NCSC 2015 Technical Manual Appendix 2-A:

Item specifications reflected in example annotated design pattern and task template

Table 1. *Design Pattern* Attributes, Definitions, and Corresponding Messick Argument Components

***Design Pattern* Attribute**	**Attribute Definition**	**Messick Assessment Argument Component**
Title	Short name for the *Design Pattern* (DP)	
Overview	Common Core Connector (CCC)	
Rationale	Learning Target, Big Idea, and Progress Indicator	**Student Model/Claim** What construct (complex of student attributes) should be assessed?
Focal Knowledge, Skills & Abilities (KSAs)	The primary KSAs targeted by this DP	
Additional KSAs	Other KSAs that may be required by tasks from this DP, some of which can be supported by universal design for learning (UDL) and accommodations	
Potential Observations	Observed behaviors of students that can provide evidence of Focal KSAs	**Evidence Model/Actions** What behaviors should reveal the construct?
Potential Work Products	What students say, do, or make that provides evidence about the Focal KSAs	
Potential Rubrics	Some evaluation techniques that may apply	
Characteristic Task Features	Aspects of assessment situations likely to evoke the desired evidence	**Task Model/Situation** What tasks should elicit those behaviors?
Variable Task Features	Aspects of assessment situations that can be varied in order to control difficulty or target emphasis on various KSAs	
Educational Standards	Common Core State Standard that the CCC links to (if appropriate)	**Student Model/Claim**

Task Template Attributes and Definitions

Design Pattern Attribute	Attribute Definition
Title	Short name for the *Design Pattern* (DP)
Overview	Common Core Connector (CCC)
Rationale	Learning Target, Big Idea, and Progress Indicator
Focal Knowledge, Skills & Abilities (KSAs)	The primary KSAs targeted by this DP
Additional KSAs	Other KSAs that may be required by tasks from this DP, some of which can be supported by universal design for learning (UDL) and accommodations
Potential Observations	Observed behaviors of students that can provide evidence of Focal KSAs
Potential Work Products	What students say, do, or make that provides evidence about the Focal KSAs
Potential Rubrics	Some evaluation techniques that may apply
Characteristic Task Features	Aspects of assessment situations likely to evoke the desired evidence
Variable Task Features	Aspects of assessment situations that can be varied in order to control difficulty or target emphasis on various KSAs
Educational Standards	Common Core State Standard that the CCC links to (if appropriate)

Variable Features Glossary

Based on the principles of UDL, six categories of UDL Additional Knowledge/Skills/and Abilities (AKSA) have been identified as potential construct irrelevant barriers to assessment performance. These categories include

- *Perceptual (Receptive);*
- *Fluency (Expressive);*
- *Language and symbols;*
- *Cognitive;*
- *Executive;*
- *Affective*.

Each category includes a list of related knowledge, skills, and abilities. Features that can be implemented to mitigate construct irrelevant variance associated with AKSA are aligned with each of the AKSAs.
An example of an associated variable feature for each AKSA category follow:

- Perceptual (Receptive): Providing test-to-speech or enlarged text and graphics
- Fluency (Expressive): Providing supports for handling materials
- Language and Symbols: Proving non-construct relevant definitions
- Cognitive: Chunking information into smaller parts
- Executive: Providing graphic organizers
- Affective: Providing supports to reduce student frustration or prompt student re-engagement

A full list of Variable Features are included in this Variable Features Glossary. The glossary provides information about all of the variable features available for each AKSA category. When relevant, the glossary also provides a description and/or example (located to the right of each variable feature).
Only appropriate AKSAs in each category are selected when creating the design pattern. Each selected AKSA is displayed by category on the design pattern. Variable features associated with each AKSA are then automatically generated by the PADI system. Directly below the AKSAs in the Design Patterns the associated variable features are displayed. Only the variable features associated with the selected AKSAs within each category are displayed on the design pattern. Each variable feature listed on the design pattern includes a description and /or example. These are the potential variable features to be considered by developers when creating each item.
The potential variable features are automatically uploaded to the Task Authoring component of PADI. While creating items for a particular task, developers consider each of the potential variable features to determine whether that variable feature should, indeed, be incorporated into the item. The variable features on the task document do not contain a description, however a full description is contained in this glossary. For each potential variable feature developers document whether and how it is incorporated into the item. The following notation is entered into PADI:

- Implemented = Designers have incorporated the variable feature into the item. Teacher/Administrators should NOT provide any of these variable features independent of what is already included in the item.
- Yes = Designers did not incorporate the variable feature into the item. Teacher/Administrators CAN provide the variable feature as appropriate for individual students.
- No = Designers did not incorporate the variable feature into the item. Teacher/Administrators should NOT provide these variable features.

When reading the variable features listed on the task document, it may be helpful to refer to the design pattern and the glossary to find descriptions and/or examples of supports that can be provided for each of the selected variable features.

Variable Features Glossary

Variable Feature:
Perceptual (Receptive)

Type of features to vary	Examples
Delivery mechanisms by which the question is perceived.	Read aloud verbatim/read aloud paraphrase, pictures, large print, printed text, Braille/Nemeth Code, text, symbols, rebuses, concrete objects, description of objects or images, text to speech, signing, auditory amplification, closed captioning, CCTV - close circuit TV to increase size of font, vary contrast, etc.
Delivery parameters for oral presentation of material.	Speed of reading, volume, amount of expression used, student ability to pause, stop and/or repeat information read aloud
Supports for the use of equipment required for the task.	Communication board, CD player; Possible to reprogram communication board to include punctuation, capitalization, etc.

Variable Features Glossary

Variable Feature:
Skill and Fluency (Expressive)

Type of features to vary	**Examples**
Supports for manipulating physical materials.	Use of velcro, size of materials, teacher manipulation of materials; In writing, student can manipulate cards with punctuation symbols on them and velcro on back to apply correct punctuation to a sentence
Supports for manipulating digital/electronic equipment.	Pointers, teacher manipulation of equipment, spoken commands, stylus for input, larger keyboard/buttons, adaptive mouse)
Supports for composing a response in text.	Speech to text, written by teacher, keyboarding, word prediction software)
Practice with familiar equipment.	
Response mode options.	Pointing, speech and verbalization, writing, signing, switch or other assistive device/augmentative communication device, eye gaze; for lowest functioning students: predictable behavioral response, tolerate assistance such as hand over hand)
Practice tutorials with unfamiliar physical materials or digital/electronic equipment. *(Practice tutorials can be used to introduce students to new item formats or modeled examples using materials that are not construct relevant or new tools to support test taking*)	

Variable Features Glossary

Variable Feature:
Language and Symbols

Type of features to vary	**Examples**
Embedded support for vocabulary and symbols.	Technical and non-technical glossary, hyperlinks/footnotes to definitions, illustrations, background knowledge
Digital text with or without automatic text to speech.	
Highlight essential elements, words, or phrases.	
All key information in the dominant language (e.g., English) is also available in prevalent first languages (e.g., Spanish) for second language learners.	
All key information available in sign language for students who are deaf.	
Digital Braille with or without automatic Braille to speech.	
Alternate syntactic levels (simplified text).	
Level of abstraction required of student.	Concrete objects, images, text
New vs. pre-taught vocabulary and symbols.	
Use of multiple representations.	Physical models, demonstrations, acting out scenarios
Read language and symbols aloud.	

Variable Features Glossary

Variable Feature:
Cognitive

Type of features to vary	Examples
Options for supporting critical features, big ideas, and relations: provide graphic organizers.	
Options for supporting critical features, big ideas, and relations: provide alternative forms of key concepts.	
Options for guiding exploration and information processing: familiar materials and their use. (This includes the presentation of familiar organizational tools [e.g., tables] and familiar concrete objects and/or using familiar organizational processes [e.g., how highlighting is used])	
Options for supporting critical features, big ideas, and relations: provide a response template.	
Options for guiding exploration and information processing: chunk information into smaller elements.	
Options for supporting critical features, big ideas, and relations: outline information.	
Options for guiding exploration and information processing: allow viewing of stimuli from previous stages and parts.	
Options for guiding exploration and information processing: provide modeled prompts. (A *modeled prompt* is a demonstration of the process or procedures needed to successfully complete an item but does not provide the correct answer for the item being tested. A *prompt* is an action engaged in by the assessor to stimulate the appropriate behavior from a student. E.g., in an appropriate modeled prompt in a sorting task, assessor can model sorting of cards into bins but without referencing the content being assessed [if shape is construct being assessed, assessor can sort by color but not shape]; in an inappropriate prompt assessor models correct answer for student [student asked to point to a picture of himself, student doesn't respond so assessor points to picture of student and asks student to do the same])	

Variable Features Glossary

Options for guiding exploration and information processing: provide multiple entry points.	
Options for guiding exploration and information processing: mask part of the information. (Masking incorrect response in a selected response item [aka strike out]. Student selects the incorrect response to be masked. Teacher presents all response options at first trial and then if response is incorrect the teacher masks the student's incorrect response item [see Florida approach; note: state test level decision on how to deal with incorrect responses when there is multiple response options])	
Options for supporting critical features, big ideas, and relations: provide modeled prompts.	
Options for guiding exploration and information processing: provide a practice item or task.	
Options for supporting critical features, big ideas, and relations: Remind student of the function of tools/features designed to aide comprehension and processing of information.	(e.g., highlighting, graphic organizers, captions, and headings)
Options for supporting memory and transfer: note-taking.	
Options for supporting memory and transfer: present items as a discrete unit or embed in a scenario.	
Options for supporting memory and transfer: locate items near relevant text.	
Options for supporting memory and transfer: mnemonic aids.	
Options for guiding exploration and information processing: use consistent signals/cues. (Signals/cues may include designations in assessments such as line numbers in passages, symbols for directions [e.g., stop signs to stop, arrows to continue], or behavioral gestures indicating where a student should mark a response)	

Variable Features Glossary

Options for guiding exploration and information processing: provide sequential highlighting. (Definition: to emphasize or make information prominent as it appears in a sequence by differentiated use of color, lighting, sound, or tactile surface [e.g., highlight the paragraph in yellow and highlight each word as it is read in blue])	
Options for supporting background knowledge - provide analogies and examples.	
Options for supporting background knowledge - pre-teach background content.	(e.g., pre-teach definitions of unfamiliar words or concepts unrelated to the standard; pre-teach means teaching a student for the first time the definition of a word or concept that is included in the narrative of a test item but not part of the construct being measured)
Options for supporting background knowledge - provide concept maps.	
Options for guiding exploration and information processing: provide a guide or checklist for prioritization of steps in multi-step problems.	
Options for supporting background knowledge - provide hyperlinks to multi-media.	
Options for supporting background knowledge - provide links to familiar materials.	
Options for supporting background knowledge - provide links to related information.	
Options for supporting background knowledge - remind student of materials or activities used to teach foundational reading/English language arts or mathematics skills.	
Options for supporting background knowledge - remind student of prior experiences.	
Options for supporting memory and transfer: reread question/stimulus.	
Options for supporting critical features, big ideas, and relations: highlight information.	

Variable Features Glossary

Variable Features:
Executive

Type of features to vary	**Examples**
Representations of progress.	Before and after photos, graphs and charts
Prompts, scaffolds, and questions to monitor progress, to "stop and think", and for categorizing and systematizing.	
Prompts and scaffolds to estimate effort, resources, and difficulty.	
Guides, checklists, graphic organizers, and/or templates for goal setting, prioritizing, breaking long-term objectives into reachable short-term goals, self-reflection, and self-assessment.	
Adjust levels of challenge and support.	adjustable leveling and embedded support, alternative levels of difficulty, alternative points of entry

Variable Features Glossary

Variable Features:
Affective

Type of features to vary	Examples
Task options for engagement: variety of stimuli.	
Task options for engagement: item/task format. (e.g., selected response vs. constructed response, performance) Task options for writing: Student writes 2-3 sentences, Present a written sentence and student corrects it, Compose sentences using words and punctuation from words/punctuation represented on cards, Technology-enhanced writing tasks	
Task options for engagement: heighten salience.	
Task options for engagement: enhance relevance, value, and authenticity of tasks. (task refers to the assessment items, stimulus "story", and materials) In writing: create a letter to a friend, use stories with their own names or names of classmates, content out of students' personal life	
Teacher options for providing supports for attention and engagement: provide varied levels of challenge and support.	
Teacher options for providing supports for attention and engagement: provide supports to reduce student frustration.	Noise reduction, extended test taking time, contingencies, number of items administered at one time
Teacher options for providing supports for attention and engagement: provide optimal student positioning (positions which encourage alertness, not recumbent).	
Teacher options for providing supports for attention and engagement: provide feedback to support engagement.	
Teacher options for providing supports for attention and engagement: prompt student to engage/re-engage.	
Teacher options for providing supports for attention and engagement: cover up part of text so student isn't overwhelmed.	
Task options for engagement: vary amount of context supporting tasks.	Discrete tasks vs. scenarios

Variable Features Glossary

Teacher options for providing supports for attention and engagement: administer assessment at optimal time of day for student engagement.	
Teacher options for providing supports for attention and engagement: provide verbal/gestural prompts.	
Task options for engagement: variety of stimuli.	

Content Standard and Connection to Common Core

NOTE: THIS ANNOTATED EXAMPLE IS MEANT TO CLARIFY THE COMPONENTS OF THE TASK TEMPLATES. THE ACTUAL TASK TEMPLATE USED IS NOT AS YET FINALIZED, AND THUS THE EXAMPLES OF THE ACTUAL ITEM DIRECTIVES (LAST SECTION) AND TASKS ARE NOT INCLUDED. SEE OTHER EXAMPLES IN THIS APPENDIX TO SEE FINAL TASK TEMPLATES WITH ITEM DIRECTIVES AND TASKS.

Student understanding of core concepts and skills of mathematics characteristically develops over time with effective instruction. The Core Content Connectors (CCC) are intended to operationalize the use of learning progressions, aligned to the Common Core State Standards (CCSS), for instruction and assessment purposes over the K-12 sequence for students with significant cognitive disabilities. This document shall act as an initial step in test design. In order to draw inferences about what students know and can do, specific CCCs have been prioritized for item development. As such, only part of the CCSS is linked to the assessment. However, the assessment design is meant to assist teachers, parents, and guardians to focus on how to interpret a student's learning path rather than on everything described in a particular standard. The table below illustrates the link between the CCSS and the CCC.

As shown in the table below, the CCSS Grade 5 Geometry standard 5.G.1, is related to a student's ability to "Graph points on the coordinate plane to solve real-world and mathematical problems." The related progress indicator as taken from the *Learning Progressions Frameworks Designed for Use with The Common Core State Standards in Mathematics K-12* is M.GM.1c. This relates to students "demonstrating the use of a coordinate system by locating/graphing a given point or polygon using ordered pairs." Finally, the CCSS-aligned fifth grade geometry CCC is 5.GM.1c3, which is related to a student's ability to "use ordered pairs to graph given points." This CCC is one selected for the grade 5 mathematics assessment.

Progress Indicator: M.GM.1c demonstrating the use of a coordinate system by locating/graphing a given point or polygon using ordered pairs		
Core Content Connectors: 5	**CCSS Domain/Cluster**	**Common Core State Standard**
5.GM.1c1 Locate the x and y axis on a graph	*5.G. Graph points on the coordinate plane to solve real-world and mathematical problems.*	*5.G.1 Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the – on each line and a given point in the plane located by using an ordered pair of numbers called its coordinates. Understand the at the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond (e.g., x-axis and x-coordinate, y-axis and y-coordinate).*
5.GM.1c2 Locate points on a graph		
5.GM.1c3 Use ordered pairs to graph given points		

As in Evidence Centered Design theory, the following tables represent a conceptual design framework for assessment item development. Designing assessment items within this framework shall ensure that the way in which evidence is gathered and interpreted bears on the underlying knowledge and purposes the assessment is intended to address. The framework also ensures coordination among the work of item writers, delivery vendors, technology interface designers, state personnel, and NCSC staff.

The Core Content Connector (CCC) is the title.

NCSC Geometry 5.GM.1c3 Task1

Title	**NCSC Geometry 5.GM.1c3 Task1**
Nu Design Pattern	**NCSC Geometry 5.GM.1c3** **CCC:** Use ordered pairs to graph given points **CCSS:** 5.G.1. Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers called its coordinates. Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond.

The full CCC is given here. The first number is the grade (5), the letters denote the subject domain (geometry), and the rest indicates where it falls on the learning progression.

This is the common core state standard to which this core content connector is aligned.

Grade Level Activities

The related instructional activities are located in the *Graduated Understandings* documents. These were developed to reflect a Concrete-Representational-Abstract (CRA) instructional approach. It is an instructional strategy used to promote student learning and retention and to address conceptual knowledge.

The *Graduated Understandings* documents include three stages: concrete, representation, and abstract (i.e., the CCC):

- *Concrete Understanding*. The teacher begins instruction by modeling each mathematical concept with concrete materials.
- *Representational Understanding*. In this stage, the teacher transforms the concrete model into a representational or symbolic level, which may involve drawing pictures; using number lines or using objects and pictures for counting.
- *Abstract Understanding*. At this stage, the teacher is teaching to the expectations of the CCC and/or the linked CCSS benchmark. The student interprets the mathematics concept, using numbers, notation, and mathematical symbols.

	Item 4	Item 3	Item 2	Item 1
Depth of Knowledge (DOK)				
Selected Focal KSAs	• Ability to use ordered pairs to graph points	• Ability to use ordered pairs to graph points	• Ability to use ordered pairs to graph points	

Item 4 is directly aligned with the CCC and may include scaffolds and supports that improve access without changing the construct.. Item 3 should also be a close link to the CCC but may start with the teacher modeling the concept through a similar item. Item 2 will be a further link to the CCC and may include step-by-step instructions to help the student move through the item. However, the student must demonstrate some knowledge by doing more than just following instructions. Level 1 will be concrete and focus on the essential understandings associated with the CCC.

Some CCCs are comprised of more than one focal knowledge, skills and abilities (KSA). This one has only one.

Focal KSA Notes

FK1. Essential Understanding: Ability to identify ordered pairs that represent points plotted in

Level 1 is built on the Essential Understanding at the Concrete level. In this case:

Identify the x and y axis; Concept of intersection;

Concrete graphing of points (e.g., put the straw up on 3 on the x axis, put the next straw across on 2 on the y axis. Put a chip there [for 3,2])

			the first quadrant	
Selected KSA for Items 1 and 2				• Knowledge of what ordered pairs represent
KSA for Items 1 and 2 Notes				
Associated AKSAs, Cognitive Background Knowledge Additional KSAs list any background knowledge a student must have before they can learn the focal KSA.	• Knowledge of what ordered pairs represent • Knowledge of conventions of graphing: X-axis, Y-axis, location and meaning of origin, the numbers in the 1st quadrant are positive and increase from the origin, the numbering scale • Ability to use graph paper	• Knowledge of what ordered pairs represent • Knowledge of conventions of graphing: X-axis, Yaxis, location and meaning of origin, the numbers in the 1st quadrant are positive and increase from the origin, the numbering scale • Ability to use graph paper	• Knowledge of what ordered pairs represent • Knowledge of conventions of graphing: X-axis, Yaxis, location and meaning of origin, the numbers in the 1st quadrant are positive and increase from the origin, the numbering scale • Ability to use graph paper	
Potential Observations Potential observations sketch out tasks that we might use to build items. These are not full items, but ideas of how to assess the Focal KSA.	• Given a number of ordered pairs, the student correctly graphs the points (e.g., Student is given the following ordered pairs and correctly graphs them: (5, 8) (8, 4).)	• Given a number of ordered pairs, the student correctly graphs the points (e.g., Student is given the following ordered pairs and correctly graphs them: (5, 8) (8, 4).)	• Given a number of ordered pairs, the student correctly graphs the points (e.g., Student is given the following ordered pairs and correctly graphs them: (5, 8) (8, 4).) • Given three graphed	

			representations of ordered pairs, the student correctly identifies the graph showing the target pair (e.g., Student is given a graph showing (5, 8); (8, 5); and (5, 7). correctly identifies the graph showing (5, 8).	
Potential Observation Notes (based on selected KSA)				
Potential Work Products	• Constructed Response	• Constructed Response	• Constructed Response • Selected Response	• Constructed Response
Potential Work Product Notes (based on selected KSA)				
Characteristic Features	• Limit to positive integers no greater than 20 • The scale on the axes are labeled by 1s • Squares in the graph paper must be large enough to label every tick mark and be a size that the student is familiar with (e.g., equal to or greater than 1/4 inch) • Graph axes will be labeled with x and y	• Limit to positive integers no greater than 20 • The scale on the axes are labeled by 1s • Squares in the graph paper must be large enough to label every tick mark and be a size that the student is familiar with (e.g., equal to or greater than 1/4 inch) • Graph axes will be labeled with x and y	• Limit to positive integers no greater than 20 • The scale on the axes are labeled by 1s • Squares in the graph paper must be large enough to label every tick mark and be a size that the student is familiar with (e.g., equal to or greater than 1/4 inch) • Graph axes will be labeled with x and y	• Limit to positive integers no greater than 20 • The scale on the axes are labeled by 1s • Squares in the graph paper must be large enough to label every tick mark and be a size that the student is familiar with (e.g., equal to or greater than 1/4 inch) • Graph axes will be labeled with x and y

Potential Work Products illustrate the desired response mode to be elicited by the item and may vary by CCC.

"Characteristic Features" and the next several categories are intended for item writers and test developers and will likely not be helpful to teachers.

"Characteristic Features" articulate required elements and limits to what should be assessed (e.g., Limit to positive integers no greater than 20).

	and include a numbering scale	and include a numbering scale	and include a numbering scale	and include a numbering scale
Associated Variable Features, Cognitive Background Knowledge Associated variables help item writers set up the problem by detailing allowable instructions. **"Implemented"** means the variable has already been built into the item. **"Yes"** means it could be added without changing the construct. **"No"** means that allowing this element might change what is being assessed.	• Remind student that ordered pairs show where to put points on a graph using an x and a y value: **No** • Provide student with an example graph and remind student of the features of the graph (e.g., X-axis, Y-axis, location and meaning of origin, the numbers in the 1st quadrant are positive and increase from the origin, the numbering scale) (example graph should be the same type of graph used in the item but must use different data than the item): **Implemented** • Provide student with an non-construct relevant example of a point located on a graph and state that point represents an ordered pair: **Implemented** • Remind student that the x- and y-axis can be drawn as lines on graph paper to create a right angle, and that if your follow a vertical line from the x-axis	• Remind student that ordered pairs show where to put points on a graph using an x and a y value: **Implemented** • Provide student with an example graph and remind student of the features of the graph (e.g., X-axis, Y-axis, location and meaning of origin, the numbers in the 1st quadrant are positive and increase from the origin, the numbering scale) (example graph should be the same type of graph used in the item but must use different data than the item): **Implemented** • Provide student with an non-construct relevant example of a point located on a graph and state that point represents an ordered pair: **Implemented** • Remind student that the xand y-axis can be drawn as lines on graph paper to create a right angle, and that if your follow a vertical line from the x-axis and a horizontal line from the	• Remind student that ordered pairs show where to put points on a graph using an x and a y value: **Implemented** • Provide student with an example graph and remind student of the features of the graph (e.g., X-axis, Y-axis, location and meaning of origin, the numbers in the 1st quadrant are positive and increase from the origin, the numbering scale) (example graph should be the same type of graph used in the item but must use different data than the item): **No** • Provide student with an non-construct relevant example of a point located on a graph and state that point represents an ordered pair: **Implemented** • Remind student that the x- and y-axis can be drawn as lines on graph paper to create a right angle, and that if your follow a vertical line from the x-axis and a horizontal line from the y-axis you can find the	• Remind student that ordered pairs show where to put points on a graph using an x and a y value: **No** • Provide student with an example graph and remind student of the features of the graph (e.g., X-axis, Y-axis, location and meaning of origin, the numbers in the 1st quadrant are positive and increase from the origin, the numbering scale) (example graph should be the same type of graph used in the item but must use different data than the item): **No** • Provide student with an non-construct relevant example of a point located on a graph and state that point represents an ordered pair: **No** • Remind student that the x- and y-axis can be drawn as lines on graph paper to create a right angle, and that if your follow a vertical line from the x-axis and a horizontal line

	and a horizontal line from the y-axis you can find the point where they intersect: **No**	y-axis you can find the point where they intersect: **Implemented**	point where they intersect: **Implemented**	from the y-axis you can find the point where they intersect: **No**
Selected Variable Features: Perceptual	• Delivery mechanisms by which the question is perceived eg: ***Yes*** • Delivery parameters for oral presentation of material eg: ***Yes*** • Supports for the use of equipment required for the task eg: ***Yes***	• Delivery mechanisms by which the question is perceived eg: ***Yes*** • Delivery parameters for oral presentation of material eg: ***Yes*** • Supports for the use of equipment required for the task eg: ***Yes***	• Delivery mechanisms by which the question is perceived eg: ***Yes*** • Delivery parameters for oral presentation of material eg: ***Yes*** • Supports for the use of equipment required for the task eg: ***Yes***	• Delivery mechanisms by which the question is perceived eg: ***Yes*** • Delivery parameters for oral presentation of material eg: ***Yes*** • Supports for the use of equipment required for the task eg: ***Yes***
Selected Variable Features: Skill and Fluency	• Supports for manipulating physical materials eg: ***Yes*** • Supports for manipulating digital/electronic	• Supports for manipulating physical materials eg: ***Yes*** • Supports for manipulating digital/electronic	• Supports for manipulating physical materials eg: ***Yes*** • Supports for manipulating digital/electronic	• Supports for manipulating physical materials eg: ***Yes*** • Supports for manipulating digital/electronic

Based on UDL research (CAST, 2008), disabilities that are relevant to the design of assessments are grouped into perceptual, language and symbols, cognitive, skill and fluency, executive, and affect categories.

In our design pattern for constructing mathematics assessments, students with disabilities involving sight, hearing, speech, or movement are of concern. Specifically, "Sight" and "Hearing" were chosen under the Selected Variable Features of "Perceptual."

"Speech" and "Movement" were selected from the Selected Variable Features of"Skill and Fluency."

