creating the book (e.g., paper, crayons)

What materials should the student bring to the performance assessment session? Be as specific as possible.

N/A

What materials should not be available to the student during the performance assessment session (e.g., cell phones, calculators, etc.)?

N/A

Should the educator keep track of time? If so, specify how much time the student will have to complete the performance assessment. Explain how the educator should keep track of and record time.

Educators can start the performance assessment early in the unit and provide time weekly or even daily to complete it.



Will the educator need to video/audio record the students during the performance assessment session? If so, provide detailed instructions on how to set up the recording equipment.

N/A

During the Performance Assessment Session

How should the educator respond to students' questions?

Educators should answer any clarifying questions students might have.

What should the educator do while the student is completing the tasks (e.g., should the educator make notes about the student's process, mark scores on rubrics, etc.)?

N/A

Upon Completion of the Performance Assessment

What does the educator need to collect from the student?

A completed number book.

What information should the educator give the student at the end of the performance assessment session?

N/A

Who is responsible for cleaning/resetting the workstation (if necessary)—the student or the educator? How should the workstation be cleaned?

N/A

Other relevant information for the educator's instructions:

N/A



III.C. PERFORMANCE TASKS: Other Considerations

How will students' responses be recorded? Describe how evidence will be collected about each student's performance (e.g., student submits a work product, educator records information about the student's process, etc.)

Student submits a number book for evaluation.

What needs to be built for this performance assessment? Refer to the materials list above. Think about what materials must be created for this performance assessment. Some examples include: worksheets, instruction sheets for the educator, videos, websites, etc.

A number book from zero to ten needs to be built by each student.

III.D. PERFORMANCE TASKS: Accommodations

What are the requirements for this set of tasks? What accommodations might be needed? List all accommodations that might apply (e.g., accommodations for language, timing, setting, etc.).

The educator can provide scaffolding for the students (possible examples below) but this should be reflected in the scoring on the rubric.

Students can create a picture book (i.e., no words).

Students can be provided with the equation for each number and asked to write the word problem and draw a visual or vice versa.

Students can create a number book from zero to five.

IV. EDUCATOR INFORMATION

What are the requirements to be an educator for this performance assessment? What are the knowledge and skills and educator must possess in order to successfully administer and score this performance assessment. Please provide your recommendations below.

N/A



Performance Assessment Development Process

The work of the Colorado Content Collaboratives is intended to support effective instructional practice by providing high quality examples of assessment and how assessment information is used to promote student learning.

The new Colorado Academic Standards require students to apply content knowledge using extended conceptual thinking and 21st century skills. Performance assessments have the highest capacity to not only measure student mastery of the standards but also provide the most instructionally relevant information to educators. Further, performance assessments can integrate multiple standards within and across content areas, providing educators a comprehensive perspective of student knowledge and giving students the opportunity to demonstrate the degree to which they understand and transfer their knowledge.

Performance Assessment - An assessment based on observation and judgment. It has two parts: the task and the criteria for judging quality. Students complete a task (give a demonstration or create a product) and it is evaluated by judging the level of quality using a rubric. Examples of demonstrations include playing a musical instrument, carrying out the steps in a scientific experiment, speaking a foreign language, reading aloud with fluency, repairing an engine, or working productively in a group. Examples of products can include writing an essay, producing a work of art, writing a lab report, etc. (Pearson Training Institute, 2011)

The Content Collaboratives worked closely with the [Center for Educational Testing and Evaluation from the University of Kansas](#) to establish protocols for the development of performance assessments and to use those protocols to develop performance assessments that include scoring rubrics. The Performance Assessment Development Process includes a collection of resources to aid schools and districts that choose to engage in locally developing performance assessments. These resources can be accessed in the CDE Assessment Resource Bank at <http://www.coloradopl.org/node/12765>.

The Performance Assessment Development Process is best utilized when intending to create an assessment for culminating assessment purposes such as a unit, end of course, end of semester, or end of year summative assessment. Additionally, a district, BOCES, or school may wish to create a common performance assessment that can be used across multiple classrooms. Engaging in the Performance Assessment Development Process serves as evidence that an educator is participating in valuable assessment work that aligns to the Colorado Academic Standards, district curriculum, and district goals.

The performance assessments developed by the Content Collaboratives serve as high-quality examples of performance assessments that can be used for a variety of purposes. Scores from these performance assessments are used at the discretion of the district or school.

