
NYSTCE Flex Multi-Subject: Teachers of Early Childhood (Birth–Grade 2) Template

Template Contents

This template for NYSTCE Flex Multi-Subject: Teachers of Early Childhood (Birth–Grade 2) Part Two: Mathematics (NYSTCE Flex Multi-Subject B–2 Math) contains the following sections:

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Part Two: Mathematics Competency 0005: Analysis, Synthesis, and Application

Competency 0005 from the NYSTCE Multi-Subject: Teachers of Early Childhood (Birth–Grade 2) Framework includes the following performance expectations and performance indicators:

Performance Expectations

The New York State Birth–Grade 2 Multi-Subject teacher accurately and effectively applies relevant content knowledge and pedagogical content knowledge in number and operations, operations and algebraic thinking, and measurement and data to analyze and synthesize assessment data about an individual student, identify conceptual or procedural errors, and provide a well-reasoned and accurate analysis of the student's mathematical knowledge. The teacher uses the assessment results and knowledge of how students learn to present an appropriate instructional approach that meets the needs of the student.

Performance Indicators

- analyzes and interprets samples of a student's work and other assessment data to monitor student progress and determine a student's strengths and areas of need in mathematics
- demonstrates knowledge of the content by identifying and analyzing any errors or misconceptions in work samples
- describes appropriate and effective content-specific instructional strategies, activities, or interventions to address a student's identified needs
- demonstrates the ability to generate real-world scenarios that illustrate specific mathematical concepts
- demonstrates the ability to justify the effectiveness of selected instructional strategies, activities, or interventions for promoting a student's mathematical understanding

Template Instructions

NYSTCE Flex Multi-Subject B–2 Math enables you to demonstrate your functional content knowledge of NYSTCE Field 246 Multi-Subject: Teachers of Early Childhood (Birth–Grade 2) Part Two: Mathematics Competency 0005 by submitting materials on the following scenario:

You will describe a class activity that aligns with a Prekindergarten–Grade 2 New York State Next Generation Mathematics Learning Standard. The class activity can be from a lesson you have delivered or from a planned lesson you may deliver in the future. It should include actual or simulated examples of student thinking that reflect the strengths and areas of need of a student who is learning information, concepts, and skills from the learning standard. The class activity should allow you to demonstrate depth in your understanding of content and instruction related to the learning standard. You will give evidence of your understanding by analyzing student thinking developed as a response to the activity and then recommending an instructional intervention based on this response.

Your submission will be evaluated on the extent to which you demonstrate the **depth of your content knowledge** of NYSTCE Field 246 Multi-Subject: Teachers of Early Childhood (Birth–Grade 2) Part Two: Mathematics Competency 0005.

NYSTCE Flex Multi-Subject B–2 Math involves responding to 5 prompts and writing an analysis in which you demonstrate your knowledge of the content assessed by the test competency.

Your responses to the first 5 prompts should be **no more than 6 single-spaced pages of written text and graphics**. Your written analysis should be **no more than 3 single-spaced pages**. The competency text and template instructions do not count toward your page limits.

After you complete both the [Prompt Section](#) and the [Written Analysis Section](#), you will upload this completed template to the Pearson ePortfolio System.

For more information about the NYSTCE Flex Assessment, preparing your materials for submission, and scoring of your submission, refer to the NYSTCE Flex Assessment Handbook.

Prompt Section

Referring to the scenario on the previous page, respond to the prompts below (**no more than 6 pages, including prompts**) by typing your responses in Arial 11-point, single-spaced font, within the brackets following each prompt. Do not delete or alter the prompts. The previous pages of competency text and instructions as well as the written analysis that follows do not count toward your page limit. Your submission cannot contain hyperlinks to any materials. Responses to all prompts are required, but only your written analysis will be evaluated.

1. **Background Information about the Learning Standard:** Indicate a grade level, a domain, a cluster heading within the selected domain, and one or more content standards within the selected cluster for prekindergarten–grade 2 from the [NYS Next Generation Mathematics Learning Standards](#) (pp. 10–44).

Grade Level: [1st Grade]

Domain: [Measurement and Data]

Cluster: [NY-1.MD: Order three objects by length; compare the lengths of two objects indirectly by using a third object]

Standard: [NY-1.MD.2: Measure the length of an object using same-size "length units" placed end to end with no gaps or overlaps. Express the length of an object as a whole number of "length units."]

2. **Background Information about Student Learning:** Describe any skills or concepts that students have previously learned or have recently been studying that are related to the learning standard. If you are focusing on a planned lesson, describe related skills and concepts on which you would plan to provide instruction prior to the lesson. The purpose of this information is to describe concepts, skills, and knowledge students can use as they complete a class activity (to be introduced in the response to Prompt #3) and may be further developed as they progress toward its instructional goal. Refer to the [study guide](#) and the [sample completed template](#) for examples of appropriate background information tasks to include.

[Students have reviewed the use of words like "long", "longer", and "longest" to describe objects and size relationships between objects. In their most recent lessons, students practiced putting objects in order based on their length. They have also learned that they can compare two objects with a measurement if they have a common attribute, such as length, weight, or volume.]