"Skill and Fluency" refers to how a student will respond to an item. These elements will be clarified in the test administration

	equipment eg: ***Yes*** • Supports for composing a response in text eg: **No** • Practice with familiar equipment: No • Response mode options eg: ***Yes*** • Practice tutorials with unfamiliar physical materials or digital/electronic equipment eg: **No**	equipment eg: ***Yes*** • Supports for composing a response in text eg: **No** • Practice with familiar equipment: No • Response mode options eg: ***Yes*** • Practice tutorials with unfamiliar physical materials or digital/electronic equipment eg: **No**	equipment eg: ***Yes*** • Supports for composing a response in text eg: **No** • Practice with familiar equipment: No • Response mode options eg: ***Yes*** • Practice tutorials with unfamiliar physical materials or digital/electronic equipment eg: **No**	equipment eg: ***Yes*** • Supports for composing a response in text eg: **No** • Practice with familiar equipment: No • Response mode options eg: ***Yes*** • Practice tutorials with unfamiliar physical materials or digital/electronic equipment eg: **No**
Selected Variable Features: Language and Symbols All the "yes" indications in this section detail the different ways students can access the words (translated, signed, braille, etc.).	• Embedded support for vocabulary and symbols eg: **Implemented: Background Knowledge** • Digital text with or without automatic text to speech: ***Yes*** • Highlight essential elements, words, or phrases: **Implemented: Indicate the axes on the graph** • All key information in the dominant language (e.g., English) is also available in prevalent first languages (e.g., Spanish) for second language learners:	• Embedded support for vocabulary and symbols eg: **Implemented: Background Knowledge** • Digital text with or without automatic text to speech: ***Yes*** • Highlight essential elements, words, or phrases: **Implemented: Indicate the axes on the graph** • All key information in the dominant language (e.g., English) is also available in prevalent first languages (e.g., Spanish) for second language learners: ***Yes*** • All key information available in sign language for students who are deaf:	• Embedded support for vocabulary and symbols eg: **Implemented: Background Knowledge** • Digital text with or without automatic text to speech: ***Yes*** • Highlight essential elements, words, or phrases: **Implemented: Bolded grid lines to plotted points** • All key information in the dominant language (e.g., English) is also available in prevalent first languages (e.g., Spanish) for second language learners: ***Yes*** • All key information available in sign language for students	• Embedded support for vocabulary and symbols eg: **No** • Digital text with or without automatic text to speech: **No** • Highlight essential elements, words, or phrases: **No** • All key information in the dominant language (e.g., English) is also available in prevalent first languages (e.g., Spanish) for second language learners: ***Yes*** • All key information available in sign language for students who are deaf: ***Yes*** • Digital Braille with or

	Yes • All key information available in sign language for students who are deaf: ***Yes*** • Digital Braille with or without automatic Braille to speech: ***Yes*** • Alternate syntactic levels (simplified text): **Implemented** • Level of abstraction required of student eg: **Implemented: Visual and oral** • New vs. pre-taught vocabulary and symbols: **Implemented: Assuming pre-taught** • Use of multiple representations eg: **Implemented: Visual** • Read language and symbols aloud: **Implemented**	***Yes*** • Digital Braille with or without automatic Braille to speech: ***Yes*** • Alternate syntactic levels (simplified text): **Implemented** • Level of abstraction required of student eg: **Implemented: Visual and oral** • New vs. pre-taught vocabulary and symbols: **Implemented: Assuming pre-taught** • Use of multiple representations eg: **Implemented: Visual, demonstration** • Read language and symbols aloud: **Implemented**	who are deaf: ***Yes*** • Digital Braille with or without automatic Braille to speech: ***Yes*** • Alternate syntactic levels (simplified text): **Implemented** • Level of abstraction required of student eg: **Implemented: Visual and oral** • New vs. pre-taught vocabulary and symbols: **Implemented: Assuming pre-taught** • Use of multiple representations eg: **Implemented: Visual, demonstration** • Read language and symbols aloud: **Implemented**	without automatic Braille to speech: ***Yes*** • Alternate syntactic levels (simplified text): **Implemented** • Level of abstraction required of student eg: **Implemented: Visual** • New vs. pre-taught vocabulary and symbols: **Implemented: Assuming pre-taught** • Use of multiple representations eg: **Implemented: Visual** • Read language and symbols aloud: **Implemented**
Selected Variable Features: Cognitive This is a list of scaffolds that may be added to the question to assist the student, such as putting the plot on	• Options for supporting critical features, big ideas, and relations: provide graphic organizers: **No**	• Options for supporting critical features, big ideas, and relations: provide graphic organizers: **No**	• Options for supporting critical features, big ideas, and relations: provide graphic organizers: **No**	• Options for supporting critical features, big ideas, and relations: provide graphic organizers: **No**

• Options for supporting critical features, big ideas, and relations: provide alternative forms of key concepts: **No** • Options for guiding exploration and information processing: familiar materials and their use eg: **Implemented: Use of grid paper** • Options for supporting critical features, big ideas, and relations: provide a response template: **No** • Options for supporting critical features, big ideas, and relations: outline information: **No** • Options for guiding exploration and information processing: allow viewing of stimuli from previous stages and parts: **Implemented: Item prompt presented** • Options for guiding exploration and information processing: provide modeled prompts eg: **No** • Options for guiding	• Options for supporting critical features, big ideas, and relations: provide alternative forms of key concepts: **No** • Options for guiding exploration and information processing: familiar materials and their use eg: **Implemented: Use of grid paper** • Options for supporting critical features, big ideas, and relations: provide a response template: **No** • Options for supporting critical features, big ideas, and relations: outline information: **No** • Options for guiding exploration and information processing: allow viewing of stimuli from previous stages and parts: **Implemented: Demonstration** • Options for guiding exploration and information processing: provide modeled prompts eg: **Implemented** • Options for guiding exploration and information processing:	• Options for supporting critical features, big ideas, and relations: provide alternative forms of key concepts: **No** • Options for guiding exploration and information processing: familiar materials and their use eg: **Implemented: Use of grid paper** • Options for supporting critical features, big ideas, and relations: provide a response template: **No** • Options for supporting critical features, big ideas, and relations: outline information: **No** • Options for guiding exploration and information processing: allow viewing of stimuli from previous stages and parts: **No** • Options for guiding exploration and information processing: provide modeled prompts eg: **Implemented** • Options for guiding exploration and information processing: provide multiple entry points: **No**	• Options for supporting critical features, big ideas, and relations: provide alternative forms of key concepts: **No** • Options for guiding exploration and information processing: familiar materials and their use eg: **Implemented: Use of grid paper** • Options for supporting critical features, big ideas, and relations: provide a response template: **No** • Options for supporting critical features, big ideas, and relations: outline information: **No** • Options for guiding exploration and information processing: allow viewing of stimuli from previous stages and parts: **Implemented: Demonstration rectangle** • Options for guiding exploration and information processing: provide modeled prompts eg: **No**

exploration and information processing: provide multiple entry points: **No**

- Options for guiding exploration and information processing: mask part of the information eg: **No**
- Options for supporting critical features, big ideas, and relations: provide modeled prompts: **No**
- Options for guiding exploration and information processing: provide a practice item or task: **No**
- Options for supporting critical features, big ideas, and relations: Remind student of the function of tools/features designed to aide comprehension and processing of information eg: **Implemented: Orient student to graph features**
- Options for supporting memory and transfer: note-taking: **No**
- Options for supporting

provide multiple entry points: **No**

- Options for guiding exploration and information processing: mask part of the information eg: **No**
- Options for supporting critical features, big ideas, and relations: provide modeled prompts: **Implemented**
- Options for guiding exploration and information processing: provide a practice item or task: **No**
- Options for supporting critical features, big ideas, and relations: Remind student of the function of tools/features designed to aide comprehension and processing of information eg: **Implemented: Orient student to graph features**
- Options for supporting memory and transfer: note-taking: **No**
- Options for supporting memory and transfer: present items as a discrete unit or embed in a scenario: **Implemented: Discrete unit**

- Options for guiding exploration and information processing: mask part of the information eg: **No**
- Options for supporting critical features, big ideas, and relations: provide modeled prompts: **Implemented**
- Options for guiding exploration and information processing: provide a practice item or task: **No**
- Options for supporting critical features, big ideas, and relations: Remind student of the function of tools/features designed to aide comprehension and processing of information eg: **Implemented: Orient student to graph features**
- Options for supporting memory and transfer: note-taking: **No**
- Options for supporting memory and transfer: present items as a discrete unit or embed in a scenario: **Implemented: Discrete unit**
- Options for supporting memory and transfer:

- Options for guiding exploration and information processing: provide multiple entry points: **No**
- Options for guiding exploration and information processing: mask part of the information eg: **No**
- Options for supporting critical features, big ideas, and relations: provide modeled prompts: **No**
- Options for guiding exploration and information processing: provide a practice item or task: **No**
- Options for supporting critical features, big ideas, and relations: Remind student of the function of tools/features designed to aide comprehension and processing of information eg: **No**
- Options for supporting memory and transfer: note-taking: **No**
- Options for supporting memory and transfer: present items as a

memory and transfer: present items as a discrete unit or embed in a scenario: **Implemented: Discrete unit**

- Options for supporting memory and transfer: locate items near relevant text: **Implemented**
- Options for supporting memory and transfer: mnemonic aids: **No**
- Options for guiding exploration and information processing: use consistent signals/cues eg: *****Yes*****
- Options for guiding exploration and information processing: provide sequential highlighting eg: **No**
- Options for supporting background knowledge - provide analogies and examples: **Implemented**
- Options for supporting background knowledge - pre-teach background content eg: **No, assuming knowledge is pre-**

- Options for supporting memory and transfer: locate items near relevant text: **Implemented**
- Options for supporting memory and transfer: mnemonic aids: **No**
- Options for guiding exploration and information processing: use consistent signals/cues eg: *****Yes*****
- Options for guiding exploration and information processing: provide sequential highlighting eg: **No**
- Options for supporting background knowledge - provide analogies and examples: **No**
- Options for supporting background knowledge - pre-teach background content eg: **No, assuming knowledge is pre-taught**
- Options for supporting background knowledge - provide concept maps: **No**
- Options for guiding exploration and information processing: provide a guide or checklist for

locate items near relevant text: **Implemented**

- Options for supporting memory and transfer: mnemonic aids: **No**
- Options for guiding exploration and information processing: use consistent signals/cues eg: **Yes**
- Options for guiding exploration and information processing: provide sequential highlighting eg: **No**
- Options for supporting background knowledge - provide analogies and examples: **No**
- Options for supporting background knowledge - pre-teach background content eg: **No, assuming knowledge is pre-taught**
- Options for supporting background knowledge - provide concept maps: **No**
- Options for guiding exploration and information processing: provide a guide or checklist for prioritization of steps in multi-step problems: **No**

discrete unit or embed in a scenario: **Implemented: Discrete unit**

- Options for supporting memory and transfer: locate items near relevant text: **No**
- Options for supporting memory and transfer: mnemonic aids: **No**
- Options for guiding exploration and information processing: use consistent signals/cues eg: *****Yes*****
- Options for guiding exploration and information processing: provide sequential highlighting eg: **No**
- Options for supporting background knowledge - provide analogies and examples: **No**
- Options for supporting background knowledge - pre-teach background content eg: **No, assuming knowledge is pre-taught**
- Options for supporting background knowledge - provide

	taught • Options for supporting background knowledge - provide concept maps: **No** • Options for guiding exploration and information processing: provide a guide or checklist for prioritization of steps in multi-step problems: **No** • Options for supporting background knowledge - provide hyperlinks to multi-media: **No** • Options for supporting background knowledge - provide links to familiar materials: **No** • Options for supporting background knowledge - provide links to related information: **No** • Options for supporting background knowledge - remind student of materials or activities used to teach foundational reading/English language arts or mathematics skills: **No** • Options for supporting background	prioritization of steps in multi-step problems: **No** • Options for supporting background knowledge - provide hyperlinks to multi-media: **No** • Options for supporting background knowledge - provide links to familiar materials: **No** • Options for supporting background knowledge - provide links to related information: **No** • Options for supporting background knowledge - remind student of materials or activities used to teach foundational reading/English language arts or mathematics skills: **No** • Options for supporting background knowledge - remind student of prior experiences: ******Yes: Permissable to say, "Remember when we plotted points on a graph."****** • Options for supporting memory and transfer: reread question/stimulus: *****Yes***** • Options for supporting	• Options for supporting background knowledge - provide hyperlinks to multi-media: **No** • Options for supporting background knowledge - provide links to familiar materials: **No** • Options for supporting background knowledge - provide links to related information: **No** • Options for supporting background knowledge - remind student of materials or activities used to teach foundational reading/English language arts or mathematics skills: **No** • Options for supporting background knowledge - remind student of prior experiences: ******Yes: Permissable to say, "Remember when we plotted points on a graph."****** • Options for supporting memory and transfer: reread question/stimulus: *****Yes***** • Options for supporting critical features, big ideas, and relations: highlight information:	concept maps: **No** • Options for guiding exploration and information processing: provide a guide or checklist for prioritization of steps in multi-step problems: **No** • Options for supporting background knowledge - provide hyperlinks to multi-media: **No** • Options for supporting background knowledge - provide links to familiar materials: **No** • Options for supporting background knowledge - provide links to related information: **No** • Options for supporting background knowledge - remind student of materials or activities used to teach foundational reading/English language arts or mathematics skills: **No** • Options for supporting background knowledge - remind student of prior experiences: *****Yes*****

	knowledge - remind student of prior experiences: ******Yes: Permissable to say, "Remember when we plotted points on a graph."****** • Options for supporting memory and transfer: reread question/stimulus: *****Yes***** • Options for supporting critical features, big ideas, and relations: highlight information: **Implemented**	critical features, big ideas, and relations: highlight information: **Implemented**	**Implemented**	• Options for supporting memory and transfer: reread question/stimulus: *****Yes***** • Options for supporting critical features, big ideas, and relations: highlight information: **Implemented**
Selected Variable Features: Executive "Executive Features" are ways for students to monitor themselves, like prompting them to check their progress, use a checklist, etc.	• Representations of progress eg: **No** • Prompts, scaffolds, and questions to monitor progress, to "stop and think", and for categorizing and systematizing: **No** • Prompts and scaffolds to estimate effort, resources, and difficulty: **No** • Guides, checklists, graphic organizers, and/or templates for goal setting, prioritizing, breaking long-term objectives into reachable short-term goals, self-reflection, and self-assessment: **No**	• Representations of progress eg: **No** • Prompts, scaffolds, and questions to monitor progress, to "stop and think", and for categorizing and systematizing: **No** • Prompts and scaffolds to estimate effort, resources, and difficulty: **No** • Guides, checklists, graphic organizers, and/or templates for goal setting, prioritizing, breaking long-term objectives into reachable short-term goals, self-reflection, and self-assessment: **No**	• Representations of progress eg: **No** • Prompts, scaffolds, and questions to monitor progress, to "stop and think", and for categorizing and systematizing: **No** • Prompts and scaffolds to estimate effort, resources, and difficulty: **No** • Guides, checklists, graphic organizers, and/or templates for goal setting, prioritizing, breaking long-term objectives into reachable short-term goals, self-reflection, and self-assessment: **No**	• Representations of progress eg: **No** • Prompts, scaffolds, and questions to monitor progress, to "stop and think", and for categorizing and systematizing: **No** • Prompts and scaffolds to estimate effort, resources, and difficulty: **No** • Guides, checklists, graphic organizers, and/or templates for goal setting, prioritizing, breaking long-term objectives into reachable short-term goals, self-reflection, and self-assessment: **No**

	• Adjust levels of challenge and support eg: **Implemented**	• Adjust levels of challenge and support eg: **Implemented**	• Adjust levels of challenge and support eg: **Implemented**	• Adjust levels of challenge and support eg: **Implemented**
Selected Variable Features: Affective "Affective Features" include strategies for engaging the student without providing the answer.	Task options for engagement: variety of stimuli: **No** Task options for engagement: item/task format eg: **Implemented: Constructed response** Task options for engagement: heighten salience: **Implemented** Task options for engagement: enhance relevance, value, and authenticity of tasks eg: **No** Teacher options for providing supports for attention and engagement: provide varied levels of challenge and support: **Implemented** Teacher options for providing supports for attention and engagement: provide supports to reduce student frustration eg: ***Yes*** Teacher options for providing supports for attention and engagement: provide optimal student positioning (positions which encourage	Task options for engagement: variety of stimuli: **No** Task options for engagement: item/task format eg: **Implemented: Constructed response** Task options for engagement: heighten salience: **Implemented** Task options for engagement: enhance relevance, value, and authenticity of tasks eg: **No** Teacher options for providing supports for attention and engagement: provide varied levels of challenge and support: **Implemented** Teacher options for providing supports for attention and engagement: provide supports to reduce student frustration eg: ***Yes*** Teacher options for providing supports for attention and engagement: provide optimal student positioning (positions which encourage alertness, not recumbent): ***Yes*** Teacher options for	Task options for engagement: variety of stimuli: **No** Task options for engagement: item/task format eg: **Implemented: Selected response** Task options for engagement: heighten salience: **Implemented** Task options for engagement: enhance relevance, value, and authenticity of tasks eg: **No** Teacher options for providing supports for attention and engagement: provide varied levels of challenge and support: **Implemented** Teacher options for providing supports for attention and engagement: provide supports to reduce student frustration eg: ***Yes*** Teacher options for providing supports for attention and engagement: provide optimal student positioning (positions which encourage alertness, not recumbent): ***Yes*** Teacher options for	Task options for engagement: variety of stimuli: ***No Task options for engagement: item/task format eg: **Implemented: Constructed response** Task options for engagement: heighten salience: **No** Task options for engagement: enhance relevance, value, and authenticity of tasks eg: **No** Teacher options for providing supports for attention and engagement: provide varied levels of challenge and support: **Implemented** Teacher options for providing supports for attention and engagement: provide supports to reduce student frustration eg: ***Yes*** Teacher options for providing supports for attention and engagement: provide optimal student positioning (positions which encourage

	alertness, not recumbent): ***Yes*** Teacher options for providing supports for attention and engagement: provide feedback to support engagement: ***Yes, do not identify correct or incorrect responses*** Teacher options for providing supports for attention and engagement: prompt student to engage/reengage: ***Yes*** Teacher options for providing supports for attention and engagement: cover up part of text so student isn't overwhelmed: **No** Task options for engagement: vary amount of context supporting tasks eg: **No** Teacher options for providing supports for attention and engagement: administer assessment at optimal time of day for student engagement: ***Yes*** Teacher options for providing supports for attention and engagement: provide verbal/gestural prompts:	providing supports for attention and engagement: provide feedback to support engagement: ***Yes, do not identify correct or incorrect responses*** Teacher options for providing supports for attention and engagement: prompt student to engage/reengage: **Yes** Teacher options for providing supports for attention and engagement: cover up part of text so student isn't overwhelmed: **No** Task options for engagement: vary amount of context supporting tasks eg: **No** Teacher options for providing supports for attention and engagement: administer assessment at optimal time of day for student engagement: ***Yes*** Teacher options for providing supports for attention and engagement: provide verbal/gestural prompts: ***Yes***	providing supports for attention and engagement: provide feedback to support engagement: ***Yes, do not identify correct or incorrect responses*** Teacher options for providing supports for attention and engagement: prompt student to engage/reengage: ***Yes*** Teacher options for providing supports for attention and engagement: cover up part of text so student isn't overwhelmed: **No** Task options for engagement: vary amount of context supporting tasks eg: **No** Teacher options for providing supports for attention and engagement: administer assessment at optimal time of day for student engagement: ***Yes*** Teacher options for providing supports for attention and engagement: provide verbal/gestural prompts: ***Yes***	alertness, not recumbent): ***Yes*** Teacher options for providing supports for attention and engagement: provide feedback to support engagement: ***Yes, do not identify correct or incorrect responses*** Teacher options for providing supports for attention and engagement: prompt student to engage/reengage: ***Yes*** Teacher options for providing supports for attention and engagement: cover up part of text so student isn't overwhelmed: **No** Task options for engagement: vary amount of context supporting tasks eg: **No** Teacher options for providing supports for attention and engagement: administer assessment at optimal time of day for student engagement: ***Yes*** Teacher options for providing supports for attention and engagement: provide verbal/gestural prompts:

	Yes			***Yes***
Item Complexity Notes This section lists the intended alignment and scaffolds used. These will be checked in an alignment study. ITEM DIRECTIVES REMOVED	**IC1.** Claims: Procedural Alignment to CCC: Full Demonstration: No Number of item parts: 2 Segmented presentation: No Type of response: Constructed Number of response options: N/A Type of graph created: Coordinate grid Response template: No Number of data points to be plotted: 2	**IC1.** Claims: Procedural Alignment to CCC: Full Demonstration: Yes Number of item parts: 2 Segmented presentation: No Type of response: Constructed Number of response options: N/A Type of graph created: Coordinate grid Response template: No Number of data points to be plotted: 2	**IC1.** Claims: Procedural Alignment to CCC: Full Demonstration: Yes Number of item parts: 1 Segmented presentation: No Type of response: Selected Number of response options: 3 Type of graph created: Coordinate grid Response template: No Number of data points to be plotted: N/A	**IC1.** Claims: Conceptual Alignment to CCC: No (Aligned to AKSA) Demonstration: No Number of item parts: 1 Segmented presentation: No Type of response: Selected Number of response options: 2 Type of graph created: Coordinate grid Response template: No Number of data points to be plotted: N/A

ITEM DIRECTIVE HAS BEEN REMOVED – ILLUSTRATION ONLY

NCSC Numbers 4.NO.1n1 | Nu Design Pattern 2644

[| Permit | Delete | View: View (vertical)]

Title	[Edit]	NCSC Numbers 4.NO.1n1 notes
Overview	[Edit]	CCC: Select a model of a given fraction (halves, thirds, fourths, sixths, eighths).
Rationale	[Edit]	R1. Learning Target (K-4): NO-1 Build flexibility using whole numbers, fractions , and decimals to understand the nature of number and number systems: - Count, model, and estimate quantities; - Compare, represent, and order numbers; - Apply place value concepts and expanded notation to compose and decompose whole numbers. Big Idea: Fractions, Decimals, and Exponents Progress Indicator: E.NO.1n comparing and modeling fractions, including with different denominators
Focal KSAs	[Edit]	FK1. Ability to select, from given models, the model that correctly represents halves, thirds, fourths, sixths, or eights.
Add'l KSAs: Cognitive Background Knowledge	[Edit]	AK1. Knowledge of models (e.g., number line, arrays, and area models) used to represent fractions. AK2. Knowledge that the denominator of a fraction is the total number of pieces that the whole is divided into AK3. Knowledge that the numerator of a fraction is the number of pieces under consideration or present in the fraction representation
Add'l KSAs: Perceptual (Receptive)	[Edit]	Ability to perceive images in the stimulus material and question. (e.g., through print, objects, holistic description, Braille, audio description, tactile images) (Image in this case means a picture, drawing, table, map, graph, or photograph and not a mental image) Ability to perceive physical objects required for the task. (e.g., see physical objects used to relate a story) Ability to perceive the linguistic components of the stimulus material and question. (e.g., through print, objects, audio, Braille, tactile images)
Add'l KSAs: Skill and Fluency (Expressive)	[Edit]	Ability to communicate response. (e.g., respond verbally, by using pictures, by making a selection from a group) Ability to manipulate digital/electronic equipment. (e.g., assistive technology) Ability to manipulate physical materials. (e.g., dexterity, strength, and mobility) Knowledge of how to use physical materials or digital/electronic equipment. (e.g., familiarity, assistive technology)
Add'l KSAs: Language and Symbols	[Edit]	Ability to comprehend text, symbols, images, or objects. (Image in this case means a picture, drawing, table, map, graph, or photograph, and not a mental image) Ability to decode text, symbols, tactile images, images, or objects. (Image in this case means a picture, drawing, table, map, graph, or photograph, and not a mental image) Ability to recognize text, symbols, tactile images, images, or objects. (Image in this case means a picture, drawing, table, map, graph, or photograph, and not a mental image) Ability to understand English vocabulary and syntax. (If the student doesn't

		have the linguistic competency then it would be hard to support. If a student speaks another language then a bilingual translator can be used)
Add'l KSAs: Cognitive	[Edit]	Ability to attend to stimuli. (Stimuli include item prompt, response options, and associated materials [e.g., images, text passages]; the stimuli can be represented in any modality) Ability to perform. (e.g., answer questions, solve simple problems, write sentences or words, mark corrections/edit text, apply punctuation) Ability to recall and use information presented in a task/item (working memory). Ability to recall related background knowledge. (Background information refers to information learned outside of the assessment situation [not working memory]) Ability to understand the meaning of an example. (e.g., use of a non-construct relevant example)
Add'l KSAs: Executive	[Edit]	Ability to self-regulate and reflect during problem solving. (e.g., ability to check one's work or one's understanding as an individual completes a problem; particularly appropriate for items with significant cognitive demands and attention to detail and/or that have multiple components [may require reading several passages or multiple computations])
Add'l KSAs: Affective	[Edit]	Ability to engage. (e.g., task-specific motivation) Ability to persist and sustain effort.
Potential Observations	[Edit]	PO1. Given a target fraction (e.g., 1/4, 3/4, or 4/6) and several fractional models (using actual objects or pictures), student correctly identifies the fractional model that represents the target fraction (e.g., Student is presented with three fractional models [picture or actual object]-representing one-fourth, three-fourths, and four-sixths. Student is asked to select the fractional model which represents one-fourth. PO2. Given three models of different denominators, student selects the correct model that represents the given denominator (e.g., Student is presented with pictures of apples cut into two equal pieces, four equal pieces and six equal pieces. Student is asked to identify the picture of the apple cut into sixths. Student correctly chooses the apple cut into six equal pieces.)
Potential Rubrics	[Edit]	
Potential Work Products	[Edit]	PW1. Selected Response
Characteristic Features	[Edit]	CF1. Limit the fractions to halves, thirds, fourths, sixths, and eighths.
Variable Features: Cognitive Background Knowledge	[Edit]	VF1. Remind students that fractions may be represented in different ways and give a non-construct relevant examples of the different model (e.g., show student models of one-fifth represented in different ways-symbolically 1/5; as an array on a number line; or as part of an object) (numbers in the example should not be the numbers used in the prompt or selected response options) VF2. Using both a symbolic and a visual representation of a fraction, remind student that the denominator of a fraction is the total number of pieces that the whole is divided into (numbers in the example should not be the numbers used in the prompt or selected response options) VF3. Using both a symbolic and a visual representation of a fraction, remind student that the numerator of a fraction is the number of pieces under consideration or present in the fraction representation (numbers in the example should not be the numbers used in the prompt or selected response options)

Variable Features: Perceptual (Receptive)	• Delivery mechanisms by which the question is perceived. (e.g., read aloud verbatim/read aloud paraphrase, pictures, large print, printed text, Braille, text, symbols, rebuses, concrete objects, description of objects or images, text to speech, signing, auditory amplification, closed captioning, CCTV - close circuit TV to increase size of font, vary contrast, etc.) • Delivery parameters for oral presentation of material. (e.g., speed of reading, volume, amount of expression used, student ability to pause, stop and/or repeat information read aloud) • Supports for the use of equipment required for the task. (e.g., communication board, CD player; Possible to reprogram communication board to include punctuation, capitalization, etc.)
Variable Features: Skill and Fluency (Expressive)	• Supports for manipulating physical materials. (e.g., use of velcro, size of materials, teacher manipulation of materials; In writing, student can manipulate cards with punctuation symbols on them and velcro on back to apply correct punctuation to a sentence) • Supports for manipulating digital/electronic equipment. (e.g., pointers, teacher manipulation of equipment, spoken commands, stylus for input, larger keyboard/buttons, adaptive mouse) • Supports for composing a response in text. (e.g., speech to text, written by teacher, keyboarding, word prediction software) • Practice with familiar equipment. • Response mode options. (e.g., pointing, speech and verbalization, writing, signing, switch or other assistive device/augmentative communication device, eye gaze; for lowest functioning students: predictable behavioral response, tolerate assistance such as hand over hand) • Practice tutorials with unfamiliar physical materials or digital/electronic equipment. (Practice tutorials can be used to introduce students to new item formats or modeled examples using materials that are not construct relevant or new tools to support test taking)
Variable Features: Language and Symbols	• Embedded support for vocabulary and symbols. (e.g., technical and non-technical glossary, hyperlinks/footnotes to definitions, illustrations, background knowledge) • Digital text with or without automatic text to speech. • Highlight essential elements, words, or phrases. • All key information in the dominant language (e.g., English) is also available in prevalent first languages (e.g., Spanish) for second language learners. • All key information available in sign language for students who are deaf. • Digital Braille with or without automatic Braille to speech. • Alternate syntactic levels (simplified text). • Level of abstraction required of student. (e.g., concrete objects, images, text) • New vs. pre-taught vocabulary and symbols. • Use of multiple representations. (e.g., physical models, demonstrations, acting out scenarios) • Read language and symbols aloud.
Variable Features: Cognitive	• Options for supporting critical features, big ideas, and relations: provide graphic organizers. • Options for supporting critical features, big ideas, and relations: provide alternative forms of key concepts. • Options for guiding exploration and information processing: familiar materials and their use. (This includes the presentation of familiar organizational tools [e.g., tables] and familar concrete objects and/or using familar organizational processes [e.g., how highlighting is used]) • Options for supporting background knowledge - provide analogies and examples. • Options for supporting critical features, big ideas, and relations: provide a response template. • Options for supporting background knowledge - pre-teach background

		content. (e.g., pre-teach definitions of unfamiliar words or concepts unrelated to the standard; pre-teach means teaching a student for the first time the definition of a word or concept that is included in the narrative of a test item but not part of the construct being measured) • Options for supporting background knowledge - provide concept maps. • Options for guiding exploration and information processing: provide modeled prompts. (A modeled prompt is a demonstration of the process or procedures needed to successfully complete an item but does not provide the correct answer for the item being tested. A prompt is an action engaged in by the assessor to stimulate the appropriate behavior from a student. E.g., modeled prompt: in a sorting task, assessor can model sorting of cards into bins but without referencing the content being assessed [if shape is construct being assessed, assessor can sort by color but not shape]; NOT A MODELED PROMPT: assessor models correct answer for student [student asked to point to a picture of himself, student doesn't respond so assessor points to picture of student and asks student to do the same]) • Options for supporting background knowledge - provide hyperlinks to multi-media. • Options for supporting background knowledge - provide links to familiar materials. • Options for guiding exploration and information processing: provide a practice item or task. • Options for supporting critical features, big ideas, and relations: provide modeled prompts. • Options for supporting background knowledge - provide links to related information. • Options for supporting memory and transfer: note-taking. • Options for supporting background knowledge - remind student of materials or activities used to teach foundational reading/English language arts skills. • Options for supporting memory and transfer: present items as a discrete unit or embed in a scenario. • Options for supporting background knowledge - remind student of prior experiences. • Options for supporting memory and transfer: locate items near relevant text. • Options for supporting memory and transfer: reread question/stimulus. • Options for supporting memory and transfer: mnemonic aids.
Variable Features: Executive		• Representations of progress. (e.g., before and after photos, graphs and charts) • Prompts, scaffolds, and questions to monitor progress, to "stop and think", and for categorizing and systematizing. • Prompts and scaffolds to estimate effort, resources, and difficulty. • Guides, checklists, graphic organizers, and/or templates for goal setting, prioritizing, breaking long-term objectives into reachable short-term goals, self-reflection, and self-assessment. • Adjust levels of challenge and support. (e.g., adjustable leveling and embedded support, alternative levels of difficulty, alternative points of entry)
Variable Features: Affective		• Task options for engagement: variety of stimuli. • Task options for engagement: item/task format. (e.g., selected response vs. constructed response, performance) Task options for writing: Student writes 2-3 sentences, Present a written sentence and student corrects it, Compose sentences using words and punctuation from words/punctuation represented on cards, Technology-enhanced writing tasks • Task options for engagement: heighten salience. • Task options for engagement: enhance relevance, value, and authenticity of tasks. (task refers to the assessment items, stimulus "story", and materials) In writing: create a letter to a friend, use stories with their own names or names of classmates, content out of students' personal life

		• Teacher options for providing supports for attention and engagement: provide varied levels of challenge and support. • Teacher options for providing supports for attention and engagement: provide supports to reduce student frustration. (e.g., noise reduction, extended test taking time, contingencies, number of items administered at one time) • Teacher options for providing supports for attention and engagement: provide optimal student positioning (positions which encourage alertness, not recumbent). • Teacher options for providing supports for attention and engagement: provide feedback to support engagement. • Teacher options for providing supports for attention and engagement: prompt student to engage/re-engage. • Teacher options for providing supports for attention and engagement: cover up part of text so student isn't overwhelmed. • Task options for engagement: vary amount of context supporting tasks. (e.g., discrete tasks vs. scenarios) • Teacher options for providing supports for attention and engagement: administer assessment at optimal time of day for student engagement. • Teacher options for providing supports for attention and engagement: provide verbal/gestural prompts.
Educational Standards	[Edit]	CCSS: 3.NF.1. Understand a fraction 1/b as the quantity formed by 1 part when a whole is partitioned into b equal parts; understand a fraction a/b as the quantity formed by a parts of size 1/b.

Tags [Add Tag]

(No tags entered.)

NCSC Numbers 4.NO.1n1 Task1 | Task Family 2985

[| Permit | Delete]

Title	[Edit]	NCSC Numbers 4.NO.1n1 Task1
Nu Design Pattern	[Edit]	NCSC Numbers 4.NO.1n1 CCC: Select a model of a given fraction (halves, thirds, fourths, sixths, eighths). dev note
Grade Level Activities	[Edit]	

	Item 4	Item 3	Item 2	Item 1
Depth of Knowledge (DOK)				
Selected Focal KSAs	• Ability to select, from given models, the model that correctly represents halves, thirds, fourths, sixths, or eights.	• Ability to select, from given models, the model that correctly represents halves, thirds, fourths, sixths, or eights.	• Ability to select, from given models, the model that correctly represents halves, thirds, fourths, sixths, or eights.	• Ability to select, from given models, the model that correctly represents halves, thirds, fourths, sixths, or eights.
Focal KSA Notes				
Selected KSA for Items 1 and 2				
KSA for Items 1 and 2 Notes				
Associated AKSAs, Cognitive Background Knowledge	• Knowledge of models (e.g., number line, arrays, and area models) used to represent fractions. • Knowledge that the denominator of a fraction is the total number of pieces that the whole is divided into • Knowledge that the numerator of a fraction is the number of pieces under consideration or present in the fraction representation	• Knowledge of models (e.g., number line, arrays, and area models) used to represent fractions. • Knowledge that the denominator of a fraction is the total number of pieces that the whole is divided into • Knowledge that the numerator of a fraction is the number of pieces under consideration or present in the fraction representation	• Knowledge of models (e.g., number line, arrays, and area models) used to represent fractions. • Knowledge that the denominator of a fraction is the total number of pieces that the whole is divided into • Knowledge that the numerator of a fraction is the number of pieces under consideration or present in the fraction representation	• Knowledge of models (e.g., number line, arrays, and area models) used to represent fractions. • Knowledge that the denominator of a fraction is the total number of pieces that the whole is divided into • Knowledge that the numerator of a fraction is the number of pieces under consideration or present in the fraction representation
Potential Observations	• Given a target fraction (e.g., 1/4, 3/4, or 4/6) and several fractional models (using actual objects or pictures), student correctly identifies the fractional model that represents the target fraction (e.g., Student is presented with three fractional models [picture or actual object]- representing one-fourth, three-fourths, and four-sixths. Student is asked to select the fractional model which represents one-fourth. • Given three models of different denominators, student selects the correct model that represents the given denominator (e.g., Student is presented with pictures of apples cut into two equal pieces, four equal pieces and six equal pieces. Student is asked to identify the picture of the apple cut into sixths. Student correctly chooses the apple cut into six equal pieces.)	• Given a target fraction (e.g., 1/4, 3/4, or 4/6) and several fractional models (using actual objects or pictures), student correctly identifies the fractional model that represents the target fraction (e.g., Student is presented with three fractional models [picture or actual object]- representing one-fourth, three-fourths, and four-sixths. Student is asked to select the fractional model which represents one-fourth. • Given three models of different denominators, student selects the correct model that represents the given denominator (e.g., Student is presented with pictures of apples cut into two equal pieces, four equal pieces and six equal pieces. Student is asked to identify the picture of the apple cut into sixths. Student correctly chooses the apple cut into six equal pieces.)	• Given a target fraction (e.g., 1/4, 3/4, or 4/6) and several fractional models (using actual objects or pictures), student correctly identifies the fractional model that represents the target fraction (e.g., Student is presented with three fractional models [picture or actual object]- representing one-fourth, three-fourths, and four-sixths. Student is asked to select the fractional model which represents one-fourth. • Given three models of different denominators, student selects the correct model that represents the given denominator (e.g., Student is presented with pictures of apples cut into two equal pieces, four equal pieces and six equal pieces. Student is asked to identify the picture of the apple cut into sixths. Student correctly chooses the apple cut into six equal pieces.)	• Given a target fraction (e.g., 1/4, 3/4, or 4/6) and several fractional models (using actual objects or pictures), student correctly identifies the fractional model that represents the target fraction (e.g., Student is presented with three fractional models [picture or actual object]- representing one-fourth, three-fourths, and four-sixths. Student is asked to select the fractional model which represents one-fourth. • Given three models of different denominators, student selects the correct model that represents the given denominator (e.g., Student is presented with pictures of apples cut into two equal pieces, four equal pieces and six equal pieces. Student is asked to identify the picture of the apple cut into sixths. Student correctly chooses the apple cut into six equal pieces.)
Potential Observation Notes (based on selected KSA)				

Potential Work Products	• Selected Response	• Selected Response	• Selected Response	• Selected Response
Potential Work Product Notes (based on selected KSA)				
Characteristic Features	• Limit the fractions to halves, thirds, fourths, sixths, and eighths.	• Limit the fractions to halves, thirds, fourths, sixths, and eighths.	• Limit the fractions to halves, thirds, fourths, sixths, and eighths.	• Limit the fractions to halves, thirds, fourths, sixths, and eighths.
Associated Variable Features, Cognitive Background Knowledge	• Remind students that fractions may be represented in different ways and give a non-construct relevant examples of the different model (e.g., show student models of one-fifth represented in different ways- symbolically 1/5; as an array on a number line; or as part of an object) (numbers in the example should not be the numbers used in the prompt or selected response options): **No** • Using both a symbolic and a visual representation of a fraction, remind student that the denominator of a fraction is the total number of pieces that the whole is divided into (numbers in the example should not be the numbers used in the prompt or selected response options): **No** • Using both a symbolic and a visual representation of a fraction, remind student that the numerator of a fraction is the number of pieces under consideration or present in the fraction representation (numbers in the example should not be the numbers used in the prompt or selected response options): **No**	• Remind students that fractions may be represented in different ways and give a non-construct relevant examples of the different model (e.g., show student models of one-fifth represented in different ways- symbolically 1/5; as an array on a number line; or as part of an object) (numbers in the example should not be the numbers used in the prompt or selected response options): **Implemented** • Using both a symbolic and a visual representation of a fraction, remind student that the denominator of a fraction is the total number of pieces that the whole is divided into (numbers in the example should not be the numbers used in the prompt or selected response options): **Implemented** • Using both a symbolic and a visual representation of a fraction, remind student that the numerator of a fraction is the number of pieces under consideration or present in the fraction representation (numbers in the example should not be the numbers used in the prompt or selected response options): **Implemented**	• Remind students that fractions may be represented in different ways and give a non-construct relevant examples of the different model (e.g., show student models of one-fifth represented in different ways- symbolically 1/5; as an array on a number line; or as part of an object) (numbers in the example should not be the numbers used in the prompt or selected response options): **Implemented** • Using both a symbolic and a visual representation of a fraction, remind student that the denominator of a fraction is the total number of pieces that the whole is divided into (numbers in the example should not be the numbers used in the prompt or selected response options): **Implemented** • Using both a symbolic and a visual representation of a fraction, remind student that the numerator of a fraction is the number of pieces under consideration or present in the fraction representation (numbers in the example should not be the numbers used in the prompt or selected response options): **Implemented**	• Remind students that fractions may be represented in different ways and give a non-construct relevant examples of the different model (e.g., show student models of one-fifth represented in different ways- symbolically 1/5; as an array on a number line; or as part of an object) (numbers in the example should not be the numbers used in the prompt or selected response options): **No** • Using both a symbolic and a visual representation of a fraction, remind student that the denominator of a fraction is the total number of pieces that the whole is divided into (numbers in the example should not be the numbers used in the prompt or selected response options): **No** • Using both a symbolic and a visual representation of a fraction, remind student that the numerator of a fraction is the number of pieces under consideration or present in the fraction representation (numbers in the example should not be the numbers used in the prompt or selected response options): **No**
Selected Variable Features: Perceptual	• Delivery mechanisms by which the question is perceived eg: **Yes (see e.g.)** • Delivery parameters for oral presentation of material eg: **Yes (see e.g.)** • Supports for the use of equipment required for the task eg: **Yes (see e.g.)**	• Delivery mechanisms by which the question is perceived eg: **Yes (see e.g.)** • Delivery parameters for oral presentation of material eg: **Yes (see e.g.,)** • Supports for the use of equipment required for the task eg: **Yes (see e.g.,)**	• Delivery mechanisms by which the question is perceived eg: **Yes (see e.g.,)** • Delivery parameters for oral presentation of material eg: **Yes (see e.g.,)** • Supports for the use of equipment required for the task eg: **Yes (see e.g.,)**	• Delivery mechanisms by which the question is perceived eg: **Yes (see e.g.,)** • Delivery parameters for oral presentation of material eg: **Yes (see e.g.,)** • Supports for the use of equipment required for the task eg: **Yes (see e.g.,)**
Selected Variable Features: Skill and Fluency	• Supports for manipulating physical materials eg: **Yes (see e.g.,)** • Supports for manipulating digital/electronic equipment eg: **Yes (see e.g.,)** • Supports for composing a response in text eg: **N/A** • Practice with familiar equipment: **Yes (see e.g.,)** • Response mode options eg: **Yes (see e.g.,)** • Practice tutorials with unfamiliar physical materials or digital/electronic equipment eg: **Yes (see e.g.,)**	• Supports for manipulating physical materials eg: **Yes (see e.g.,)** • Supports for manipulating digital/electronic equipment eg: **Yes (see e.g.,)** • Supports for composing a response in text eg: **N/A** • Practice with familiar equipment: **Yes (see e.g.,)** • Response mode options eg: **Yes (see e.g.,)** • Practice tutorials with unfamiliar physical materials or digital/electronic equipment eg: **Yes (see e.g.,)**	• Supports for manipulating physical materials eg: **Yes (see e.g.,)** • Supports for manipulating digital/electronic equipment eg: **Yes (see e.g.,)** • Supports for composing a response in text eg: **N/A** • Practice with familiar equipment: **Yes (see e.g.,)** • Response mode options eg: **Yes (see e.g.,)** • Practice tutorials with unfamiliar physical materials or digital/electronic equipment eg: **Yes (see e.g.,)**	• Supports for manipulating physical materials eg: **Yes (see e.g.,)** • Supports for manipulating digital/electronic equipment eg: **Yes (see e.g.,)** • Supports for composing a response in text eg: **N/A** • Practice with familiar equipment: **Yes (see e.g.,)** • Response mode options eg: **Yes (see e.g.,)** • Practice tutorials with unfamiliar physical materials or digital/electronic equipment eg: **Yes (see e.g.,)**
Selected Variable Features: Language and Symbols	• Embedded support for vocabulary and symbols eg: **No** • Digital text with or without automatic text to speech:	• Embedded support for vocabulary and symbols eg: **Implemented** • Digital text with or without automatic text to speech:	• Embedded support for vocabulary and symbols eg: **Implemented** • Digital text with or without automatic text to speech:	• Embedded support for vocabulary and symbols eg: **No** • Digital text with or without automatic text to speech:

	Yes • Highlight essential elements, words, or phrases: **Yes** • All key information in the dominant language (e.g., English) is also available in prevalent first languages (e.g., Spanish) for second language learners: **Yes** • All key information available in sign language for students who are deaf: **Yes** • Digital Braille with or without automatic Braille to speech: **Yes** • Alternate syntactic levels (simplified text): **Implemented** • Level of abstraction required of student eg: **No** • New vs. pre-taught vocabulary and symbols: **Implemented assuming pre-taught** • Use of multiple representations eg: **Implemented** • Read language and symbols aloud: **Implemented**	**Yes** • Highlight essential elements, words, or phrases: **Yes** • All key information in the dominant language (e.g., English) is also available in prevalent first languages (e.g., Spanish) for second language learners: **Yes** • All key information available in sign language for students who are deaf: **Yes** • Digital Braille with or without automatic Braille to speech: **Yes** • Alternate syntactic levels (simplified text): **Implemented** • Level of abstraction required of student eg: **Implemented** • New vs. pre-taught vocabulary and symbols: **Implemented assuming pre-taught** • Use of multiple representations eg: **Implemented** • Read language and symbols aloud: **Implemented**	**Yes** • Highlight essential elements, words, or phrases: **Yes** • All key information in the dominant language (e.g., English) is also available in prevalent first languages (e.g., Spanish) for second language learners: **Yes** • All key information available in sign language for students who are deaf: **Yes** • Digital Braille with or without automatic Braille to speech: **Yes** • Alternate syntactic levels (simplified text): **Implemented** • Level of abstraction required of student eg: **Implemented** • New vs. pre-taught vocabulary and symbols: **Implemented assuming pre-taught** • Use of multiple representations eg: **Implemented** • Read language and symbols aloud: **Implemented**	**Yes** • Highlight essential elements, words, or phrases: **Yes** • All key information in the dominant language (e.g., English) is also available in prevalent first languages (e.g., Spanish) for second language learners: **Yes** • All key information available in sign language for students who are deaf: **Yes** • Digital Braille with or without automatic Braille to speech: **Yes** • Alternate syntactic levels (simplified text): **Implemented** • Level of abstraction required of student eg: **Implemented** • New vs. pre-taught vocabulary and symbols: **Implemented assuming pre-taught** • Use of multiple representations eg: **No** • Read language and symbols aloud: **Implemented**
Selected Variable Features: Cognitive	• Options for supporting critical features, big ideas, and relations: provide graphic organizers: **No** • Options for supporting critical features, big ideas, and relations: provide alternative forms of key concepts: **No** • Options for guiding exploration and information processing: familiar materials and their use eg: **Implemented** • Options for supporting background knowledge - provide analogies and examples: **No** • Options for supporting critical features, big ideas, and relations: provide a response template: **No** • Options for supporting background knowledge - pre-teach background content eg: **No** • Options for supporting background knowledge - provide concept maps: **No** • Options for guiding exploration and information processing: provide modeled prompts eg: **No** • Options for supporting background knowledge - provide hyperlinks to multi-media: **No** • Options for supporting background knowledge - provide links to familiar materials: **No** • Options for guiding exploration and information processing: provide a practice item or task: **No** • Options for supporting critical features, big ideas, and relations: provide modeled prompts: **No** • Options for supporting background knowledge - 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	memory and transfer: note-taking: **No** • Options for supporting background knowledge - remind student of materials or activities used to teach foundational reading/English language arts or mathematics skills: **Yes** • Options for supporting memory and transfer: present items as a discrete unit or embed in a scenario: **Discrete unit** • Options for supporting background knowledge - remind student of prior experiences: **Yes** • Options for supporting memory and transfer: locate items near relevant text: **No** • Options for supporting memory and transfer: reread question/stimulus: **Yes** • Options for supporting memory and transfer: mnemonic aids: **No**	memory and transfer: note-taking: **No** • Options for supporting background knowledge - remind student of materials or activities used to teach foundational reading/English language arts or mathematics skills: **Yes** • Options for supporting memory and transfer: present items as a discrete unit or embed in a scenario: **Discrete unit** • Options for supporting background knowledge - remind student of prior experiences: **Yes** • Options for supporting memory and transfer: locate items near relevant text: **No** • Options for supporting memory and transfer: reread question/stimulus: **Yes** • Options for supporting memory and transfer: mnemonic aids: **No**	memory and transfer: note-taking: **No** • Options for supporting background knowledge - remind student of materials or activities used to teach foundational reading/English language arts or mathematics skills: **Yes** • Options for supporting memory and transfer: present items as a discrete unit or embed in a scenario: **Discrete unit** • Options for supporting background knowledge - remind student of prior experiences: **Yes** • Options for supporting memory and transfer: locate items near relevant text: **No** • Options for supporting memory and transfer: reread question/stimulus: **Yes** • Options for supporting memory and transfer: mnemonic aids: **No**	memory and transfer: note-taking: **No** • Options for supporting background knowledge - remind student of materials or activities used to teach foundational reading/English language arts or mathematics skills: **Yes** • Options for supporting memory and transfer: present items as a discrete unit or embed in a scenario: **Discrete unit** • Options for supporting background knowledge - remind student of prior experiences: **Yes** • Options for supporting memory and transfer: locate items near relevant text: **No** • Options for supporting memory and transfer: reread question/stimulus: **Yes** • Options for supporting memory and transfer: mnemonic aids: **No**
Selected Variable Features: Executive	• Representations of progress eg: **No** • Prompts, scaffolds, and questions to monitor progress, to "stop and think", and for categorizing and systematizing: **No** • Prompts and scaffolds to estimate effort, resources, and difficulty: **No** • Guides, checklists, graphic organizers, and/or templates for goal setting, prioritizing, breaking long-term objectives into reachable short-term goals, self-reflection, and self-assessment: **No** • Adjust levels of challenge and support eg: **Implemented**	• Representations of progress eg: **No** • Prompts, scaffolds, and questions to monitor progress, to "stop and think", and for categorizing and systematizing: **No** • Prompts and scaffolds to estimate effort, resources, and difficulty: **No** • Guides, checklists, graphic organizers, and/or templates for goal setting, prioritizing, breaking long-term objectives into reachable short-term goals, self-reflection, and self-assessment: **No** • Adjust levels of challenge and support eg: **Implemented**	• Representations of progress eg: **No** • Prompts, scaffolds, and questions to monitor progress, to "stop and think", and for categorizing and systematizing: **No** • Prompts and scaffolds to estimate effort, resources, and difficulty: **No** • Guides, checklists, graphic organizers, and/or templates for goal setting, prioritizing, breaking long-term objectives into reachable short-term goals, self-reflection, and self-assessment: **No** • Adjust levels of challenge and support eg: **Implemented**	• Representations of progress eg: **No** • Prompts, scaffolds, and questions to monitor progress, to "stop and think", and for categorizing and systematizing: **No** • Prompts and scaffolds to estimate effort, resources, and difficulty: **No** • Guides, checklists, graphic organizers, and/or templates for goal setting, prioritizing, breaking long-term objectives into reachable short-term goals, self-reflection, and self-assessment: **No** • Adjust levels of challenge and support eg: **Implemented**
Selected Variable Features: Affective	• Task options for engagement: variety of stimuli: **No** • Task options for engagement: item/task format eg: **No** • Task options for engagement: heighten salience: **No** • Task options for engagement: enhance relevance, value, and authenticity of tasks eg: **No** • Teacher options for providing supports for attention and engagement: provide varied levels of challenge and support: **No** • Teacher options for providing supports for attention and engagement: provide supports to reduce student frustration eg: **Yes** • Teacher options for providing supports for attention and engagement: provide optimal student positioning (positions which encourage alertness, not recumbent): **Yes** • Teacher options for providing supports for attention and engagement: provide feedback to support engagement: **Yes** • Teacher options for	• Task options for engagement: variety of stimuli: **No** • Task options for engagement: item/task format eg: **No** • Task options for engagement: heighten salience: **No** • Task options for engagement: enhance relevance, value, and authenticity of tasks eg: **No** • Teacher options for providing supports for attention and engagement: provide varied levels of challenge and support: **No** • Teacher options for providing supports for attention and engagement: provide supports to reduce student frustration eg: **Yes** • Teacher options for providing supports for attention and engagement: provide optimal student positioning (positions which encourage alertness, not recumbent): **Yes** • Teacher options for providing supports for attention and engagement: provide feedback to support engagement: **Yes** • Teacher options for	• Task options for engagement: variety of stimuli: **No** • Task options for engagement: item/task format eg: **No** • Task options for engagement: heighten salience: **No** • Task options for engagement: enhance relevance, value, and authenticity of tasks eg: **Implemented** • Teacher options for providing supports for attention and engagement: provide varied levels of challenge and support: **No** • Teacher options for providing supports for attention and engagement: provide supports to reduce student frustration eg: **Yes** • Teacher options for providing supports for attention and engagement: provide optimal student positioning (positions which encourage alertness, not recumbent): **Yes** • Teacher options for providing supports for attention and engagement: provide feedback to support engagement: **Yes**	• Task options for engagement: variety of stimuli: **No** • Task options for engagement: item/task format eg: **No** • Task options for engagement: heighten salience: **No** • Task options for engagement: enhance relevance, value, and authenticity of tasks eg: **Implemented** • Teacher options for providing supports for attention and engagement: provide varied levels of challenge and support: **No** • Teacher options for providing supports for attention and engagement: provide supports to reduce student frustration eg: **Yes** • Teacher options for providing supports for attention and engagement: provide optimal student positioning (positions which encourage alertness, not recumbent): **Yes** • Teacher options for providing supports for attention and engagement: provide feedback to support engagement: **Yes**

	providing supports for attention and engagement: prompt student to engage/re-engage: **Yes** • Teacher options for providing supports for attention and engagement: cover up part of text so student isn't overwhelmed: **Yes** • Task options for engagement: vary amount of context supporting tasks eg: **No** • Teacher options for providing supports for attention and engagement: administer assessment at optimal time of day for student engagement: **Yes** • Teacher options for providing supports for attention and engagement: provide verbal/gestural prompts: **Implemented**	providing supports for attention and engagement: prompt student to engage/re-engage: **Yes** • Teacher options for providing supports for attention and engagement: cover up part of text so student isn't overwhelmed: **Yes** • Task options for engagement: vary amount of context supporting tasks eg: **No** • Teacher options for providing supports for attention and engagement: administer assessment at optimal time of day for student engagement: **Yes** • Teacher options for providing supports for attention and engagement: provide verbal/gestural prompts: **Implemented**	• Teacher options for providing supports for attention and engagement: prompt student to engage/re-engage: **Yes** • Teacher options for providing supports for attention and engagement: cover up part of text so student isn't overwhelmed: **Yes** • Task options for engagement: vary amount of context supporting tasks eg: **Implemented** • Teacher options for providing supports for attention and engagement: administer assessment at optimal time of day for student engagement: **Yes** • Teacher options for providing supports for attention and engagement: provide verbal/gestural prompts: **Implemented**	• Teacher options for providing supports for attention and engagement: prompt student to engage/re-engage: **Yes** • Teacher options for providing supports for attention and engagement: cover up part of text so student isn't overwhelmed: **No** • Task options for engagement: vary amount of context supporting tasks eg: **Implemented** • Teacher options for providing supports for attention and engagement: administer assessment at optimal time of day for student engagement: **Yes** • Teacher options for providing supports for attention and engagement: provide verbal/gestural prompts: **Implemented**
Item Complexity Notes	IC1. Claims assigned: Conceptual Claims met: Conceptual Alignment to FKSA: Full Type of response: selected Number of response options: 3 per part Number of parts: 3 (Part 1, same denominator; Part 2, same numerator; Part 3, mixed) Demonstration/Example: No Segmented presentation: No Multiple representations: Yes Definitions/Reminders: Reminder Real world context: No Denominators: halves, thirds, fourths, sixths, and eighths Scaffolding: No	IC1. Claims assigned: Conceptual Claims met: Conceptual Alignment to FKSA: Full Type of response: selected Number of response options: 3 per part Number of parts: 3 (Part 1, same denominator; Part 2, same numerator; Part 3, mixed) Demonstration/Example: Both Segmented presentation: no Multiple representations: Yes Definitions/Reminders: Both Real world context: No Denominators: halves, thirds, fourths, and sixths Scaffolding: Yes	IC1. Claims assigned: Conceptual Claims met: Conceptual Alignment to FKSA: Full Type of response: selected Number of response options: 3 per part Number of parts: 1 Demonstration/Example: Example Segmented presentation: no Multiple representations: Yes Definitions/Reminders: None Real world context: Yes Denominators: halves and fourths Scaffolding: Yes	IC1. Claims assigned: Conceptual Claims met Alignment to FKSA: Partial Alignment Type of response: selected Number of response options: 2 Number of parts: 1 Demonstration/Example: No Segmented presentation: no Multiple representations: Definitions/Remind: None Denominators: Half and a whole Scaffolding: No
Item Directive	ID1. Part 1 Teacher/administrator presents student with a handout (Stimulus Materials 1, 2, and 3) and says, "Here are three rectangles. Each rectangle is divided into equal parts. Each rectangle shows a fraction." Teacher/administrator presents student with a note card (Stimulus Material 4) and says "select the rectangle that shows two-eighths." Part 2 Teacher/administrator presents student with a handout (Stimulus Materials 5, 6, and 7) and says, "Here are three more rectangles. Each rectangle is divided into equal parts. Each rectangle shows a fraction." Teacher/administrator presents student with a note card (Stimulus Material 8) and says "select the rectangle that shows one-sixth."	ID1. Teacher/administrator presents student with a handout (Stimulus Material 1) and says, "Fractions can be shown in different ways. The fraction two thirds can be shown with numbers and symbols <Teacher/administrator points to the symbolic representation of two-thirds>. Two thirds can also be shown as a diagram <Teacher/Administrator points to the diagram of two-thirds>. Teacher/administrator presents students with another handout (Stimulus Material 2), points to the fraction 1/3 and says, "We want to find the diagram that matches this fraction. This is one third." Teacher/administrator presents handouts with rectangles (Stimulus Materials 3, 4, and 5) and says, "Here are three rectangles. Each rectangle is divided into equal parts. Each	ID1. Teacher/administrator presents student with a handout (Stimulus Material 1) and says, "Here is a pizza. There are four equal pieces <teacher/administrator points to and counts each piece>. One of the pieces has pepperoni <teacher/administrator points to and counts the piece>. We can show the amount of pizza with pepperoni using a fraction. The fraction is one-fourth <teacher/administrator points to the fraction>. It is one-fourth because there are four equal pieces of pizza <teacher/administrator points to the denominator> and one of the pieces has pepperoni <teacher/administrator points the numerator>." <Teacher/administrator removes the example>. Teacher/administrator presents student with a handout (Stimulus Material 2) and says,	ID1. Teacher/administrator presents student with three note cards(Stimulus Materials 1-3) and says, "This is the fraction one-half <points to the fraction>. Here are two pictures of pizza. [Show me/look at/point to] the picture that shows one-half of a pizza."