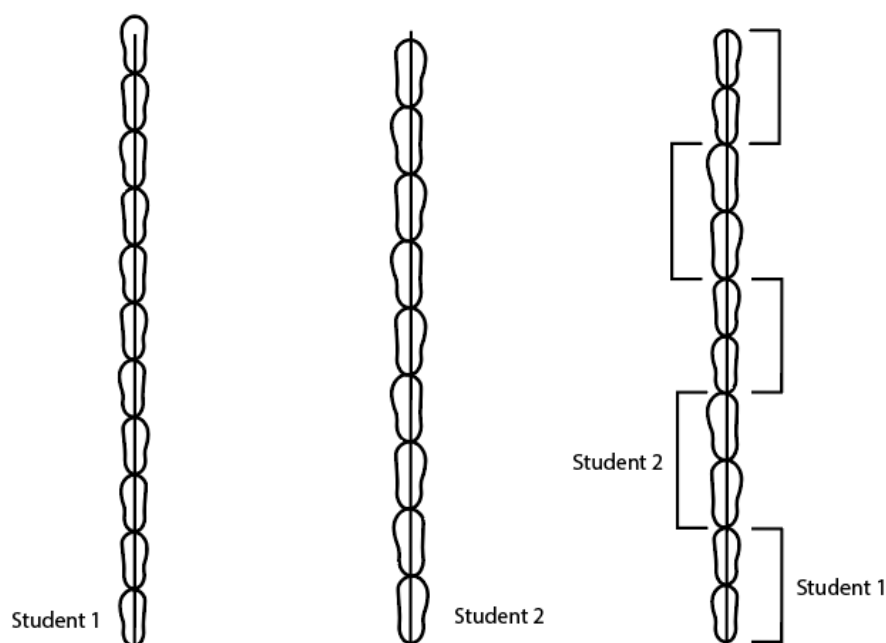
3. **Description of Class Activity:** Describe a class activity that aligns with the learning standard and supports a major instructional goal. The class activity can be part of a previously delivered lesson or part of a planned lesson, as noted above. Examples of activities can include, but are not limited to, discussions, open-ended questions, word problems, and the use of manipulatives. The activity should be effective in revealing students' strengths and areas for improvement in the selected standard, and it should also allow a teacher to use this information to develop academic intervention activities to support student learning. Your description of the activity should primarily focus on instructional content; nonessential information related to its implementation (e.g., potential accommodations, grading criteria, expected implementation time) should not be included. The task should represent a substantial mathematics activity, with opportunities for students

to develop and describe a mathematical argument. Refer to the [study guide](#) and the [sample completed template](#) for examples of activity descriptions.

[The teacher has drawn a series of lines on a playground. They explain to students that they will measure the length of the lines by counting the number of times they can step heel-to-toe from one end to the other, and they explain the importance of not having gaps or overlaps between steps. Students are directed to work with another student and write down how many steps it takes each of them to walk along the lines. Afterwards, the teacher asks students questions to help them think critically about this method of measurement.]

4. **Sample Student Response:** Present a completed example of student work on the activity that provides evidence of at least one mathematical strength and one area of need related to the lesson's topic. This can be an actual student work sample from a lesson you have delivered or a sample created by you that represents anticipated student work for a planned lesson. The student response may include, but is not limited to, a summary or an excerpt of a student discussion; work performed for an exit ticket or a formative assessment; calculations, drawings, and other student-created representations; and written text. The response may include images, and it should represent student thinking from a previously delivered or planned lesson. Refer to the [study guide](#) and the [sample completed template](#) for examples of work samples.

[Two students work together to take turns measuring the length of a line drawn on a playground. The length of the line is first measured by counting the heel-to-toe steps of Student 1, then Student 2, and then by Student 1 and Student 2 taking turns walking along the line. The paths and number of steps are drawn below.



The teacher heard Student 1 count aloud from 1 to 11 as they measured the line the first time. The teacher also heard Student 2 count from 1 to 9 as they measured the line the second time. In both cases, the students were careful not to leave any gaps, and Student 1 added that a gap is "the part of a line not counted." During their discussion, the students reasoned that Student 1 had too many footsteps and Student 2 had too few footsteps. They decided that they will get "a

better number" if they take turns, as shown in the drawing on the right. Based on that measurement, the students come to the conclusion that the line is "10 steps long."]

NOTE: In the Written Analysis section of this template, you will analyze the strengths and areas of need in the above response and describe an instructional intervention that addresses the learning needs of the student(s) reflected in the response. You will also include a strategy for helping the student(s) build a viable argument (e.g., an explanation about why a solution is correct, a justification for a step in a solution process, a rationale for the validity of a result) that is related to the given learning standard.

5. References: List any additional sources used to prepare your submission.

[New York State Education Department. "New York State Next Generation Mathematics Learning Standards." NYSED, Sept. 2017, <https://www.nysed.gov/sites/default/files/programs/standards-instruction/nys-next-generation-mathematics-p-12-standards.pdf>.
Walle, John A. Van, D. et al. Elementary and Middle School Mathematics. Available from: Pearson Learning & Development, (11th Edition). Pearson Education (US), 2022.]

Written Analysis Section

Type your analysis (**no more than 3 pages, including the prompt**) in Arial 11-point, single-spaced font, within the brackets following the prompt. If appropriate, you may include tables, charts, graphs, or other diagrams that you have prepared by inserting them into your analysis. However, the total length of your analysis, including any graphic elements, may not exceed 3 pages. The previous pages of competency text, instructions, and prompts do not count toward your page limit. Your submission cannot contain hyperlinks to any materials.

Using the sample student response developed for Prompt #4, prepare a response in which you:

1. identify a significant mathematical strength related to the standard you identified in Prompt #1 that is demonstrated in the sample student response, citing specific evidence from the response to support your assessment;
2. identify a significant area of need related to the standard you identified in Prompt #1 that is demonstrated in the sample student response, citing specific evidence from the response to support your assessment; and
3. describe an instructional intervention that you could use with the student(s) to build on student strengths and support student improvement in the identified area of need. The intervention should include a strategy for helping the student(s) build a viable argument related to the given standard.

[Analysis text here; can go up to page 3 of 3....]