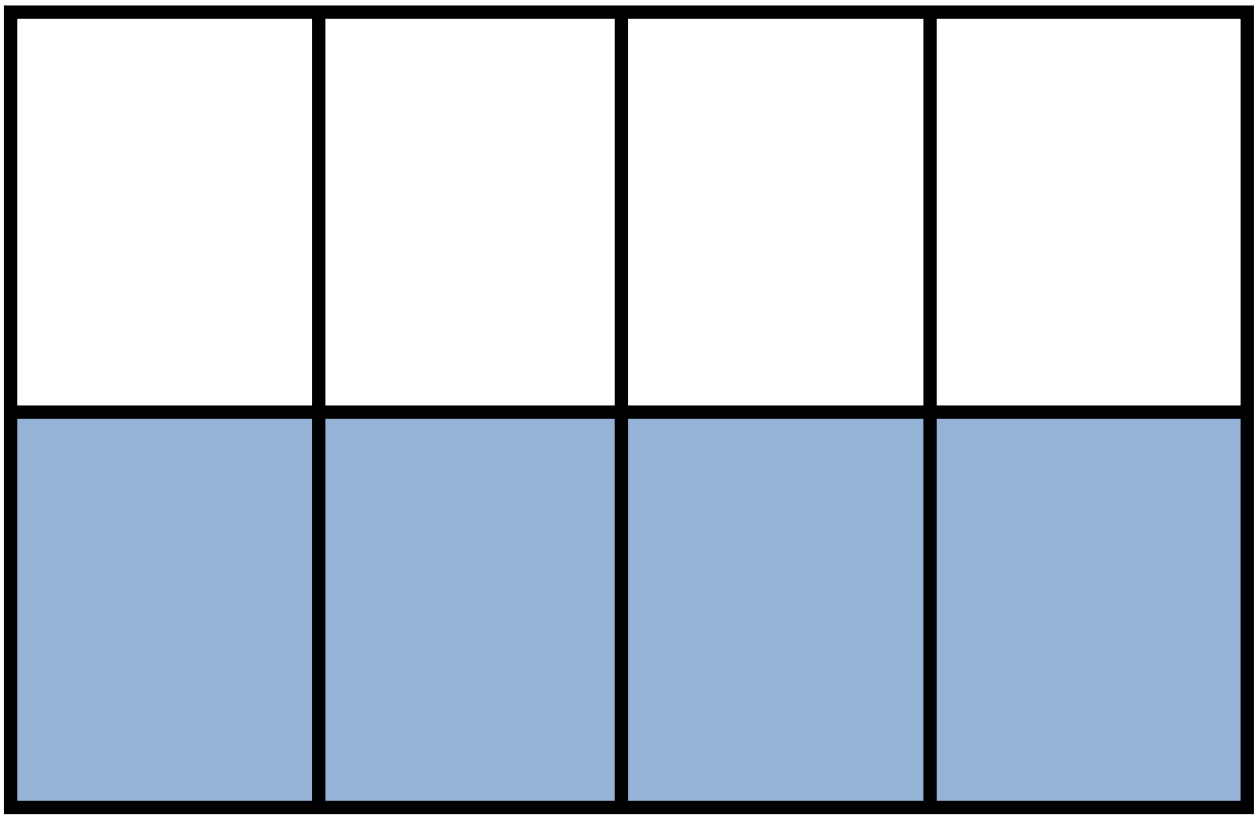
	Part 3 Teacher/administrator presents student with a handout (Stimulus Materials 9, 10, and 11) and says, "Here are three more rectangles. Each rectangle is divided into equal parts. Each rectangle shows a fraction." Teacher/administrator presents student with a note card (Stimulus Material 12) and says "select the rectangle that shows four sixths."	rectangle shows a different fraction." Teacher/administrator points to the first rectangle (Stimulus Material 3)and says, "This shows two thirds because it has three equal parts and two parts are colored in. This does not match the fraction one third." Teacher/administrator points to the second rectangle (Stimulus Material 4) and says, "This shows one half because it has two equal parts and one part is colored in. This does not match the fraction one third." Teacher/administrator points to the third rectangle (Stimulus Material 5) and says, "This shows one third because it has three equal parts and one part is colored in. This one does match the fraction one third. Now you will do one." <Teacher/administrator removes the example materials>. Part 1 Teacher/administrator presents student a note card with the fraction two-fourths (Stimulus Material 6) and says, "The first fraction is two-fourths." Teacher/administrator presents student with three note cards (Stimulus Materials 7, 8, and 9) and says, "Here are three more rectangles. Each rectangle is divided into equal parts. Choose the rectangle that shows the fraction two-fourths." <Teacher/Administrator removes Stimulus Materials 6-9> Part 2 Teacher/administrator presents student a note card with the fraction one-fourth (Stimulus Material 10) and says, "The next fraction is one-fourth." Teacher/administrator presents student with three note cards (Stimulus Material 11, 12, and 13) and says, "Here are three more rectangles. Each rectangle is divided into equal parts. Choose the rectangle that shows the fraction one-fourth." <Teacher/Administrator removes Stimulus Material 10-13>	"Here is another fraction. The fraction is three-fourths <teacher points to the fraction>. Here are three pizzas. Each pizza is divided into four equal parts. Pick the pizza that has pepperoni on three-fourths of the pizza."	

		Part 3 Teacher/administrator presents student a note card with the fraction three-fourths (Stimulus Material 14) and says, "The last fraction is three-fourths." Teacher/administrator presents student with three note cards (Stimulus Material 15, 16, and 17) and says, "Here are three more rectangles. Each rectangle is divided into equal parts. Choose the rectangle that shows the fraction three-fourths."		
Correct Answer	CA1. Part 1: The rectangle representing two-eighths Part 2: The rectangle representing one-sixth Part 3: The rectangle representing four-sixths	CA1. Part 1: The rectangle representing two-fourths Part 2: The rectangle representing one-fourth Part 3: The rectangle representing three-fourths	CA1. Stimulus Material 4: handout showing a pizza with pepperoni on 3/4 of the pizza	CA1. Stimulus Material 2: Picture of 1/2 pizza
Materials for Examiner	Mf1.			
Description of Stimulus Materials	Do1. Stimulus Material 1: handout with a diagram of the fractional model representing four-eighths Stimulus Material 2: handout with a diagram of the fractional model representing seven-eighths Stimulus Material 3: handout with a diagram of the fractional model representing two-eighths Stimulus Material 4: handout with the fraction 2/8 in large font Stimulus Material 5: handout with a diagram of the fractional model representing one-fourth Stimulus Material 6: handout with a diagram of the fractional model representing one-sixth Stimulus Material 7: handout with a diagram of the fractional model representing one-eighth Stimulus Material 8: handout with the fraction 1/6 in large font Stimulus Material 9: handout with a diagram of the fractional model representing four-eighths	Do1. Stimulus Material 1: handout with the symbolic representation and the fractional model for 2/3 Stimulus Material 2: note cardwith the symbolic representation for 1/3 Stimulus Materials 3-5: note card with the fractional models for: SM3: 2/3 SM4: 1/2 SM5: 1/3 Stimulus Material 6: note cardwith the symbolic representation for 2/4 Stimulus Materials 7-9: note card with the fractional models for: SM7: 1/4 SM8: 3/4 SM9: 2/4 Stimulus Material 10: note cardwith the symbolic representation for 1/4 Stimulus Materials 11-13: note card with the fractional models for: SM11: 1/4 SM12: 1/2 SM13: 1/6 Stimulus Material 14: note cardwith the symbolic representation for 3/4 Stimulus Materials 15-17: note card with the fractional models for: SM15: 2/4 SM16: 3/4 SM17: 4/6	Do1. Stimulus Material 1: handout with a picture of a pizza cut into fourths with one piece having pepperoni and the fraction 1/4 below it Stimulus Material 2: handout with the fraction 3/4 Stimulus Materials 3, 4, and 5: handouts showing pizzas with the following fractions of the pizzas with pepperoni: SM3: 2/4 SM4: 3/4 SM5: 4/4	Do1. Stimulus Material 1: Note card with the fraction 1/2 Stimulus Material 2: Note card with a picture of a half pizza and Stimulus Material 3: Note cards with a picture of a whole pizza

	Stimulus Material 10: handout with a diagram of the fractional model representing four-sixths Stimulus Material 11: handout with a diagram of the fractional model representing three-sixths Stimulus Material 12: handout with the fraction 4/6 in large font			
Notes				

Tags [Add Tag]

(No tags entered.)



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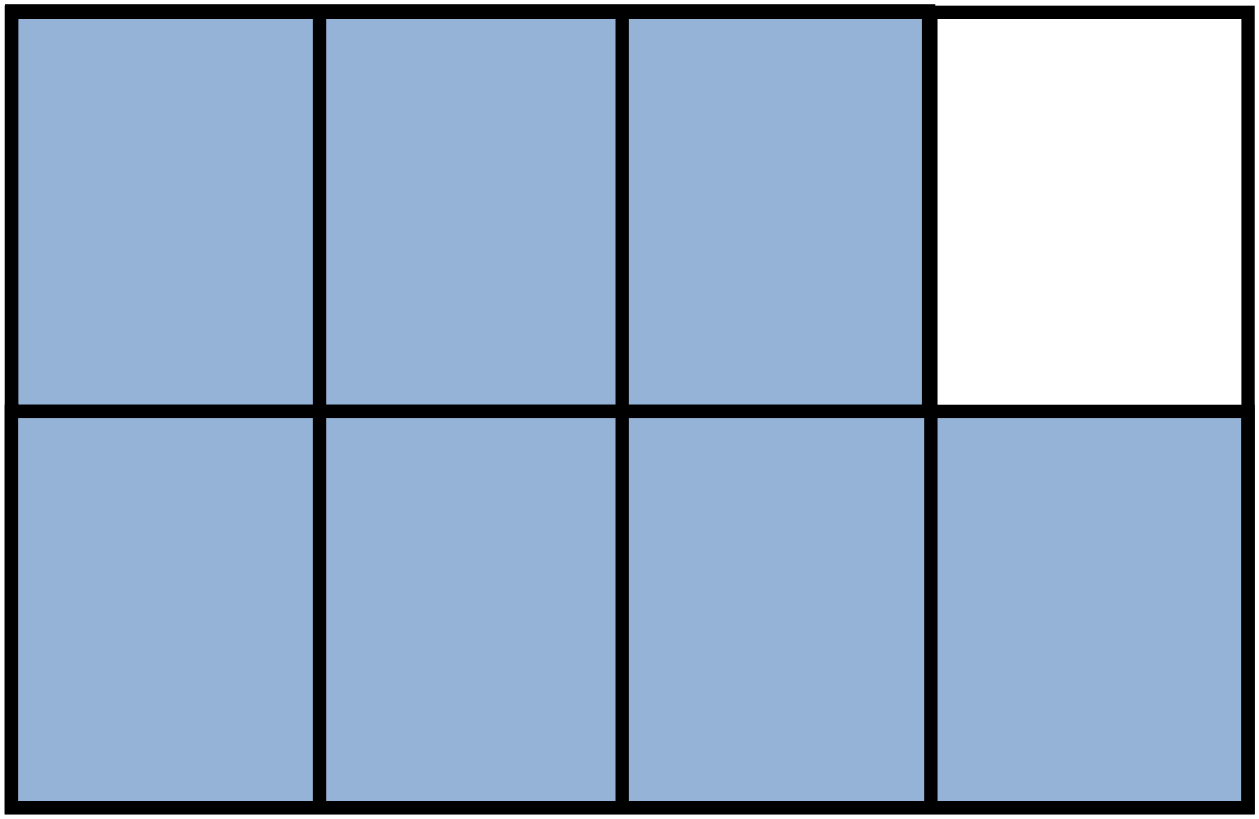

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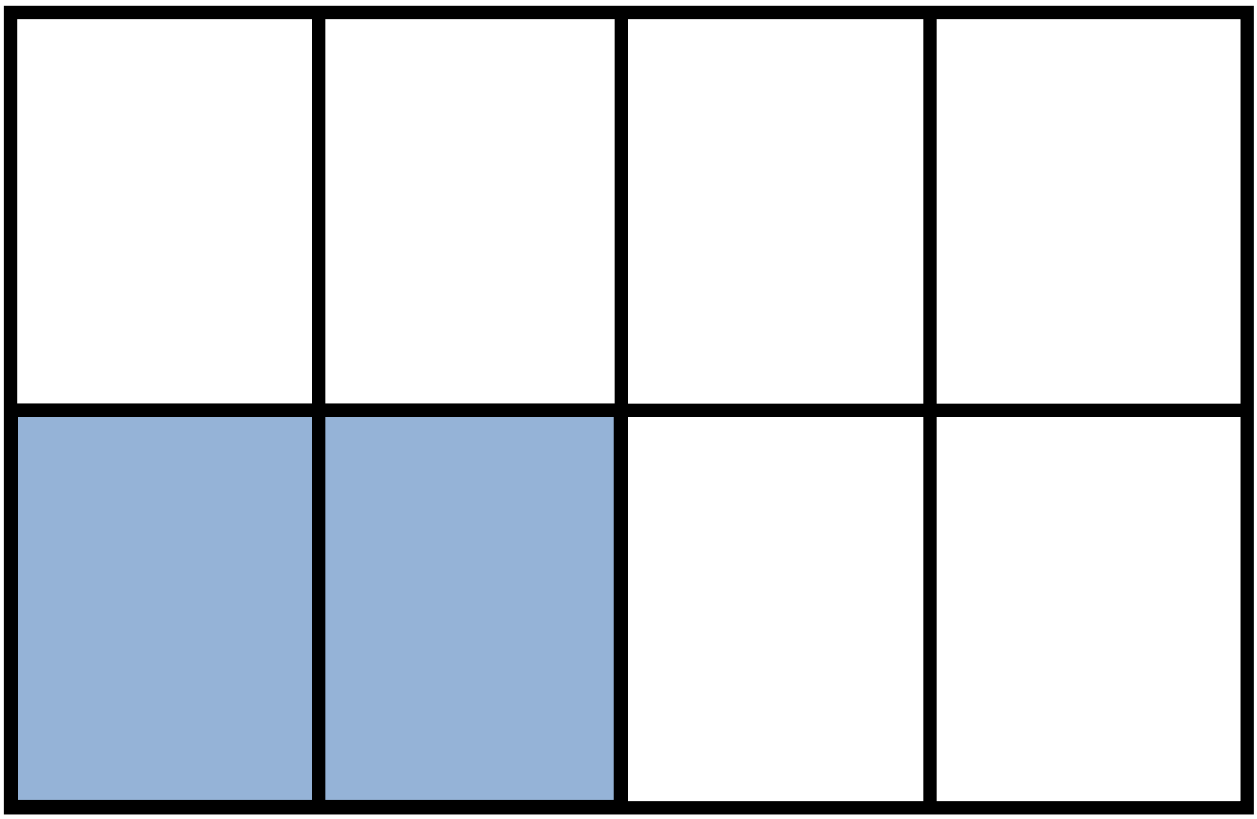

4.NO.1n1 Item 4 Stimulus Material 3

$$\frac{2}{8}$$

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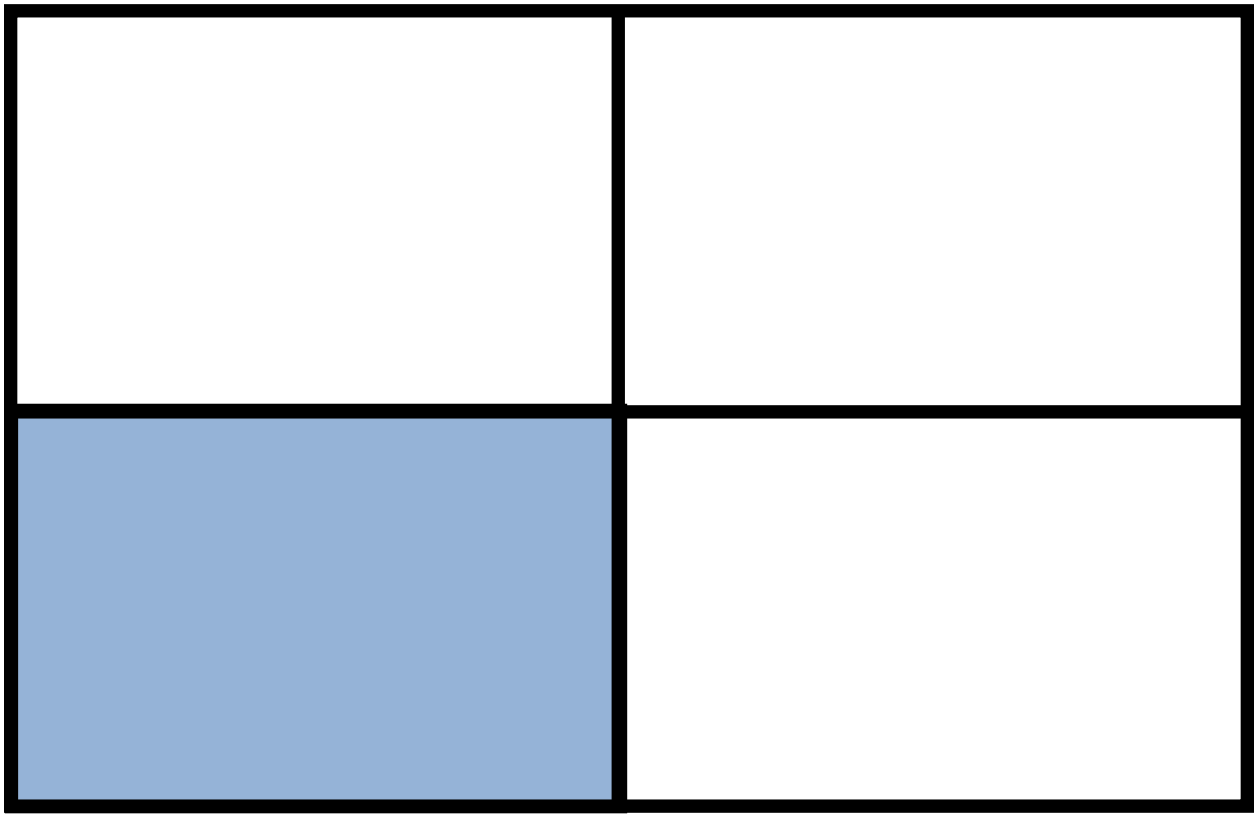

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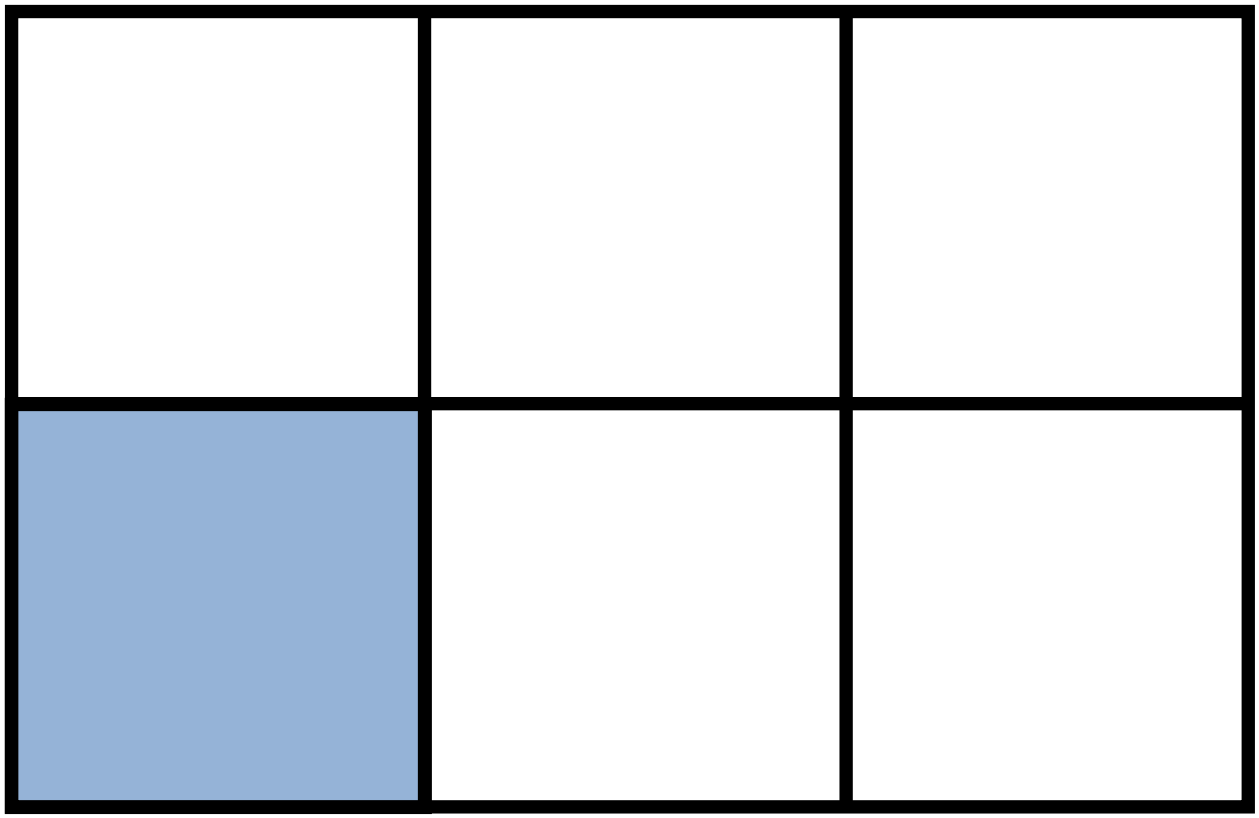

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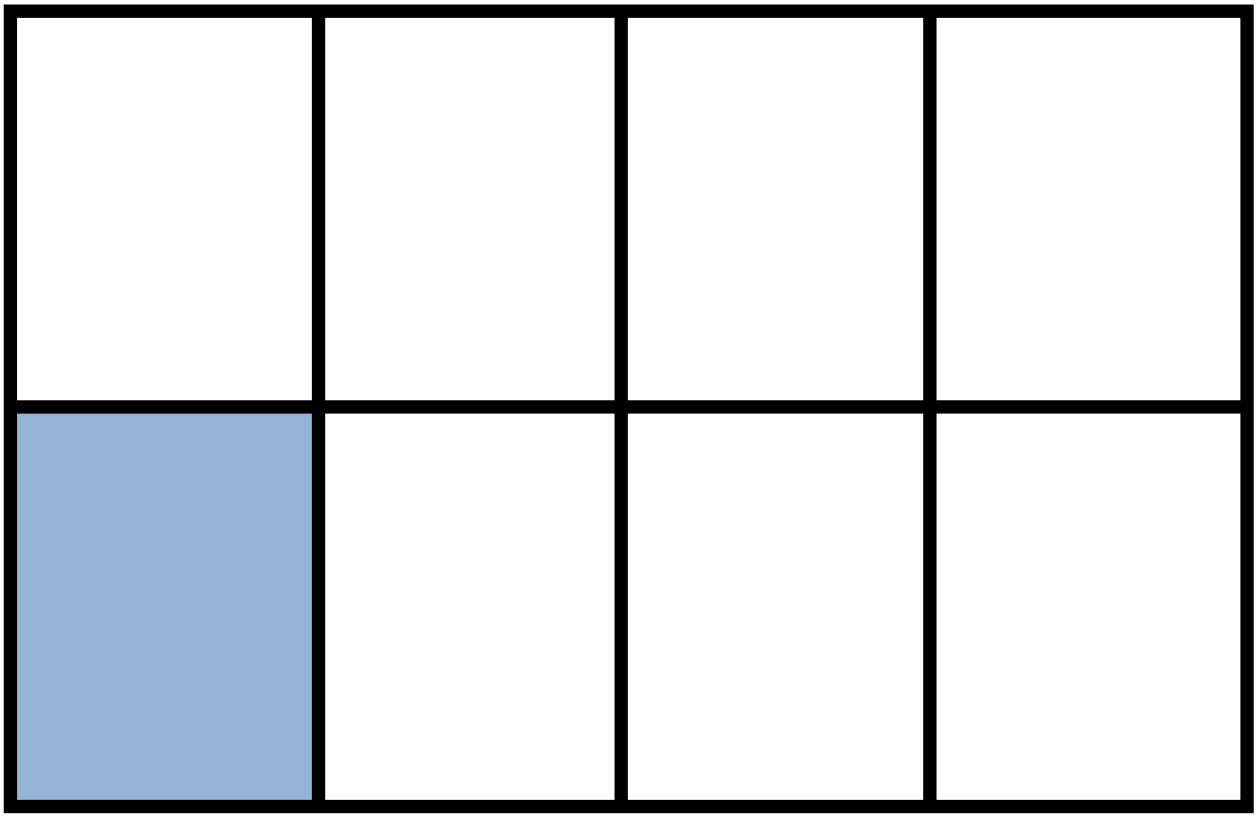

4.NO.1n1 Item 4 Stimulus Material 7

$$\frac{1}{6}$$

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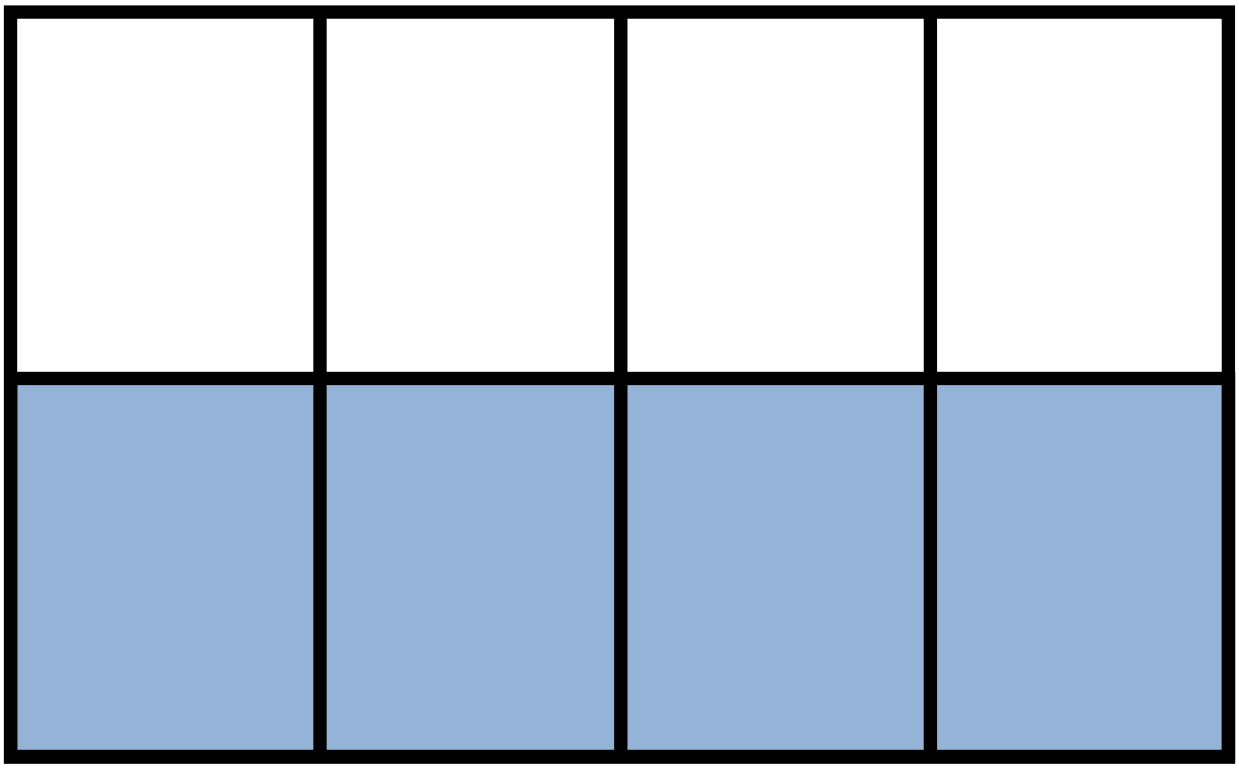

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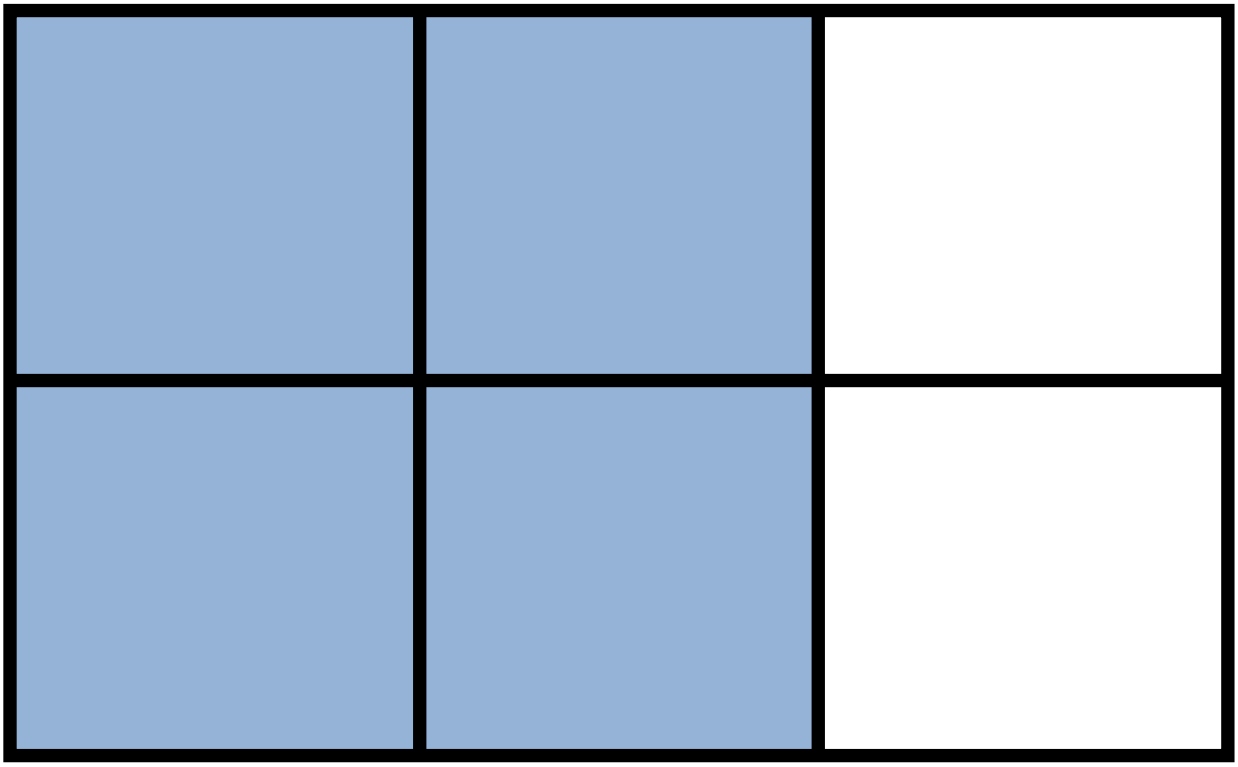

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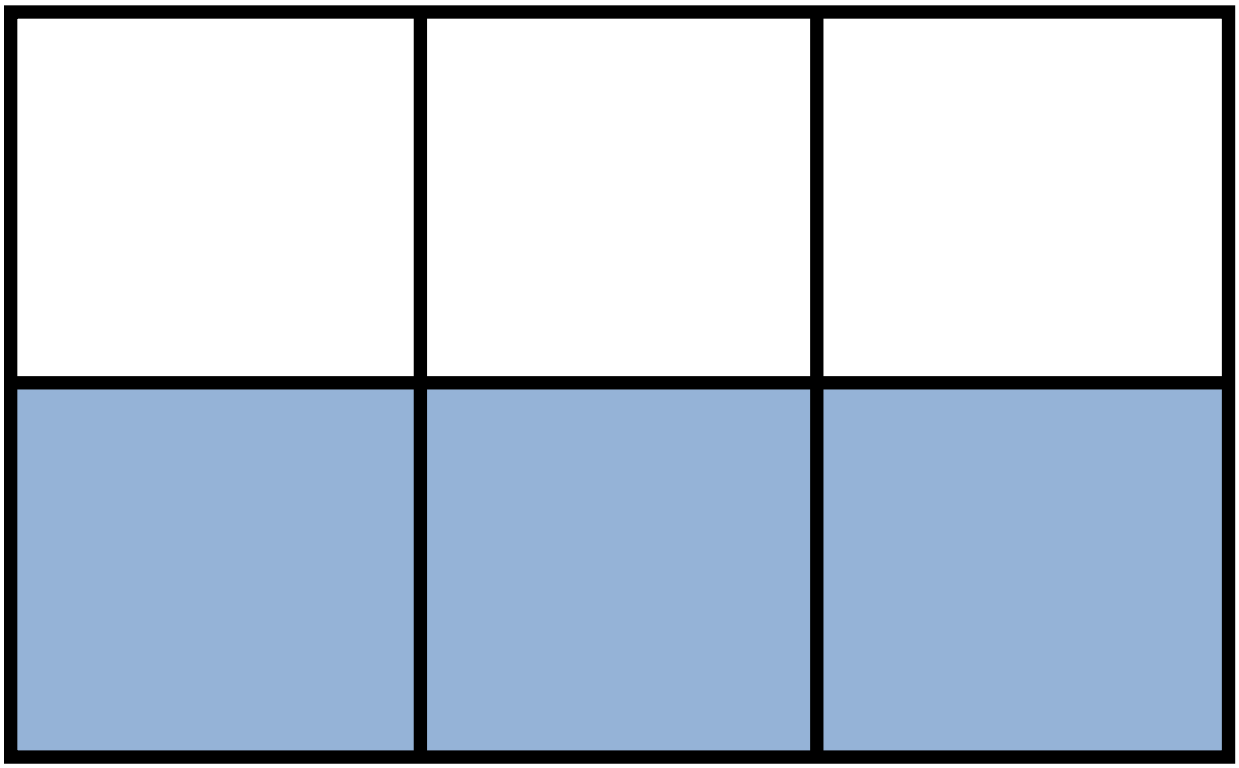
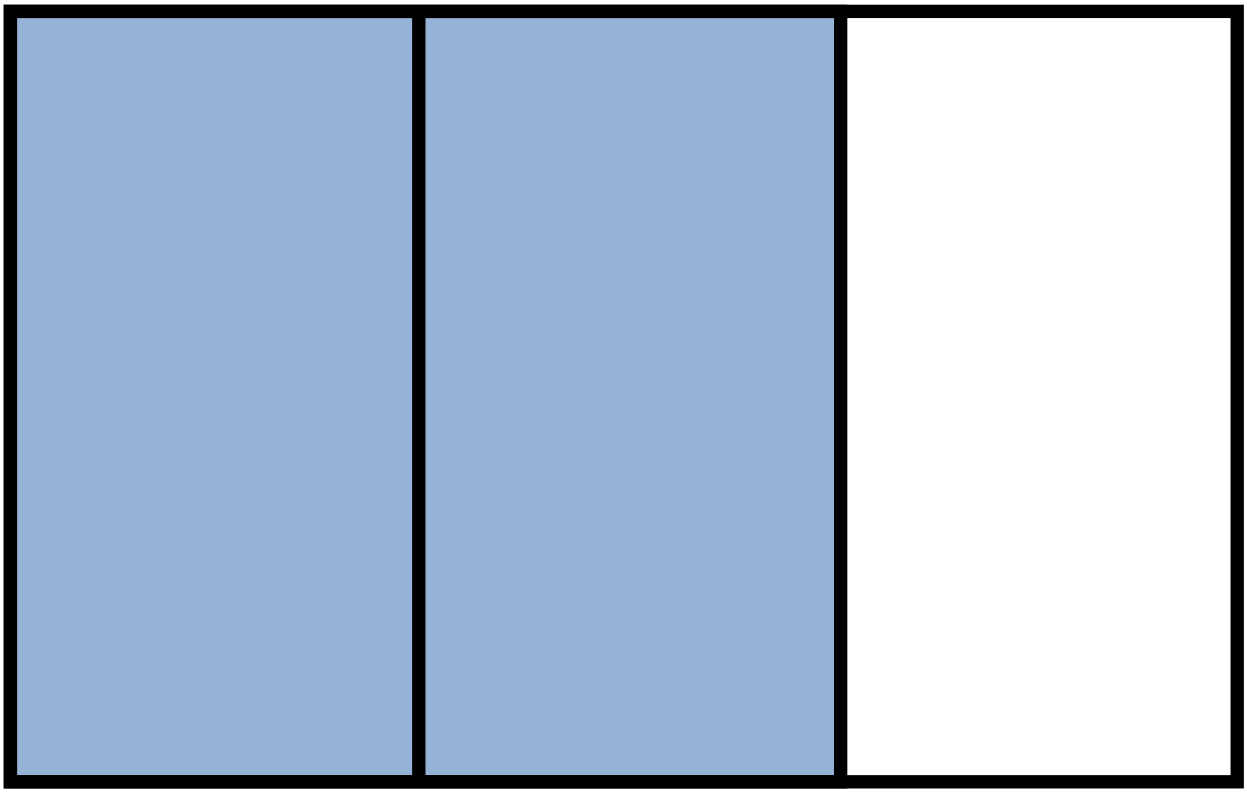


4.NO.1n1 Item 4 Stimulus Material 11

$$\frac{4}{6}$$

4.NO.1n1 Item 4 Stimulus Material 12

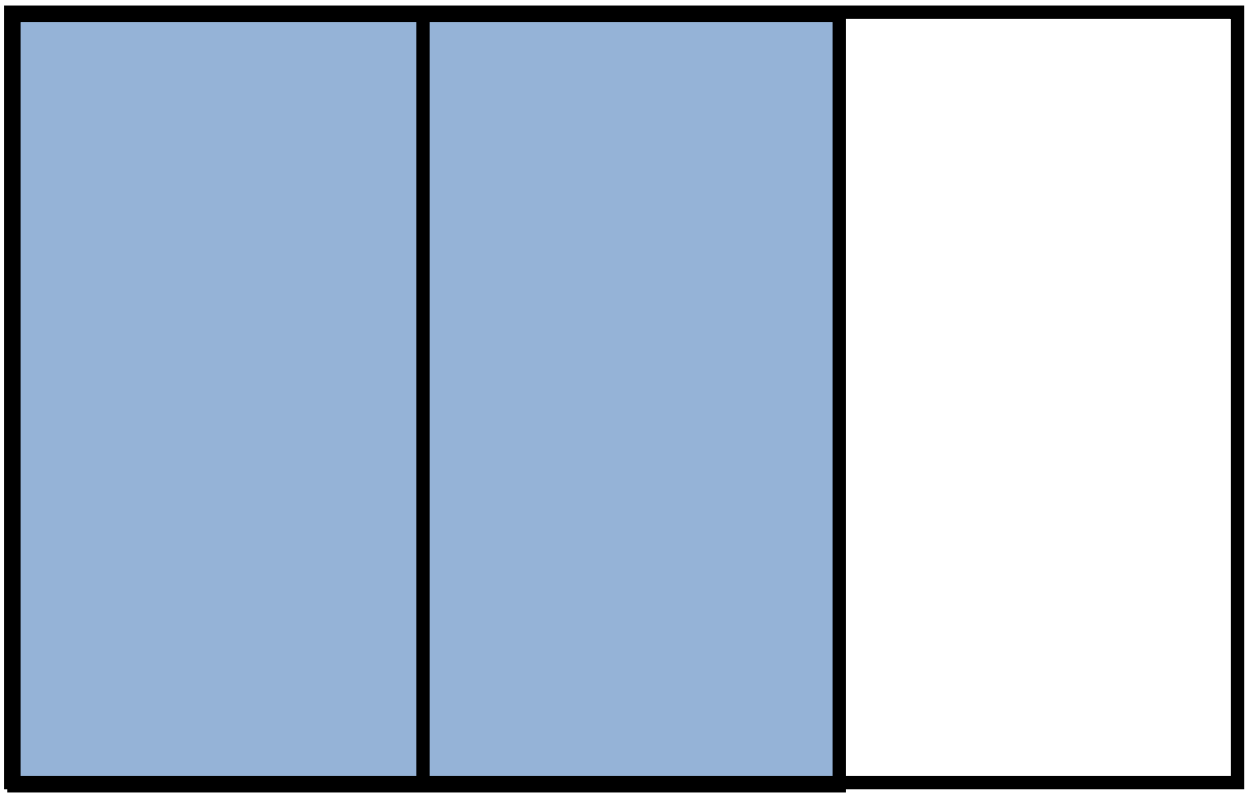
$$\frac{2}{3}$$



4.NO.1n1 Item 3 Stimulus Material 1

$$\frac{1}{3}$$

4.NO.1n1 Item 3 Stimulus Material 2



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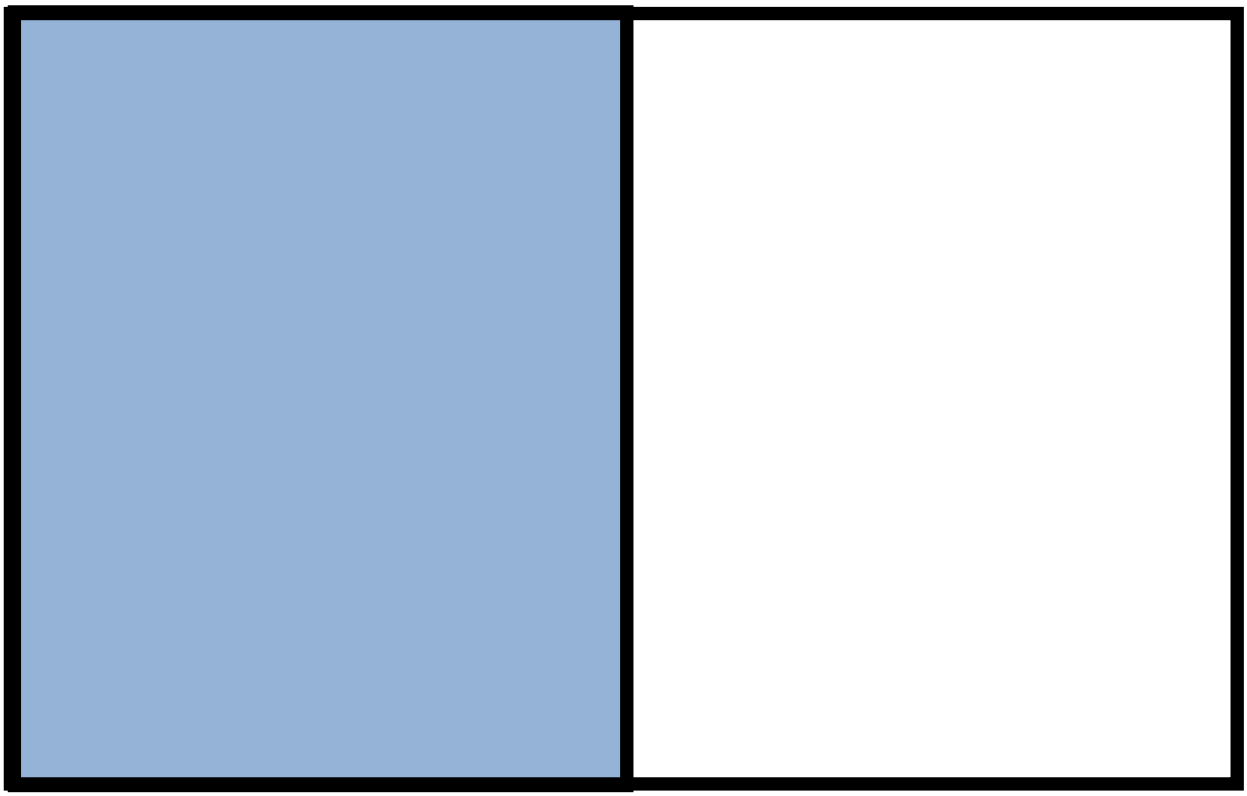

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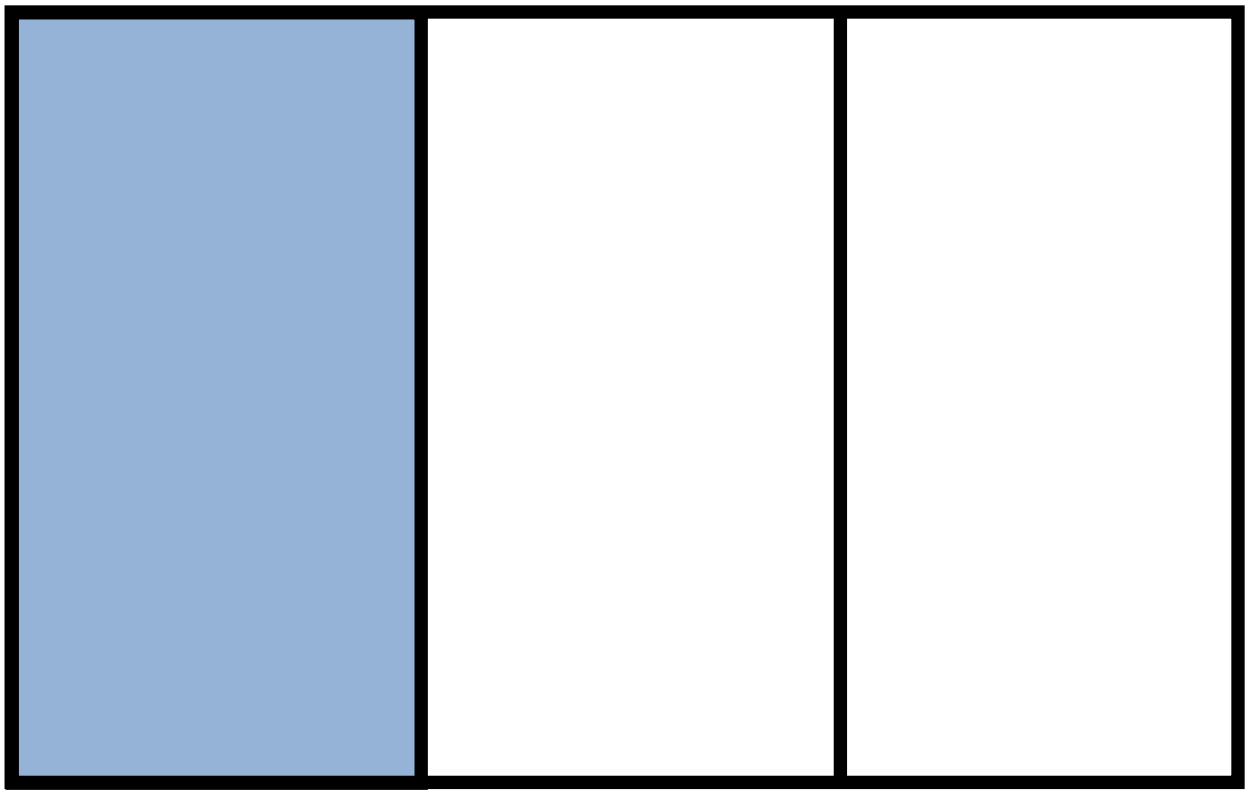

4.NO.1n1 Item 3 Stimulus Material 5

$$\frac{2}{4}$$

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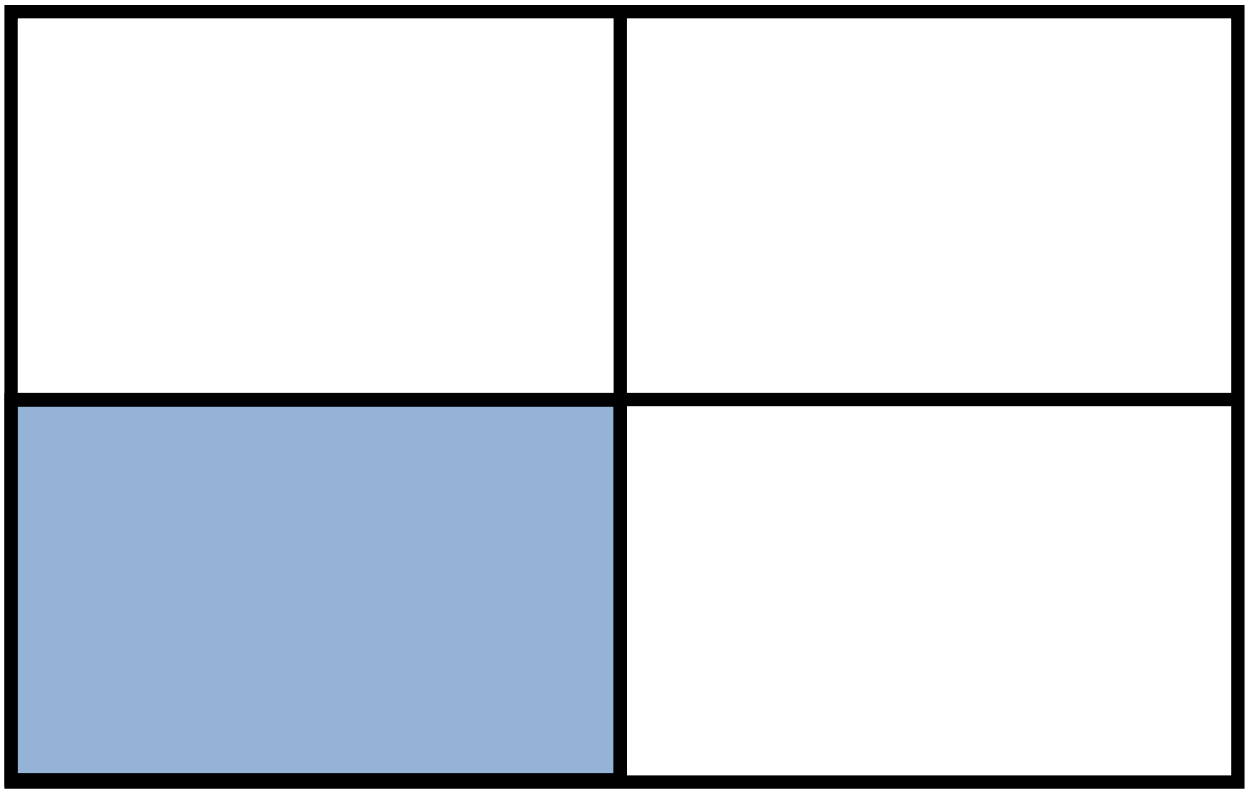

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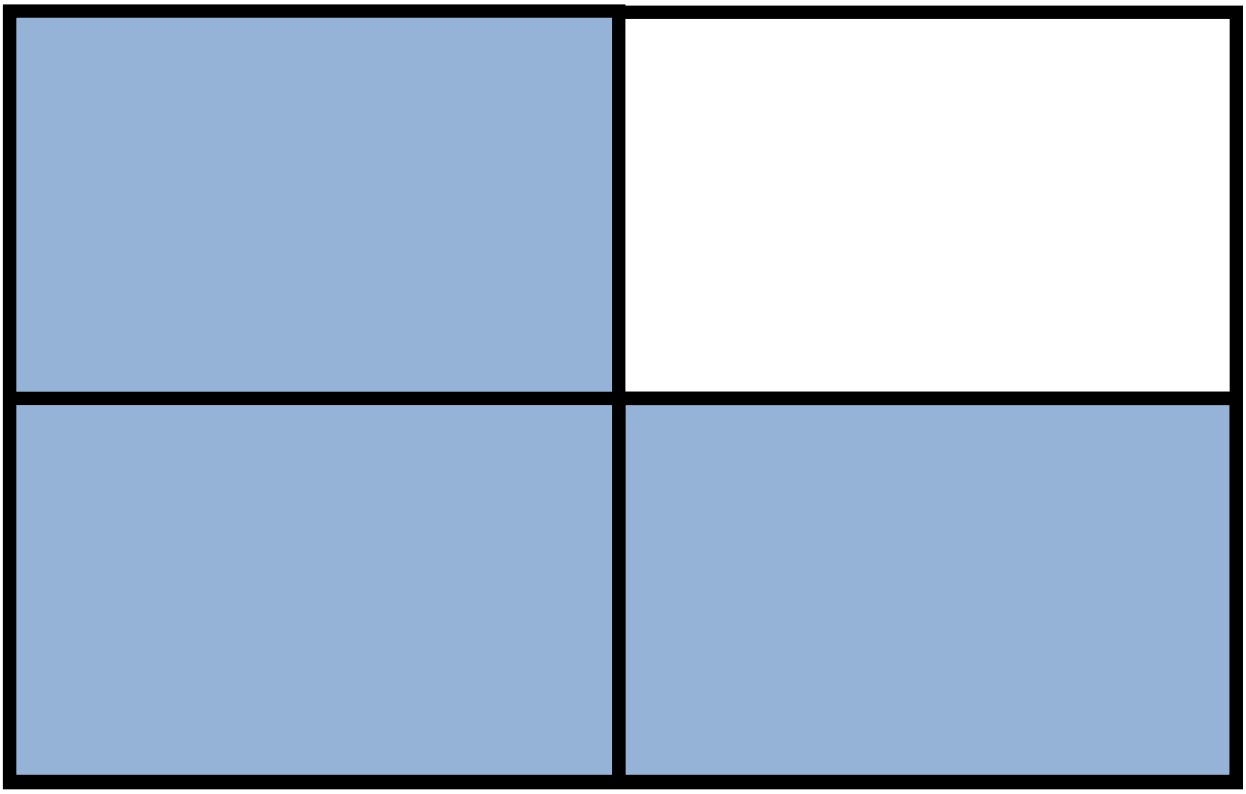

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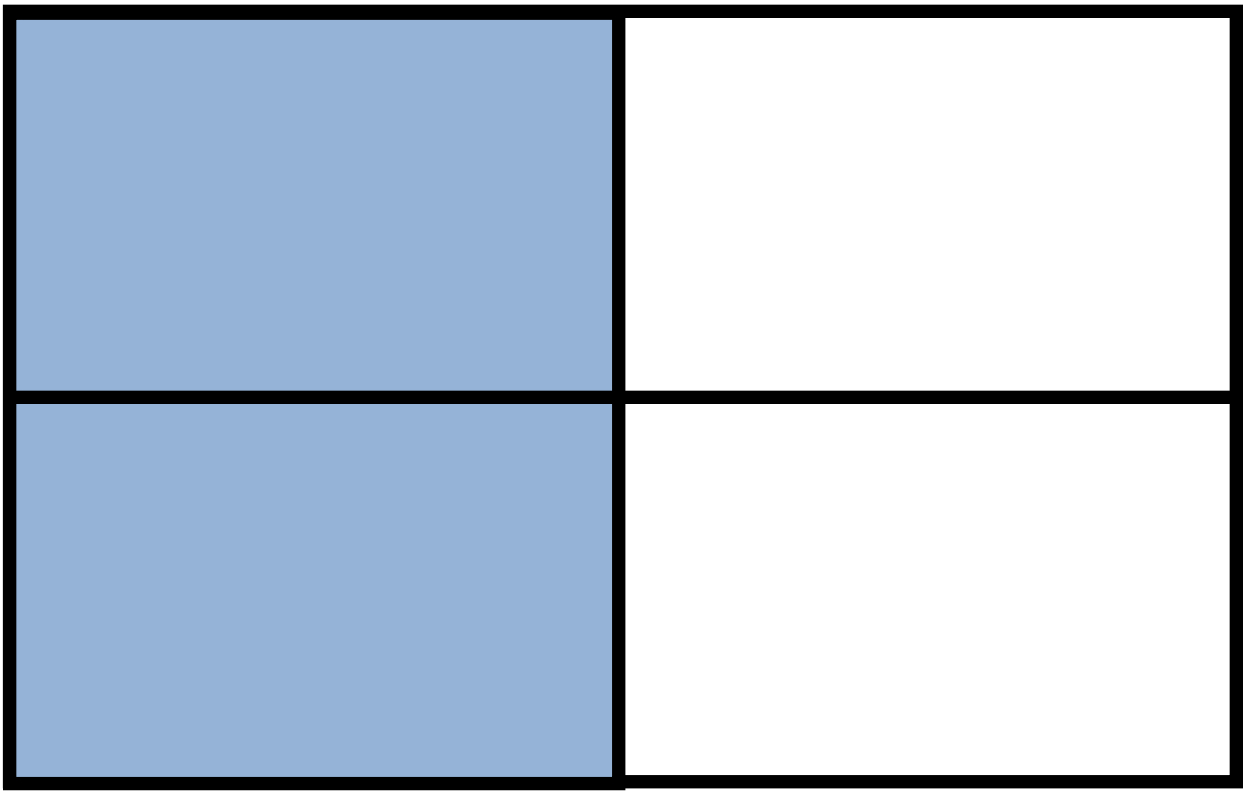

4.NO.1n1 Item 3 Stimulus Material 9

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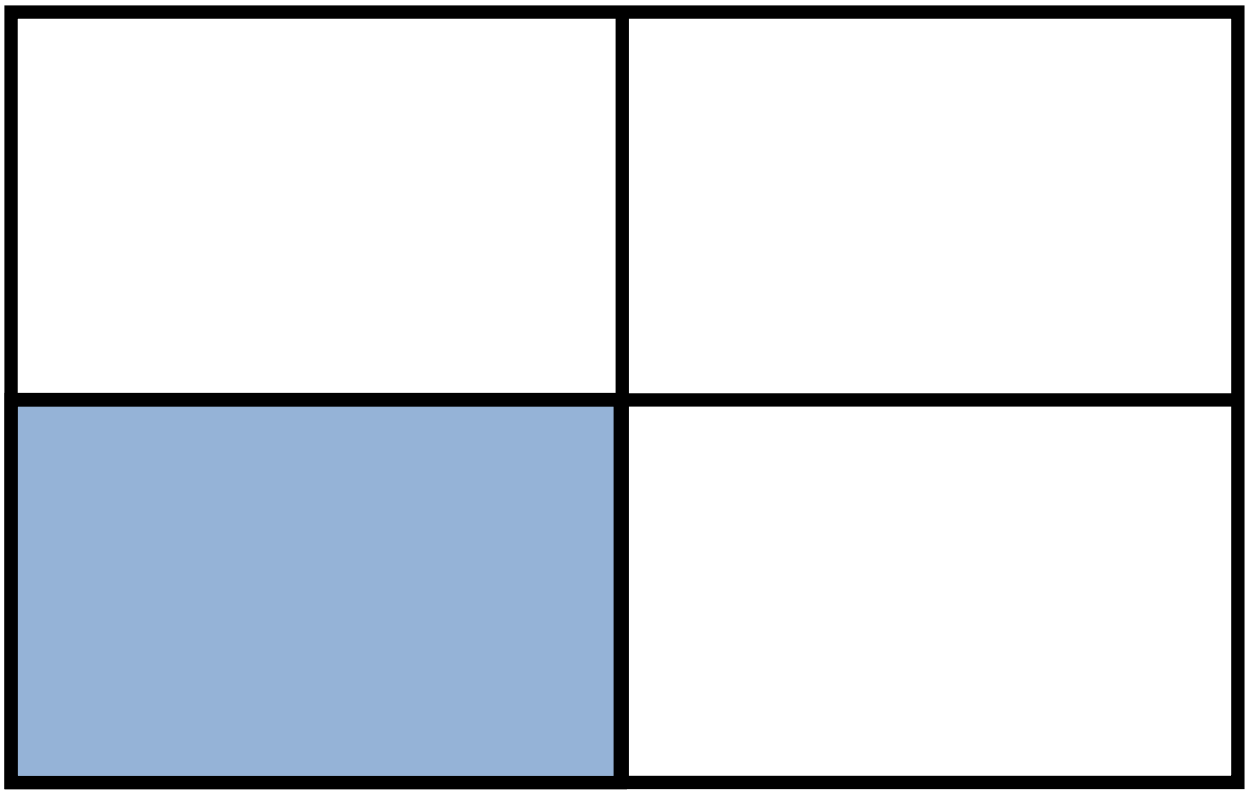

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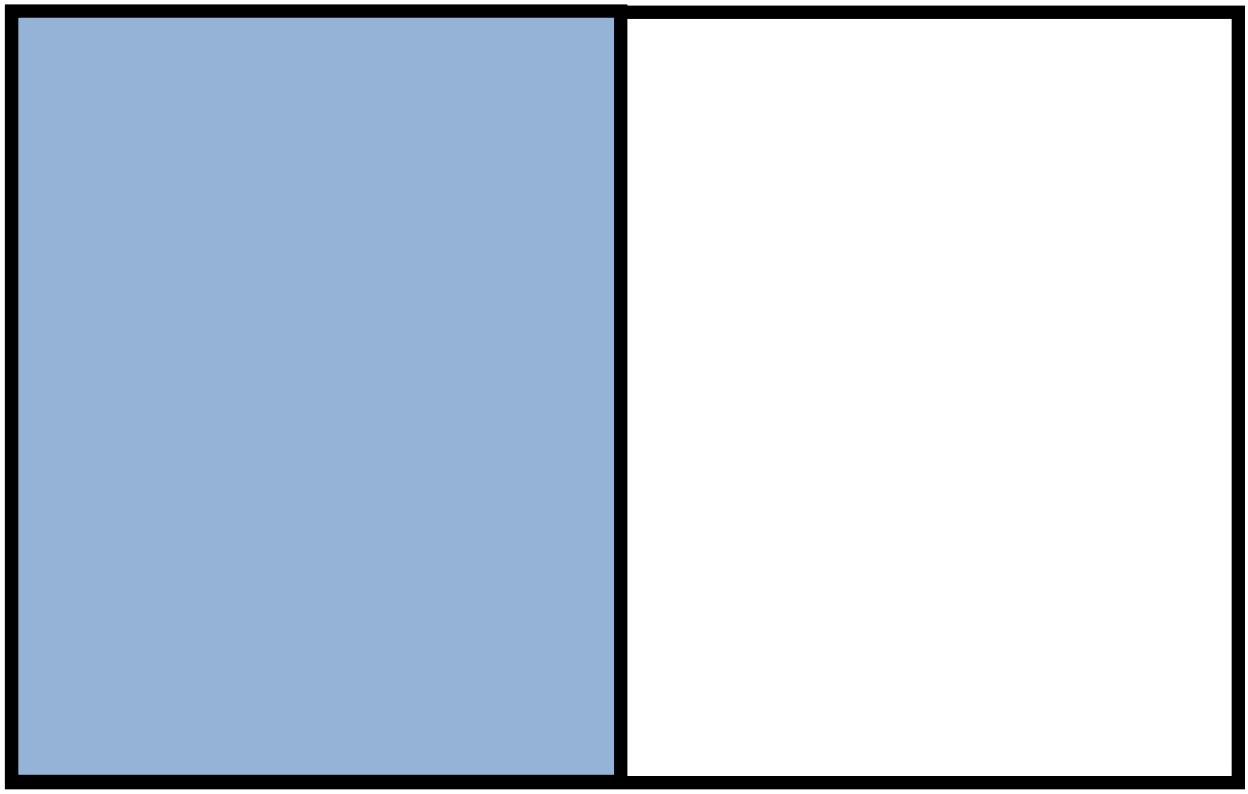

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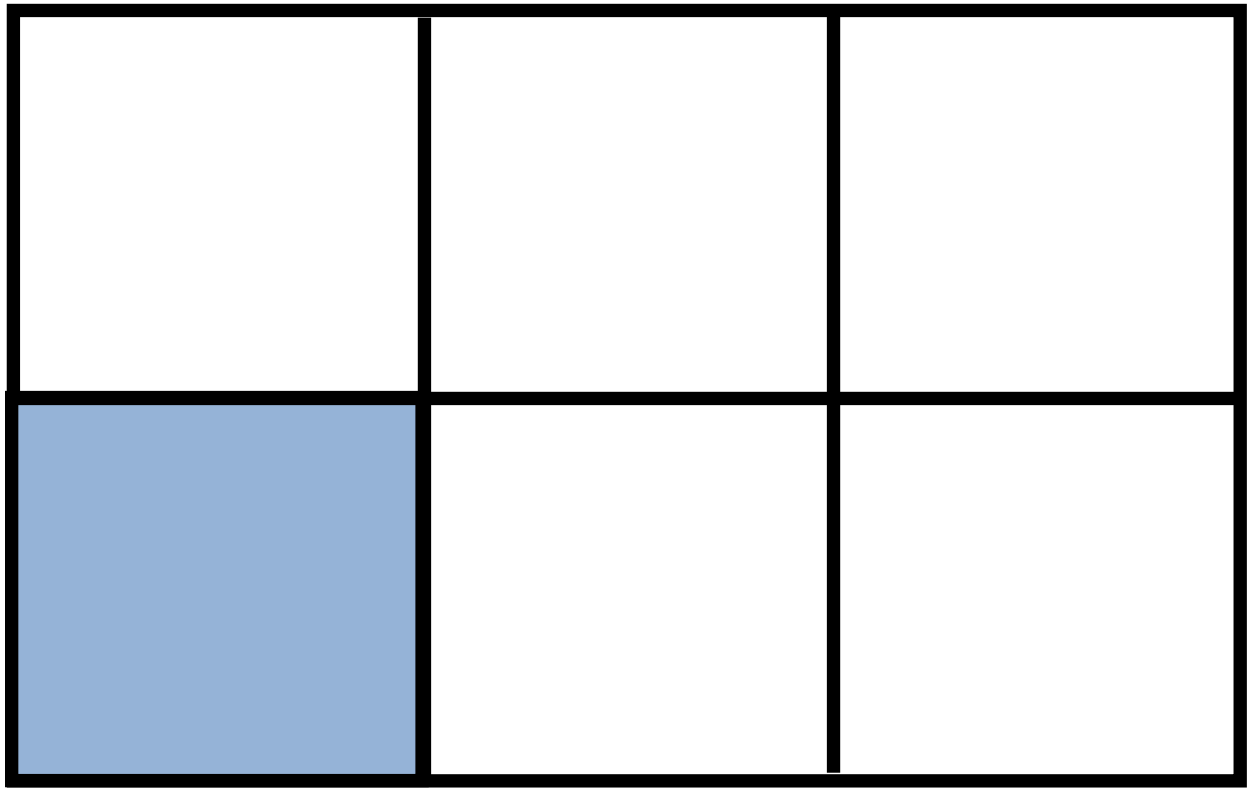

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$$\frac{3}{4}$$

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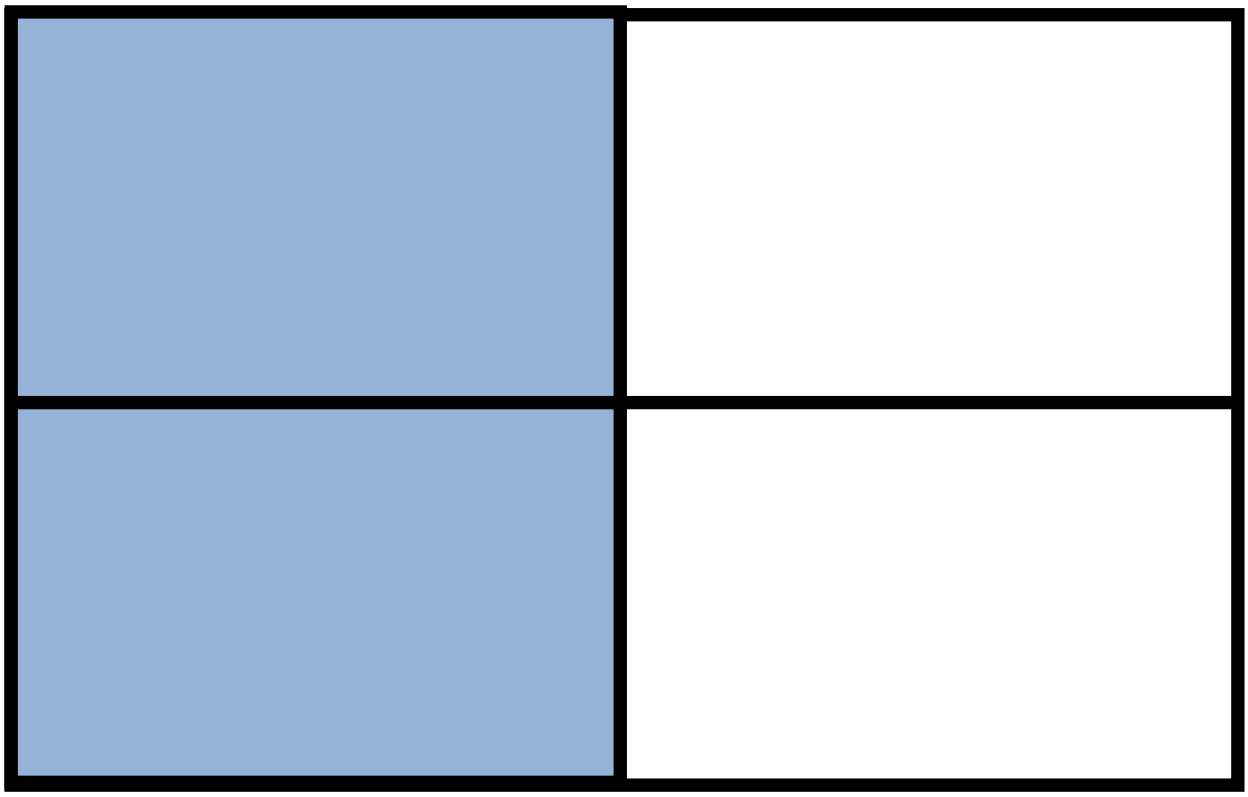

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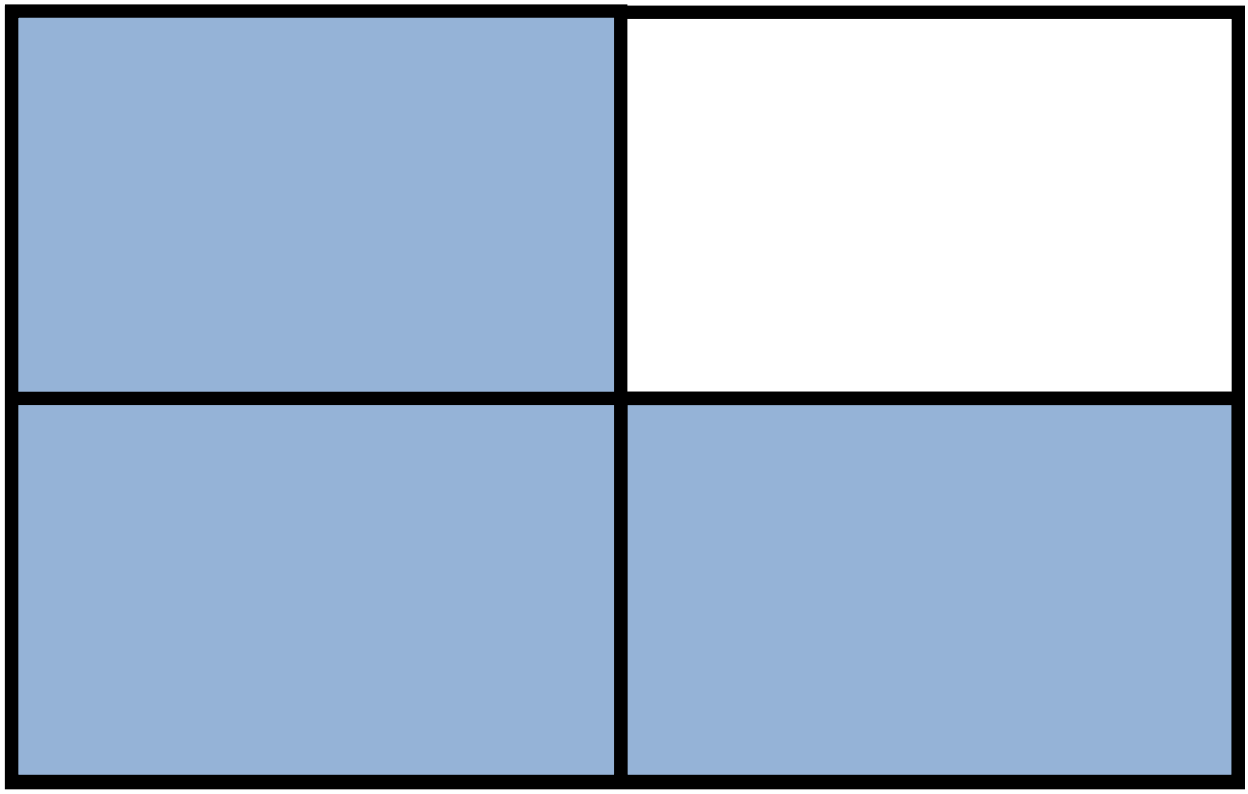

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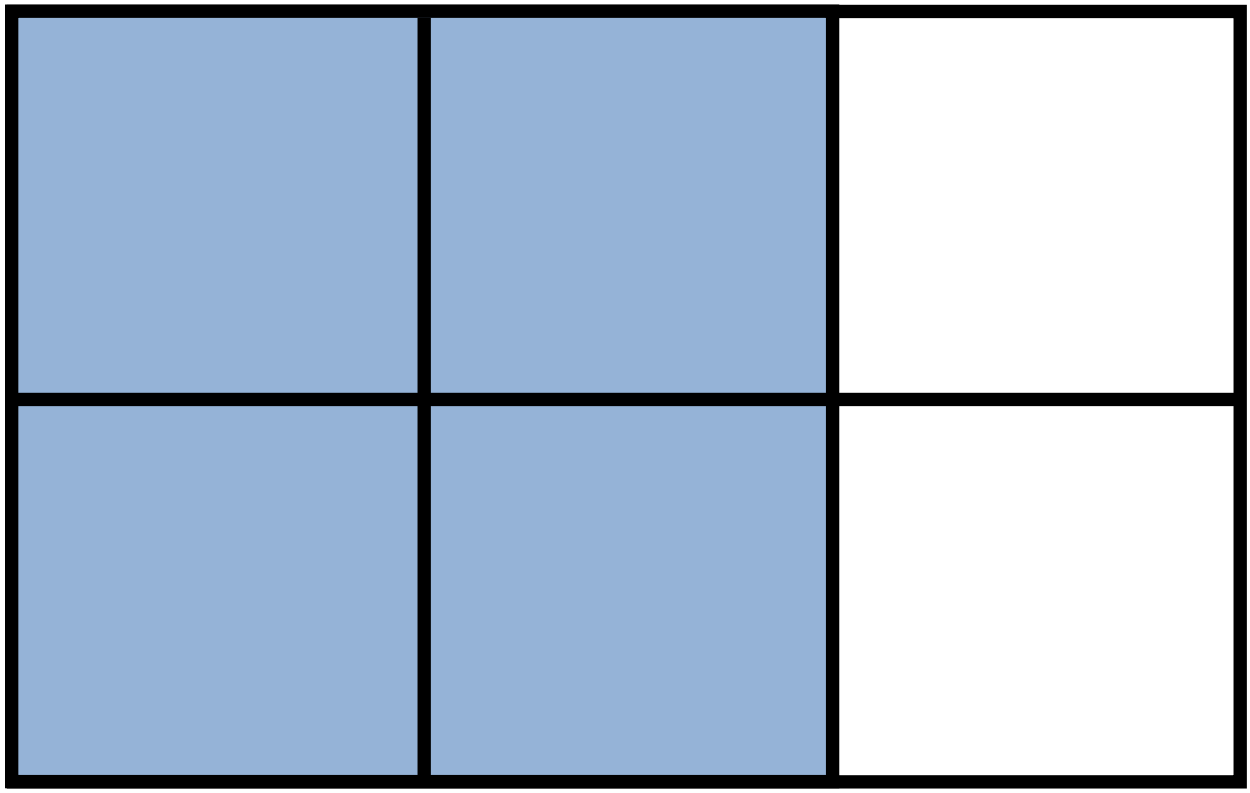

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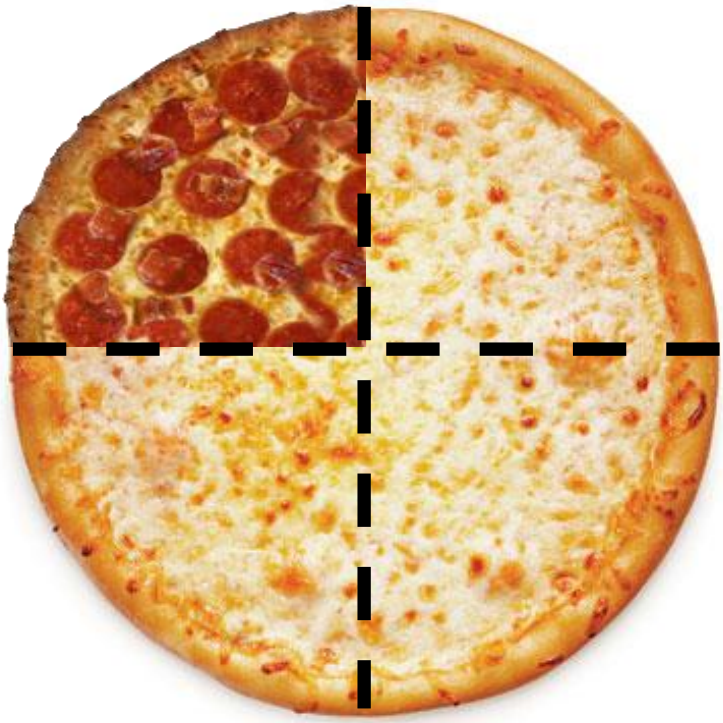


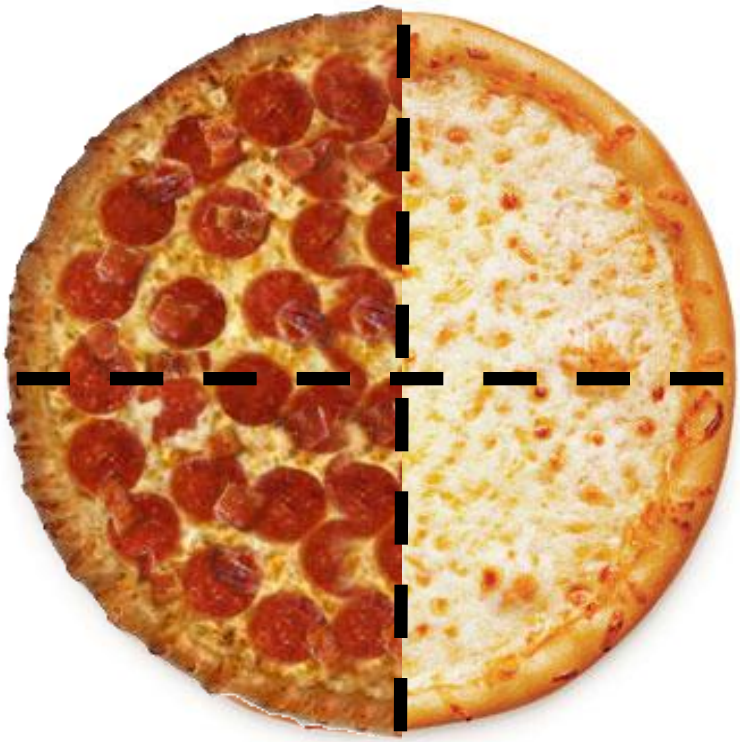
$$\frac{1}{4}$$

4.NO.1n1 Item 2 Stimulus Material 1

Cheese pizza: Lew Robertson/Getty Images

$$\frac{3}{4}$$

4.NO.1n1 Item 2 Stimulus Material 2



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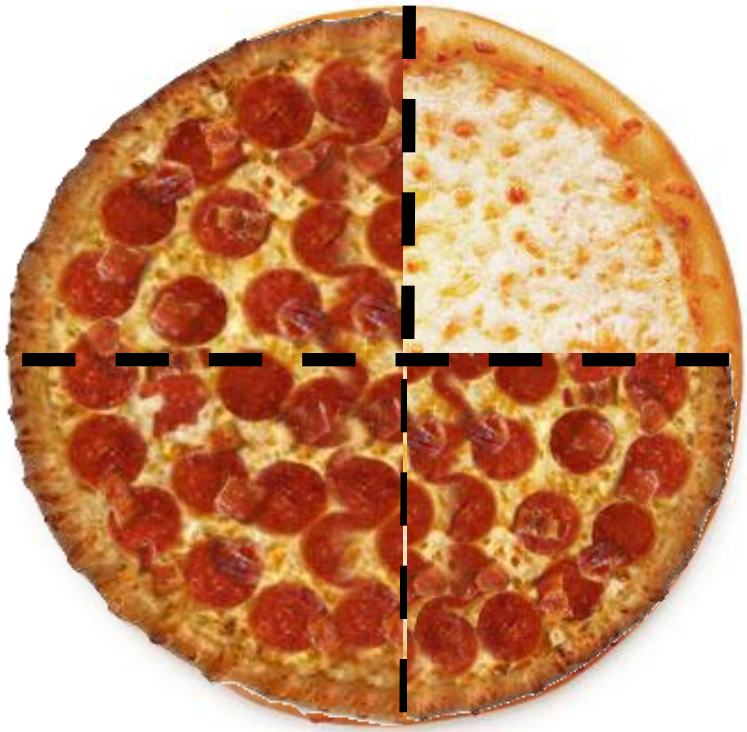

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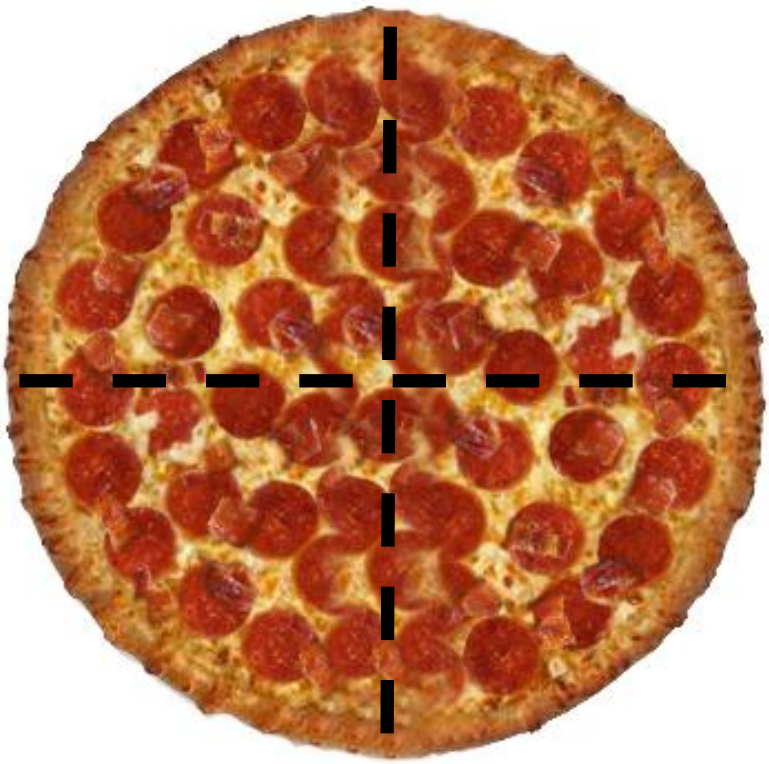


4.NO.1n1 Item 2 Stimulus Material 5

$$\frac{1}{2}$$

4.NO.1n1 Item1 Stimulus Material 1

4.NO.1n1 Item1 Stimulus Material 2

4.NO.1n1 Item1 Stimulus Material 3

NCSC Geometry 5.GM.1c3 | Nu Design Pattern 2753

[| Permit | Delete | View: View (vertical)]

Title	[Edit]	NCSC Geometry 5.GM.1c3 notes
Overview	[Edit]	CCC: Use ordered pairs to graph given points
Rationale	[Edit]	R1. Learning Target (5-8): GM-1 Apply reasoning using properties of two- and three dimensional shapes to analyze, represent, and model geometric relationships: - Classify objects based on attributes and properties and solve problems using geometric relationships and properties; - Decompose figures into new figures and construct figures with given conditions; - Apply concepts of parallel and perpendicular. Big Idea: Transformation in the Coordinate Plane Progress Indicator: M.GM.1c demonstrating the use of a coordinate system by locating/graphing a given point or polygon using ordered pairs
Focal KSAs	[Edit]	FK1. Ability to use ordered pairs to graph points
Add'l KSAs: Cognitive Background Knowledge	[Edit]	AK1. Knowledge of what ordered pairs represent AK2. Knowledge of conventions of graphing: X-axis, Y-axis, location and meaning of origin, the numbers in the 1st quadrant are positive and increase from the origin, the numbering scale AK3. Ability to use graph paper
Add'l KSAs: Perceptual (Receptive)	[Edit]	Ability to perceive images in the stimulus material and question. (e.g., through print, objects, holistic description, Braille, audio description, tactile images) (Image in this case means a picture, drawing, table, map, graph, or photograph and not a mental image) Ability to perceive physical objects required for the task. (e.g., see physical objects used to relate a story) Ability to perceive the linguistic components of the stimulus material and question. (e.g., through print, objects, audio, Braille, tactile images)
Add'l KSAs: Skill and Fluency (Expressive)	[Edit]	Ability to communicate response. (e.g., respond verbally, by using pictures, by making a selection from a group) Ability to express a response in text. (e.g., by writing, drawing, using Braille, using a scribe, using Dragon Dictate) Ability to manipulate digital/electronic equipment. (e.g., assistive technology) Ability to manipulate physical materials. (e.g., dexterity, strength, and mobility) Knowledge of how to use physical materials or digital/electronic equipment. (e.g., familiarity, assistive technology)
Add'l KSAs: Language and Symbols	[Edit]	Ability to comprehend text, symbols, images, or objects. (Image in this case means a picture, drawing, table, map, graph, or photograph, and not a mental image) Ability to decode text, symbols, tactile images, images, or objects. (Image in this case means a picture, drawing, table, map, graph, or photograph, and not a mental image) Ability to recognize text, symbols, tactile images, images, or objects. (Image in this case means a picture, drawing, table, map, graph, or photograph,

		and not a mental image) Ability to understand English vocabulary and syntax. (If the student doesn't have the linguistic competency then it would be hard to support. If a student speaks another language then a bilingual translator can be used)
Add'l KSAs: Cognitive	[Edit]	Ability to attend to stimuli. (Stimuli include item prompt, response options, and associated materials [e.g., images, text passages]; the stimuli can be represented in any modality) Ability to perform. (e.g., answer questions, solve simple problems, write sentences or words, mark corrections/edit text, apply punctuation) Ability to process multi-step (requires a explicit sequence of procedures) or multiple component (requires multiple cognitive decisions) problems or questions. Ability to recall and use information presented in a task/item (working memory). Ability to recall related background knowledge. (Background information refers to information learned outside of the assessment situation [not working memory]) Ability to understand the meaning of an example. (e.g., use of a non-construct relevant example) Ability to understand the structure of "organizers" used to present information or to scaffold responses. (e.g., understand meaning of headers, subtitles, etc. in diverse media)
Add'l KSAs: Executive	[Edit]	Ability to plan and sequence. (e.g., for items with a sequence of steps that must be completed in a particular order (could be a single step problem) that are likely to be administered in one session) Ability to self-regulate and reflect during problem solving. (e.g., ability to check one's work or one's understanding as an individual completes a problem; particularly appropriate for items with significant cognitive demands and attention to detail and/or that have multiple components [may require reading several passages or multiple computations])
Add'l KSAs: Affective	[Edit]	Ability to engage. (e.g., task-specific motivation) Ability to persist and sustain effort.
Potential Observations	[Edit]	PO1. Given a number of ordered pairs, the student correctly graphs the points (e.g., Student is given the following ordered pairs and correctly graphs them: (5, 8) (8, 4).) PO2. Given three graphed representations of ordered pairs, the student correctly identifies the graph showing the target pair (e.g., Student is given a graph showing (5, 8); (8, 5); and (5, 7). Student correctly identifies the graph showing (5, 8).
Potential Rubrics	[Edit]	
Potential Work Products	[Edit]	PW1. Constructed Response PW2. Selected Response
Characteristic Features	[Edit]	CF1. Limit to positive integers no greater than 20 CF2. The scale on the axes are labeled by 1s CF3. Squares in the graph paper must be large enough to label every tick mark and be a size that the student is familiar with (e.g., equal to or greater than 1/4 inch) CF4. The graph axes will be labeled with x and y and include a numbering scale
Variable Features: Cognitive	[Edit]	VF1. Remind student that ordered pairs show where to put points on a graph using an x and a y value

Background Knowledge	VF2. Provide student with an example graph and remind student of the features of the graph (e.g., X-axis, Y-axis, location and meaning of origin, the numbers in the 1st quadrant are positive and increase from the origin, the numbering scale) (example graph should be the same type of graph used in the item but must use different data than the item) VF3. Provide student with an non-construct relevant example of a point located on a graph and demonstrate how that point represents an ordered pair VF4. Remind student that the x- and y-axis can be drawn as lines on graph paper to create a right angle, and that if your follow a vertical line from the x-axis and a horizontal line from the y-axis you can find the point where they intersect
Variable Features: Perceptual (Receptive)	• Delivery mechanisms by which the question is perceived. (e.g., read aloud verbatim/read aloud paraphrase, pictures, large print, printed text, Braille, text, symbols, rebuses, concrete objects, description of objects or images, text to speech, signing, auditory amplification, closed captioning, CCTV - close circuit TV to increase size of font, vary contrast, etc.) • Delivery parameters for oral presentation of material. (e.g., speed of reading, volume, amount of expression used, student ability to pause, stop and/or repeat information read aloud) • Supports for the use of equipment required for the task. (e.g., communication board, CD player; Possible to reprogram communication board to include punctuation, capitalization, etc.)
Variable Features: Skill and Fluency (Expressive)	• Supports for manipulating physical materials. (e.g., use of velcro, size of materials, teacher manipulation of materials; In writing, student can manipulate cards with punctuation symbols on them and velcro on back to apply correct punctuation to a sentence) • Supports for manipulating digital/electronic equipment. (e.g., pointers, teacher manipulation of equipment, spoken commands, stylus for input, larger keyboard/buttons, adaptive mouse) • Supports for composing a response in text. (e.g., speech to text, written by teacher, keyboarding, word prediction software) • Practice with familiar equipment. • Response mode options. (e.g., pointing, speech and verbalization, writing, signing, switch or other assistive device/augmentative communication device, eye gaze; for lowest functioning students: predictable behavioral response, tolerate assistance such as hand over hand) • Practice tutorials with unfamiliar physical materials or digital/electronic equipment. (Practice tutorials can be used to introduce students to new item formats or modeled examples using materials that are not construct relevant or new tools to support test taking)
Variable Features: Language and Symbols	• Embedded support for vocabulary and symbols. (e.g., technical and non-technical glossary, hyperlinks/footnotes to definitions, illustrations, background knowledge) • Digital text with or without automatic text to speech. • Highlight essential elements, words, or phrases. • All key information in the dominant language (e.g., English) is also available in prevalent first languages (e.g., Spanish) for second language learners. • All key information available in sign language for students who are deaf. • Digital Braille with or without automatic Braille to speech. • Alternate syntactic levels (simplified text). • Level of abstraction required of student. (e.g., concrete objects, images, text) • New vs. pre-taught vocabulary and symbols. • Use of multiple representations. (e.g., physical models, demonstrations, acting out scenarios) • Read language and symbols aloud.

Variable Features: Cognitive

- Options for supporting critical features, big ideas, and relations: provide graphic organizers.
- Options for supporting critical features, big ideas, and relations: provide alternative forms of key concepts.
- Options for guiding exploration and information processing: familiar materials and their use. (This includes the presentation of familiar organizational tools [e.g., tables] and familar concrete objects and/or using familar organizational processes [e.g., how highlighting is used])
- Options for supporting critical features, big ideas, and relations: provide a response template.
- Options for supporting critical features, big ideas, and relations: outline information.
- Options for guiding exploration and information processing: allow viewing of stimuli from previous stages and parts.
- Options for guiding exploration and information processing: provide modeled prompts. (A modeled prompt is a demonstration of the process or procedures needed to successfully complete an item but does not provide the correct answer for the item being tested. A prompt is an action engaged in by the assessor to stimulate the appropriate behavior from a student. E.g., modeled prompt: in a sorting task, assessor can model sorting of cards into bins but without referencing the content being assessed [if shape is construct being assessed, assessor can sort by color but not shape]; NOT A MODELED PROMPT: assessor models correct answer for student [student asked to point to a picture of himself, student doesn't respond so assessor points to picture of student and asks student to do the same])
- Options for guiding exploration and information processing: provide multiple entry points.
- Options for guiding exploration and information processing: mask part of the information. (Masking incorrect response in a selected response item [aka strike out]. Student selects the incorrect response to be masked. Teacher presents all response options at first trial and then if response is incorrect the teacher masks the student's incorrect response item [see Florida approach; note: state test level decision on how to deal with incorrect responses when there is multiple response options])
- Options for supporting critical features, big ideas, and relations: provide modeled prompts.
- Options for guiding exploration and information processing: provide a practice item or task.
- Options for supporting critical features, big ideas, and relations: Remind student of the function of tools/features designed to aide comprehension and processing of information. (e.g., highlighting, graphic organizers, captions, and headings)
- Options for supporting memory and transfer: note-taking.
- Options for supporting memory and transfer: present items as a discrete unit or embed in a scenario.
- Options for supporting memory and transfer: locate items near relevant text.
- Options for supporting memory and transfer: mnemonic aids.
- Options for guiding exploration and information processing: use consistent signals/cues. (Signals/cues may include designations in assessments such as line numbers in passages, symbols for directions [e.g., stop signs to stop, arrows to continue], or behavioral gestures indicating where a student should mark a response)
- Options for guiding exploration and information processing: provide sequential highlighting. (Definition: to emphasize or make information prominent as it appears in a sequence by differentiated use of color, lighting, sound, or tactile surface [e.g., highlight the paragraph in yellow and highlight each word as it is read in blue])
- Options for supporting background knowledge - provide analogies and examples.
- Options for supporting background knowledge - pre-teach background content. (e.g., pre-teach definitions of unfamiliar words or concepts unrelated to the standard; pre-teach means teaching a student for the first

		time the definition of a word or concept that is included in the narrative of a test item but not part of the construct being measured) • Options for supporting background knowledge - provide concept maps. • Options for guiding exploration and information processing: provide a guide or checklist for prioritization of steps in multi-step problems. • Options for supporting background knowledge - provide hyperlinks to multi-media. • Options for supporting background knowledge - provide links to familiar materials. • Options for supporting background knowledge - provide links to related information. • Options for supporting background knowledge - remind student of materials or activities used to teach foundational reading/English language arts skills. • Options for supporting background knowledge - remind student of prior experiences. • Options for supporting memory and transfer: reread question/stimulus. • Options for supporting critical features, big ideas, and relations: highlight information.
Variable Features: Executive		• Representations of progress. (e.g., before and after photos, graphs and charts) • Prompts, scaffolds, and questions to monitor progress, to "stop and think", and for categorizing and systematizing. • Prompts and scaffolds to estimate effort, resources, and difficulty. • Guides, checklists, graphic organizers, and/or templates for goal setting, prioritizing, breaking long-term objectives into reachable short-term goals, self-reflection, and self-assessment. • Adjust levels of challenge and support. (e.g., adjustable leveling and embedded support, alternative levels of difficulty, alternative points of entry)
Variable Features: Affective		• Task options for engagement: variety of stimuli. • Task options for engagement: item/task format. (e.g., selected response vs. constructed response, performance) Task options for writing: Student writes 2-3 sentences, Present a written sentence and student corrects it, Compose sentences using words and punctuation from words/punctuation represented on cards, Technology-enhanced writing tasks • Task options for engagement: heighten salience. • Task options for engagement: enhance relevance, value, and authenticity of tasks. (task refers to the assessment items, stimulus "story", and materials) In writing: create a letter to a friend, use stories with their own names or names of classmates, content out of students' personal life • Teacher options for providing supports for attention and engagement: provide varied levels of challenge and support. • Teacher options for providing supports for attention and engagement: provide supports to reduce student frustration. (e.g., noise reduction, extended test taking time, contingencies, number of items administered at one time) • Teacher options for providing supports for attention and engagement: provide optimal student positioning (positions which encourage alertness, not recumbent). • Teacher options for providing supports for attention and engagement: provide feedback to support engagement. • Teacher options for providing supports for attention and engagement: prompt student to engage/re-engage. • Teacher options for providing supports for attention and engagement: cover up part of text so student isn't overwhelmed. • Task options for engagement: vary amount of context supporting tasks. (e.g., discrete tasks vs. scenarios) • Teacher options for providing supports for attention and engagement: administer assessment at optimal time of day for student engagement. • Teacher options for providing supports for attention and engagement:

		provide verbal/gestural prompts.
Educational Standards	[Edit]	CCSS: 5.G.1. Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the ÃƒÂ¢?? on each line and a given point in the plane located by using an ordered pair of numbers called its coordinates. Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond.
I am a part of		NCSC Geometry Task 5.GM.1c3. (Task Family #2778)

Tags [Add Tag]

(No tags entered.)

NCSC Geometry 5.GM.1c3 Task1 | Task Family 2778

[| Permit | Delete]

Title	[Edit]	NCSC Geometry 5.GM.1c3 Task1
Nu Design Pattern	[Edit]	NCSC Geometry 5.GM.1c3 CCC: Use ordered pairs to graph given points CCSS: 5.G.1. Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the Ãƒ??Ãƒ?Ã‚Â¢?? on each line and a given point in the plane located by using an ordered pair of numbers called its coordinates. Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond. dev note
Grade Level Activities	[Edit]	

	Item 4	Item 3	Item 2	Item 1
Depth of Knowledge (DOK)				
Selected Focal KSAs	• Ability to use ordered pairs to graph points	• Ability to use ordered pairs to graph points	• Ability to use ordered pairs to graph points	
Focal KSA Notes			FK1. Essence: Ability to identify ordered pairs that represent points plotted in the first quadrant	
Selected KSA for Items 1 and 2				• Knowledge of what ordered pairs represent
KSA for Items 1 and 2 Notes				
Associated AKSAs, Cognitive Background Knowledge	• Knowledge of what ordered pairs represent • Knowledge of conventions of graphing: X-axis, Y-axis, location and meaning of origin, the numbers in the 1st quadrant are positive and increase from the origin, the numbering scale • Ability to use graph paper	• Knowledge of what ordered pairs represent • Knowledge of conventions of graphing: X-axis, Y-axis, location and meaning of origin, the numbers in the 1st quadrant are positive and increase from the origin, the numbering scale • Ability to use graph paper	• Knowledge of what ordered pairs represent • Knowledge of conventions of graphing: X-axis, Y-axis, location and meaning of origin, the numbers in the 1st quadrant are positive and increase from the origin, the numbering scale • Ability to use graph paper	
Potential Observations	• Given a number of ordered pairs, the student correctly graphs the points (e.g., Student is given the following ordered pairs and correctly graphs them: (5, 8) (8, 4).)	• Given a number of ordered pairs, the student correctly graphs the points (e.g., Student is given the following ordered pairs and correctly graphs them: (5, 8) (8, 4).)	• Given a number of ordered pairs, the student correctly graphs the points (e.g., Student is given the following ordered pairs and correctly graphs them: (5, 8) (8, 4).) • Given three graphed representations of ordered pairs, the student correctly identifies the graph showing the target pair (e.g., Student is given a graph showing (5, 8); (8, 5); and (5, 7). Student correctly identifies the graph showing (5, 8).	
Potential Observation Notes (based on selected KSA)				
Potential Work	• Constructed Response	• Constructed Response	• Constructed Response • Selected Response	• Selected Response

Products				
Potential Work Product Notes (based on selected KSA)				
Characteristic Features	• Limit to positive integers no greater than 20 • The scale on the axes are labeled by 1s • Squares in the graph paper must be large enough to label every tick mark and be a size that the student is familiar with (e.g., equal to or greater than 1/4 inch) • The graph axes will be labeled with x and y and include a numbering scale	• Limit to positive integers no greater than 20 • The scale on the axes are labeled by 1s • Squares in the graph paper must be large enough to label every tick mark and be a size that the student is familiar with (e.g., equal to or greater than 1/4 inch) • The graph axes will be labeled with x and y and include a numbering scale	• Limit to positive integers no greater than 20 • The scale on the axes are labeled by 1s • Squares in the graph paper must be large enough to label every tick mark and be a size that the student is familiar with (e.g., equal to or greater than 1/4 inch) • The graph axes will be labeled with x and y and include a numbering scale	• Limit to positive integers no greater than 20 • The scale on the axes are labeled by 1s • Squares in the graph paper must be large enough to label every tick mark and be a size that the student is familiar with (e.g., equal to or greater than 1/4 inch) • The graph axes will be labeled with x and y and include a numbering scale
Associated Variable Features, Cognitive Background Knowledge	• Remind student that ordered pairs show where to put points on a graph using an x and a y value: **No** • Provide student with an example graph and remind student of the features of the graph (e.g., X-axis, Y-axis, location and meaning of origin, the numbers in the 1st quadrant are positive and increase from the origin, the numbering scale) (example graph should be the same type of graph used in the item but must use different data than the item): **Implemented** • Provide student with an non-construct relevant example of a point located on a graph and state that point represents an ordered pair: **Implemented** • Remind student that the x- and y-axis can be drawn as lines on graph paper to create a right angle, and that if your follow a vertical line from the x-axis and a horizontal line from the y-axis you can find the point where they intersect: **No**	• Remind student that ordered pairs show where to put points on a graph using an x and a y value: **Implemented** • Provide student with an example graph and remind student of the features of the graph (e.g., X-axis, Y-axis, location and meaning of origin, the numbers in the 1st quadrant are positive and increase from the origin, the numbering scale) (example graph should be the same type of graph used in the item but must use different data than the item): **Implemented** • Provide student with an non-construct relevant example of a point located on a graph and state that point represents an ordered pair: **Implemented** • Remind student that the x- and y-axis can be drawn as lines on graph paper to create a right angle, and that if your follow a vertical line from the x-axis and a horizontal line from the y-axis you can find the point where they intersect: **Implemented**	• Remind student that ordered pairs show where to put points on a graph using an x and a y value: **Implemented** • Provide student with an example graph and remind student of the features of the graph (e.g., X-axis, Y-axis, location and meaning of origin, the numbers in the 1st quadrant are positive and increase from the origin, the numbering scale) (example graph should be the same type of graph used in the item but must use different data than the item): **No** • Provide student with an non-construct relevant example of a point located on a graph and state that point represents an ordered pair: **Implemented** • Remind student that the x- and y-axis can be drawn as lines on graph paper to create a right angle, and that if your follow a vertical line from the x-axis and a horizontal line from the y-axis you can find the point where they intersect: **Implemented**	• Remind student that ordered pairs show where to put points on a graph using an x and a y value: **No** • Provide student with an example graph and remind student of the features of the graph (e.g., X-axis, Y-axis, location and meaning of origin, the numbers in the 1st quadrant are positive and increase from the origin, the numbering scale) (example graph should be the same type of graph used in the item but must use different data than the item): **No** • Provide student with an non-construct relevant example of a point located on a graph and state that point represents an ordered pair: **No** • Remind student that the x- and y-axis can be drawn as lines on graph paper to create a right angle, and that if your follow a vertical line from the x-axis and a horizontal line from the y-axis you can find the point where they intersect: **No**
Selected Variable Features: Perceptual	• Delivery mechanisms by which the question is perceived eg: ******Yes (see e.g.)****** • Delivery parameters for oral presentation of material eg: ******Yes (see e.g.)****** • Supports for the use of equipment required for the task eg: ******Yes (see e.g.)******	• Delivery mechanisms by which the question is perceived eg: ******Yes (see e.g.)****** • Delivery parameters for oral presentation of material eg: ******Yes (see e.g.)****** • Supports for the use of equipment required for the task eg: ******Yes (see e.g.)******	• Delivery mechanisms by which the question is perceived eg: ******Yes (see e.g.)****** • Delivery parameters for oral presentation of material eg: ******Yes (see e.g.)****** • Supports for the use of equipment required for the task eg: ******Yes (see e.g.)******	• Delivery mechanisms by which the question is perceived eg: ******Yes (see e.g.)****** • Delivery parameters for oral presentation of material eg: ******Yes (see e.g.)****** • Supports for the use of equipment required for the task eg: ******Yes (see e.g.)******
Selected Variable Features: Skill and Fluency	• Supports for manipulating physical materials eg: ******Yes (see e.g.)****** • Supports for	• Supports for manipulating physical materials eg: ******Yes (see e.g.)****** • Supports for manipulating digital/electronic	• Supports for manipulating physical materials eg: ******Yes (see e.g.)****** • Supports for	• Supports for manipulating physical materials eg: ******Yes (see e.g.)****** • Supports for

	manipulating digital/electronic equipment eg: ******Yes (see e.g.)****** • Supports for composing a response in text eg: **No** • Practice with familiar equipment: **No** • Response mode options eg: ******Yes (see e.g.)****** • Practice tutorials with unfamiliar physical materials or digital/electronic equipment eg: **No**	equipment eg: ******Yes (see e.g.)****** • Supports for composing a response in text eg: **No** • Practice with familiar equipment: **No** • Response mode options eg: ******Yes (see e.g.)****** • Practice tutorials with unfamiliar physical materials or digital/electronic equipment eg: **No**	manipulating digital/electronic equipment eg: ******Yes (see e.g.)****** • Supports for composing a response in text eg: **No** • Practice with familiar equipment: **No** • Response mode options eg: ******Yes (see e.g.)****** • Practice tutorials with unfamiliar physical materials or digital/electronic equipment eg: **No**	manipulating digital/electronic equipment eg: ******Yes (see e.g.)****** • Supports for composing a response in text eg: **No** • Practice with familiar equipment: **No** • Response mode options eg: ******Yes (see e.g.)****** • Practice tutorials with unfamiliar physical materials or digital/electronic equipment eg: **No**
Selected Variable Features: Language and Symbols	• Embedded support for vocabulary and symbols eg: **Implemented: Background Knowledge** • Digital text with or without automatic text to speech: ******Yes****** • Highlight essential elements, words, or phrases: **Implemented: Indicate the axes on the graph** • All key information in the dominant language (e.g., English) is also available in prevalent first languages (e.g., Spanish) for second language learners: ******Yes****** • All key information available in sign language for students who are deaf: ******Yes****** • Digital Braille with or without automatic Braille to speech: ******Yes****** • Alternate syntactic levels (simplified text): **Implemented** • Level of abstraction required of student eg: **Implemented: Visual and oral** • New vs. pre-taught vocabulary and symbols: **Implemented: Assuming pre-taught** • Use of multiple representations eg: **Implemented: Visual** • Read language and symbols aloud: **Implemented**	• Embedded support for vocabulary and symbols eg: **Implemented: Background Knowledge** • Digital text with or without automatic text to speech: ******Yes****** • Highlight essential elements, words, or phrases: **Implemented: Indicate the axes on the graph** • All key information in the dominant language (e.g., English) is also available in prevalent first languages (e.g., Spanish) for second language learners: ******Yes****** • All key information available in sign language for students who are deaf: ******Yes****** • Digital Braille with or without automatic Braille to speech: ******Yes****** • Alternate syntactic levels (simplified text): **Implemented** • Level of abstraction required of student eg: **Implemented: Visual and oral** • New vs. pre-taught vocabulary and symbols: **Implemented: Assuming pre-taught** • Use of multiple representations eg: **Implemented: Visual, demonstration** • Read language and symbols aloud: **Implemented**	• Embedded support for vocabulary and symbols eg: **Implemented: Background Knowledge** • Digital text with or without automatic text to speech: ******Yes****** • Highlight essential elements, words, or phrases: **Implemented: Bolded grid lines to plotted points** • All key information in the dominant language (e.g., English) is also available in prevalent first languages (e.g., Spanish) for second language learners: ******Yes****** • All key information available in sign language for students who are deaf: ******Yes****** • Digital Braille with or without automatic Braille to speech: ******Yes****** • Alternate syntactic levels (simplified text): **Implemented** • Level of abstraction required of student eg: **Implemented: Visual and oral** • New vs. pre-taught vocabulary and symbols: **Implemented: Assuming pre-taught** • Use of multiple representations eg: **Implemented: Visual, demonstration** • Read language and symbols aloud: **Implemented**	• Embedded support for vocabulary and symbols eg: **No** • Digital text with or without automatic text to speech: **No** • Highlight essential elements, words, or phrases: **No** • All key information in the dominant language (e.g., English) is also available in prevalent first languages (e.g., Spanish) for second language learners: ******Yes****** • All key information available in sign language for students who are deaf: ******Yes****** • Digital Braille with or without automatic Braille to speech: ******Yes****** • Alternate syntactic levels (simplified text): **Implemented** • Level of abstraction required of student eg: **Implemented: Visual** • New vs. pre-taught vocabulary and symbols: **Implemented: Assuming pre-taught** • Use of multiple representations eg: **Implemented: Visual** • Read language and symbols aloud: **Implemented**
Selected Variable Features: Cognitive	• Options for supporting critical features, big ideas, and relations: provide graphic organizers: **No** • Options for supporting critical features, big ideas, and relations: provide alternative forms of key concepts: **No** • Options for guiding exploration and information processing: familiar materials and their use eg: **Implemented: Use of grid paper** • Options for supporting critical features, big	• Options for supporting critical features, big ideas, and relations: provide graphic organizers: **No** • Options for supporting critical features, big ideas, and relations: provide alternative forms of key concepts: **No** • Options for guiding exploration and information processing: familiar materials and their use eg: **Implemented: Use of grid paper** • Options for supporting critical features, big ideas, and relations: provide a	• Options for supporting critical features, big ideas, and relations: provide graphic organizers: **No** • Options for supporting critical features, big ideas, and relations: provide alternative forms of key concepts: **No** • Options for guiding exploration and information processing: familiar materials and their use eg: **Implemented: Use of grid paper** • Options for supporting critical features, big ideas, and relations: provide a	• Options for supporting critical features, big ideas, and relations: provide graphic organizers: **No** • Options for supporting critical features, big ideas, and relations: provide alternative forms of key concepts: **No** • Options for guiding exploration and information processing: familiar materials and their use eg: **Implemented: Use of grid paper** • Options for supporting critical features, big

	ideas, and relations: provide a response template: **No** • Options for supporting critical features, big ideas, and relations: outline information: **No** • Options for guiding exploration and information processing: allow viewing of stimuli from previous stages and parts: **Implemented: Item prompt presented** • Options for guiding exploration and information processing: provide modeled prompts eg: **No** • Options for guiding exploration and information processing: provide multiple entry points: **No** • Options for guiding exploration and information processing: mask part of the information eg: **No** • Options for supporting critical features, big ideas, and relations: provide modeled prompts: **No** • Options for guiding exploration and information processing: provide a practice item or task: **No** • Options for supporting critical features, big ideas, and relations: Remind student of the function of tools/features designed to aide comprehension and processing of information eg: **Implemented: Orient student to graph features** • Options for supporting memory and transfer: note-taking: **No** • Options for supporting memory and transfer: present items as a discrete unit or embed in a scenario: **Implemented: Discrete unit** • Options for supporting memory and transfer: locate items near relevant text: **Implemented** • Options for supporting memory and transfer: mnemonic aids: **No** • Options for guiding exploration and information processing: use consistent signals/cues eg: ******Yes****** • Options for guiding exploration and information processing: provide sequential highlighting eg: **No** • Options for supporting background knowledge -	response template: **No** • Options for supporting critical features, big ideas, and relations: outline information: **No** • Options for guiding exploration and information processing: allow viewing of stimuli from previous stages and parts: **Implemented: Demonstration** • Options for guiding exploration and information processing: provide modeled prompts eg: **Implemented** • Options for guiding exploration and information processing: provide multiple entry points: **No** • Options for guiding exploration and information processing: mask part of the information eg: **No** • Options for supporting critical features, big ideas, and relations: provide modeled prompts: **Implemented** • Options for guiding exploration and information processing: provide a practice item or task: **No** • Options for supporting critical features, big ideas, and relations: Remind student of the function of tools/features designed to aide comprehension and processing of information eg: **Implemented: Orient student to graph features** • Options for supporting memory and transfer: note-taking: **No** • Options for supporting memory and transfer: present items as a discrete unit or embed in a scenario: **Implemented: Discrete unit** • Options for supporting memory and transfer: locate items near relevant text: **Implemented** • Options for supporting memory and transfer: mnemonic aids: **No** • Options for guiding exploration and information processing: use consistent signals/cues eg: ******Yes****** • Options for guiding exploration and information processing: provide sequential highlighting eg: **No** • Options for supporting background knowledge - provide analogies and examples: **No** • Options for supporting background knowledge - pre-teach background content eg: **No assuming knowledge is pre-**	response template: **No** • Options for supporting critical features, big ideas, and relations: outline information: **No** • Options for guiding exploration and information processing: allow viewing of stimuli from previous stages and parts: **No** • Options for guiding exploration and information processing: provide modeled prompts eg: **Implemented** • Options for guiding exploration and information processing: provide multiple entry points: **No** • Options for guiding exploration and information processing: mask part of the information eg: **No** • Options for supporting critical features, big ideas, and relations: provide modeled prompts: **Implemented** • Options for guiding exploration and information processing: provide a practice item or task: **No** • Options for supporting critical features, big ideas, and relations: Remind student of the function of tools/features designed to aide comprehension and processing of information eg: **Implemented: Orient student to graph features** • Options for supporting memory and transfer: note-taking: **No** • Options for supporting memory and transfer: present items as a discrete unit or embed in a scenario: **Implemented: Discrete unit** • Options for supporting memory and transfer: locate items near relevant text: **Implemented** • Options for supporting memory and transfer: mnemonic aids: **No** • Options for guiding exploration and information processing: use consistent signals/cues eg: **Yes** • Options for guiding exploration and information processing: provide sequential highlighting eg: **No** • Options for supporting background knowledge - provide analogies and examples: **No** • Options for supporting background knowledge - pre-teach background content eg: **No assuming knowledge**	ideas, and relations: provide a response template: **No** • Options for supporting critical features, big ideas, and relations: outline information: **No** • Options for guiding exploration and information processing: allow viewing of stimuli from previous stages and parts: **Implemented: Demonstration rectangle** • Options for guiding exploration and information processing: provide modeled prompts eg: **No** • Options for guiding exploration and information processing: provide multiple entry points: **No** • Options for guiding exploration and information processing: mask part of the information eg: **No** • Options for supporting critical features, big ideas, and relations: provide modeled prompts: **No** • Options for guiding exploration and information processing: provide a practice item or task: **No** • Options for supporting critical features, big ideas, and relations: Remind student of the function of tools/features designed to aide comprehension and processing of information eg: **No** • Options for supporting memory and transfer: note-taking: **No** • Options for supporting memory and transfer: present items as a discrete unit or embed in a scenario: **Implemented: Discrete unit** • Options for supporting memory and transfer: locate items near relevant text: **No** • Options for supporting memory and transfer: mnemonic aids: **No** • Options for guiding exploration and information processing: use consistent signals/cues eg: ******Yes****** • Options for guiding exploration and information processing: provide sequential highlighting eg: **No** • Options for supporting background knowledge - provide analogies and examples: **No** • Options for supporting

	provide analogies and examples: **Implemented** • Options for supporting background knowledge - pre-teach background content eg: **No assuming knowledge is pre-taught** • Options for supporting background knowledge - provide concept maps: **No** • Options for guiding exploration and information processing: provide a guide or checklist for prioritization of steps in multi-step problems: **No** • Options for supporting background knowledge - provide hyperlinks to multi-media: **No** • Options for supporting background knowledge - provide links to familiar materials: **No** • Options for supporting background knowledge - provide links to related information: **No** • Options for supporting background knowledge - remind student of materials or activities used to teach foundational reading/English language arts or mathematics skills: **No** • Options for supporting background knowledge - remind student of prior experiences: ******Yes: Permissable to say, "Remember when we plotted points on a graph."****** • Options for supporting memory and transfer: reread question/stimulus: ******Yes****** • Options for supporting critical features, big ideas, and relations: highlight information: **Implemented**	**taught** • Options for supporting background knowledge - provide concept maps: **No** • Options for guiding exploration and information processing: provide a guide or checklist for prioritization of steps in multi-step problems: **No** • Options for supporting background knowledge - provide hyperlinks to multi-media: **No** • Options for supporting background knowledge - provide links to familiar materials: **No** • Options for supporting background knowledge - provide links to related information: **No** • Options for supporting background knowledge - remind student of materials or activities used to teach foundational reading/English language arts or mathematics skills: **No** • Options for supporting background knowledge - remind student of prior experiences: ******Yes: Permissable to say, "Remember when we plotted points on a graph."****** • Options for supporting memory and transfer: reread question/stimulus: ******Yes****** • Options for supporting critical features, big ideas, and relations: highlight information: **Implemented**	**is pre-taught** • Options for supporting background knowledge - provide concept maps: **No** • Options for guiding exploration and information processing: provide a guide or checklist for prioritization of steps in multi-step problems: **No** • Options for supporting background knowledge - provide hyperlinks to multi-media: **No** • Options for supporting background knowledge - provide links to familiar materials: **No** • Options for supporting background knowledge - provide links to related information: **No** • Options for supporting background knowledge - remind student of materials or activities used to teach foundational reading/English language arts or mathematics skills: **No** • Options for supporting background knowledge - remind student of prior experiences: ******Yes: Permissable to say, "Remember when we plotted points on a graph."****** • Options for supporting memory and transfer: reread question/stimulus: ******Yes****** • Options for supporting critical features, big ideas, and relations: highlight information: **Implemented**	background knowledge - pre-teach background content eg: **No assuming knowledge is pre-taught** • Options for supporting background knowledge - provide concept maps: **No** • Options for guiding exploration and information processing: provide a guide or checklist for prioritization of steps in multi-step problems: **No** • Options for supporting background knowledge - provide hyperlinks to multi-media: **No** • Options for supporting background knowledge - provide links to familiar materials: **No** • Options for supporting background knowledge - provide links to related information: **No** • Options for supporting background knowledge - remind student of materials or activities used to teach foundational reading/English language arts or mathematics skills: **No** • Options for supporting background knowledge - remind student of prior experiences: ******Yes****** • Options for supporting memory and transfer: reread question/stimulus: ******Yes****** • Options for supporting critical features, big ideas, and relations: highlight information: **Implemented**
Selected Variable Features: Executive	• Representations of progress eg: **No** • Prompts, scaffolds, and questions to monitor progress, to "stop and think", and for categorizing and systematizing: **No** • Prompts and scaffolds to estimate effort, resources, and difficulty: **No** • Guides, checklists, graphic organizers, and/or templates for goal setting, prioritizing, breaking long-term objectives into reachable short-term goals, self-reflection, and self-assessment: **No** • Adjust levels of challenge and support eg: **Implemented**	• Representations of progress eg: **No** • Prompts, scaffolds, and questions to monitor progress, to "stop and think", and for categorizing and systematizing: **No** • Prompts and scaffolds to estimate effort, resources, and difficulty: **No** • Guides, checklists, graphic organizers, and/or templates for goal setting, prioritizing, breaking long-term objectives into reachable short-term goals, self-reflection, and self-assessment: **No** • Adjust levels of challenge and support eg: **Implemented**	• Representations of progress eg: **No** • Prompts, scaffolds, and questions to monitor progress, to "stop and think", and for categorizing and systematizing: **No** • Prompts and scaffolds to estimate effort, resources, and difficulty: **No** • Guides, checklists, graphic organizers, and/or templates for goal setting, prioritizing, breaking long-term objectives into reachable short-term goals, self-reflection, and self-assessment: **No** • Adjust levels of challenge and support eg: **Implemented**	• Representations of progress eg: **No** • Prompts, scaffolds, and questions to monitor progress, to "stop and think", and for categorizing and systematizing: **No** • Prompts and scaffolds to estimate effort, resources, and difficulty: **No** • Guides, checklists, graphic organizers, and/or templates for goal setting, prioritizing, breaking long-term objectives into reachable short-term goals, self-reflection, and self-assessment: **No** • Adjust levels of challenge and support eg: **Implemented**

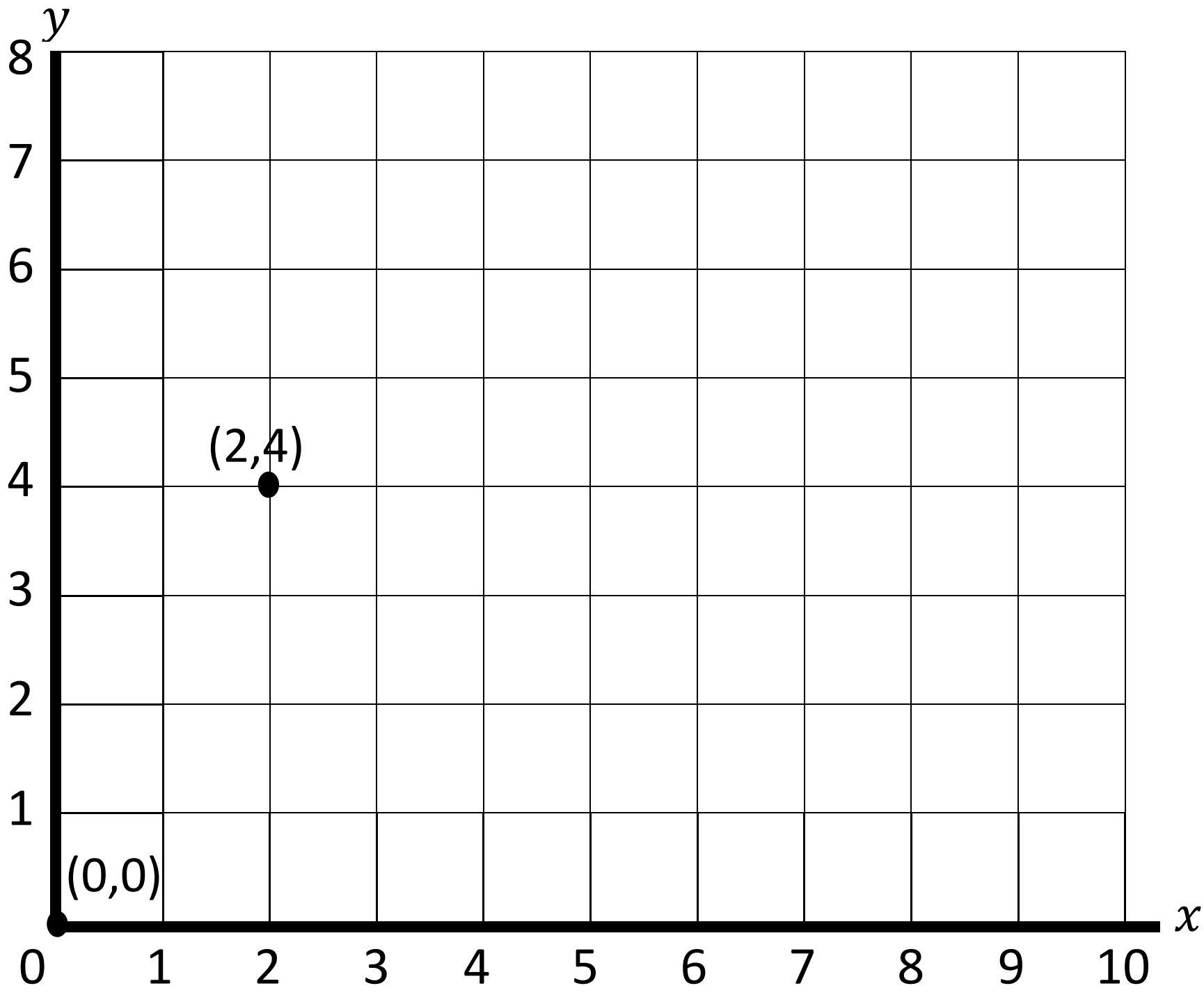
Selected Variable Features: Affective	• Task options for engagement: variety of stimuli: **No** • Task options for engagement: item/task format eg: **Implemented: Constructed response** • Task options for engagement: heighten salience: **Implemented** • Task options for engagement: enhance relevance, value, and authenticity of tasks eg: **No** • Teacher options for providing supports for attention and engagement: provide varied levels of challenge and support: **Implemented** • Teacher options for providing supports for attention and engagement: provide supports to reduce student frustration eg: ******Yes, (see e.g.)****** • Teacher options for providing supports for attention and engagement: provide optimal student positioning (positions which encourage alertness, not recumbent): *****Yes****** • Teacher options for providing supports for attention and engagement: provide feedback to support engagement: ******Yes, do not identify correct or incorrect responses****** • Teacher options for providing supports for attention and engagement: prompt student to engage/re-engage: *****Yes****** • Teacher options for providing supports for attention and engagement: cover up part of text so student isn't overwhelmed: **No** • Task options for engagement: vary amount of context supporting tasks eg: **No** • Teacher options for providing supports for attention and engagement: administer assessment at optimal time of day for student engagement: *****Yes****** • Teacher options for providing supports for attention and engagement: provide verbal/gestural prompts: *****Yes******	• Task options for engagement: variety of stimuli: **No** • Task options for engagement: item/task format eg: **Implemented: Constructed response** • Task options for engagement: heighten salience: **Implemented** • Task options for engagement: enhance relevance, value, and authenticity of tasks eg: **No** • Teacher options for providing supports for attention and engagement: provide varied levels of challenge and support: **Implemented** • Teacher options for providing supports for attention and engagement: provide supports to reduce student frustration eg: ******Yes, (see e.g.)****** • Teacher options for providing supports for attention and engagement: provide optimal student positioning (positions which encourage alertness, not recumbent): *****Yes****** • Teacher options for providing supports for attention and engagement: provide feedback to support engagement: ******Yes, do not identify correct or incorrect responses****** • Teacher options for providing supports for attention and engagement: prompt student to engage/re-engage: **Yes** • Teacher options for providing supports for attention and engagement: cover up part of text so student isn't overwhelmed: **No** • Task options for engagement: vary amount of context supporting tasks eg: **No** • Teacher options for providing supports for attention and engagement: administer assessment at optimal time of day for student engagement: *****Yes****** • Teacher options for providing supports for attention and engagement: provide verbal/gestural prompts: *****Yes******	• Task options for engagement: variety of stimuli: **No** • Task options for engagement: item/task format eg: **Implemented: Selected response** • Task options for engagement: heighten salience: **Implemented** • Task options for engagement: enhance relevance, value, and authenticity of tasks eg: **No** • Teacher options for providing supports for attention and engagement: provide varied levels of challenge and support: **Implemented** • Teacher options for providing supports for attention and engagement: provide supports to reduce student frustration eg: ******Yes, (see e.g.)****** • Teacher options for providing supports for attention and engagement: provide optimal student positioning (positions which encourage alertness, not recumbent): *****Yes****** • Teacher options for providing supports for attention and engagement: provide feedback to support engagement: ******Yes, do not identify correct or incorrect responses****** • Teacher options for providing supports for attention and engagement: prompt student to engage/re-engage: *****Yes****** • Teacher options for providing supports for attention and engagement: cover up part of text so student isn't overwhelmed: **No** • Task options for engagement: vary amount of context supporting tasks eg: **No** • Teacher options for providing supports for attention and engagement: administer assessment at optimal time of day for student engagement: *****Yes****** • Teacher options for providing supports for attention and engagement: provide verbal/gestural prompts: *****Yes******	• Task options for engagement: variety of stimuli: *****No** • Task options for engagement: item/task format eg: **Implemented: Constructed response** • Task options for engagement: heighten salience: **No** • Task options for engagement: enhance relevance, value, and authenticity of tasks eg: **No** • Teacher options for providing supports for attention and engagement: provide varied levels of challenge and support: **Implemented** • Teacher options for providing supports for attention and engagement: provide supports to reduce student frustration eg: ******Yes, (see e.g.)****** • Teacher options for providing supports for attention and engagement: provide optimal student positioning (positions which encourage alertness, not recumbent): *****Yes****** • Teacher options for providing supports for attention and engagement: provide feedback to support engagement: ******Yes, do not identify correct or incorrect responses****** • Teacher options for providing supports for attention and engagement: prompt student to engage/re-engage: *****Yes****** • Teacher options for providing supports for attention and engagement: cover up part of text so student isn't overwhelmed: **No** • Task options for engagement: vary amount of context supporting tasks eg: **No** • Teacher options for providing supports for attention and engagement: administer assessment at optimal time of day for student engagement: *****Yes****** • Teacher options for providing supports for attention and engagement: provide verbal/gestural prompts: *****Yes******
Item Complexity Notes	IC1. Claims: Procedural Alignment to CCC: Full Demonstration: No	IC1. Claims: Procedural Alignment to CCC: Full Demonstration: Yes Number of item parts:	IC1. Claims: Procedural Alignment to CCC: Partial, Fully aligned to Essence	IC1. Claims: Conceptual Alignment to CCC: No (Aligned to AKSA) Demonstration: No

	Number of item parts: 2 Segmented presentation: No Type of response: Constructed Number of response options: N/A Type of graph created: Coordinate grid Response template: No Number of data points to be plotted: 2	2 Segmented presentation: No Type of response: Constructed Number of response options: N/A Type of graph created: Coordinate grid Response template: No Number of data points to plotted: 2	Demonstration: Yes Number of item parts: 1 Segmented presentation: No Type of response: Selected Number of response options: 3 Type of graph created: Coordinate grid Response template: No Number of data points to plotted: N/A	Number of item parts: 1 Segmented presentation: No Type of response: Selected Number of response options: 2 Type of graph created: Coordinate grid Response template: No Number of data points to be plotted: N/A
Item Directive	ID1. Teacher/administrator presents a handout with a graph with axes clearly labeled and the ordered pair (2,4) plotted on the graph and clearly labeled (Stimulus Material 1), and says, "You are going to plot points on this graph." Teacher/administrator points to the zero, runs finger along the x-axis and says, "This is the x-axis." Teacher/administrator points to the zero, runs finger up the y-axis and says, "This is the y-axis". Teacher/administrator points to the zero and says "This is the origin where the x and y-axes meet. Its ordered pair is zero, zero." Teacher/administrator indicates the point (2,4) on Stimulus Material 1 and says, "One point is already plotted on the graph. It is located at two, four. The ordered pair is two, four. Now itâ€™s your turn to plot a point.â€œ Part 1: Teacher/administrator presents a note card (Stimulus Material 2) with the ordered pair (1,3) to the student and says, "Plot a point at one, three on this graph.â€ Part 2: After student responds to Part 1, teacher/administrator leaves point (1,3) on the graph and presents a note card (Stimulus Material 3) with the ordered pair (7,5) to the student and says, "Now, plot a point at seven, five on this graph."	ID1. Teacher/administrator presents a graph with axes clearly labeled (Stimulus Material 1), and says, "You are going to plot points on this graph.â€ Teacher/administrator points to the zero, runs finger along the x-axis and says, "This is the x-axis." Teacher/administrator points to the zero, runs finger up the y-axis and says, "This is the y-axis". Teacher/administrator points to the zero and says "This is the origin where the x and y-axes meet. Its ordered pair is zero, zero." Teacher/administrator says, "We are going to plot a point on this graph together using an ordered pair. Watch carefully. <Presents notecard with the ordered pair (2,4) (Stimulus Material 2) These numbers <points to the ordered pair on Stimulus Material 2>, two-four, tell us where the point will be on the graph. The first number, the 2, <point to the 2 on the notecard> tells us where on the x-axis the point will be. Look on the x-axis and find the two <Teacher/administrator puts finger on the point (2,0)>. The second number of the ordered pair <point to the 4 on the notecard>, the 4, tells us where on the y-axis the point will be. Look on the y-axis and find the four <Teacher/administrator puts finger on the point (0,4)>. Now, I bring my finger up from the 2 and my other finger across from the 4, and where they meet is where we plot the point. This point is two, four. Now itâ€™s your turn to plot a point.â€	ID1. Teacher/administrator presents student with a handout of a graph (Stimulus Material 1) and says, "You are going find what ordered pair was used to plot this point <teacher/administrator points to point (2,4) on graph>. First follow the line down to the x-axis <teacher/administrator draws a straight line with a ruler from the point (2,4) down to the point (2,0)>. This number two <points to the 2 on the x-axis> is the first number of the ordered pair." Teacher/administrator presents student with a note card with the order pair template, and writes "2" in the blank ordered pair template and says, "This is how we write an ordered pair. The two is the first number in this ordered pair. It comes from the x-axis." Teacher/administrator returns to Stimulus Material 1 and says, "Then we go back to the point on the graph. Follow the line across to the y-axis axis <teacher/administrator draws a straight line with the ruler from the point (2,4) across to the point (0,4)>. This number four on the y-axis is the second number of the ordered pair. The second number of the ordered pair is placed here <teacher/administrator writes "4" in the ordered pair template>." Teacher/administrator removes Stimulus Materials 1 and 2, and presents student with another graph (Stimulus Material 3) and says, "What was the ordered pair that	ID1. Teacher/administrator presents student with two graphs (Stimulus Materials 1 and 2) and says, "[Look at/touch/point to] which graph has POINTS PLOTTED using ordered pairs?"

		Part 1: Teacher/administrator presents a note card (Stimulus Material 3) with the ordered pair (1,3) to the student and says, "Plot a point at one, three on this graph.â€ Part 2: After student responds teacher/administrator leaves point (1,3) on the graph and presents a note card (Stimulus Material 4) with the ordered pair (7,5) to the student and says, "Now, plot a point at seven, five on this graph. "	was used to plot this point <teacher/administrator points to the point>?" A. "one, three" B. "two, four or" C. "three, one?"	
Correct Answer				
Materials for Examiner				
Description of Stimulus Materials	Do1. Stimulus Material 1: Graph paper with 1 inch grid. The x-axis and y-axis are clearly labeled. The x-axis is labeled 0-10 and the y-axis is labeled 0-8. The points (0,0) and (2,4) are clearly plotted and labeled on the graph. Stimulus Material 2: Note card with (1,3) Stimulus Material 3: Note card with (7,5)	Do1. Stimulus Material 1: Graph paper with 1 inch grid. The x-axis and y-axis are clearly labeled. The x-axis is labeled 0-10 and the y-axis is labeled 0-8. The point (0,0) is clearly plotted and labeled on the graph. Stimulus Material 2: Note card with (2,4) Stimulus Material 3: Note card with (1,3) Stimulus Material 4: Note card with (7,5)	Do1. Stimulus Material 1: Graph paper with 1 inch grid. The x-axis and y-axis are clearly labeled. The x-axis is labeled 0-6 and the y-axis is labeled 0-5. The point (2,4) is clearly plotted and labeled on the graph. Stimulus Material 2: Note card with ordered pair template (__,__) Stimulus Material 3: Graph paper with 1 inch grid. The x-axis and y-axis are clearly labeled. The x-axis is labeled 0-6 and the y-axis is labeled 0-5. The point (1,3) is clearly plotted on the graph but is not labeled. Beneath the graph are the following answer options: A. (1,3) B. (2,4) C. (3,1)	Do1. Stimulus Material 1: Graph paper with 1 inch grid. The x-axis and y-axis are clearly labeled. The x-axis is labeled 0-6 and the y-axis is labeled 0-5. The points (2,2), (3,3), and (4,4) are clearly plotted on graph. Stimulus Material 2: Graph paper with 1 inch grid. The x-axis and y-axis are clearly labeled. The x-axis is labeled 0-6 and the y-axis is labeled 0-5. No points are plotted on graph.
Notes				

Tags [Add Tag]

(No tags entered.)



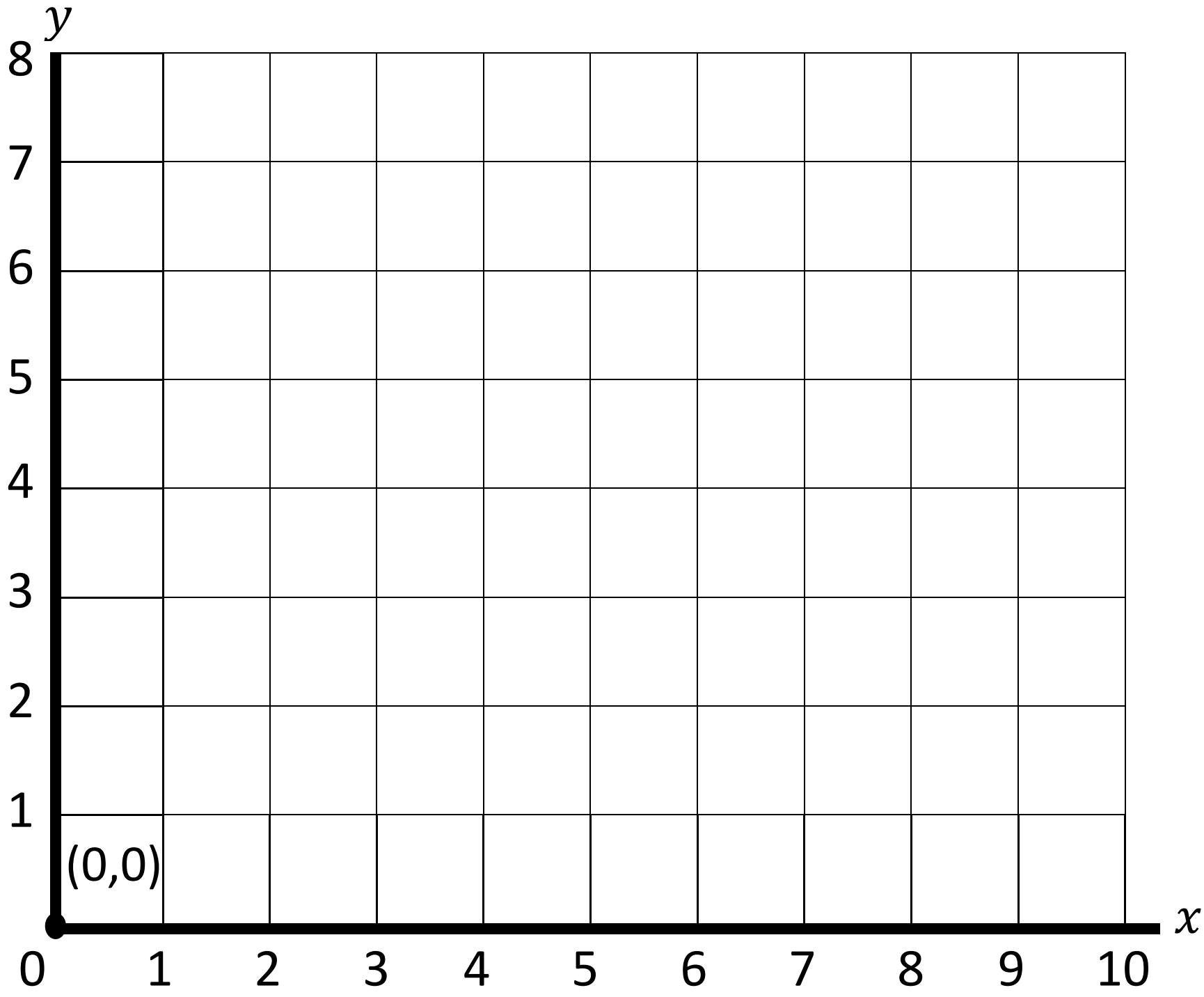
5.GM.1c3 Item 4 Stimulus Material 1

(1,3)

5.GM.1c3 Item 4 Stimulus Material 2

(7,5)

5.GM.1c3 Item 4 Stimulus Material 3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(2,4)

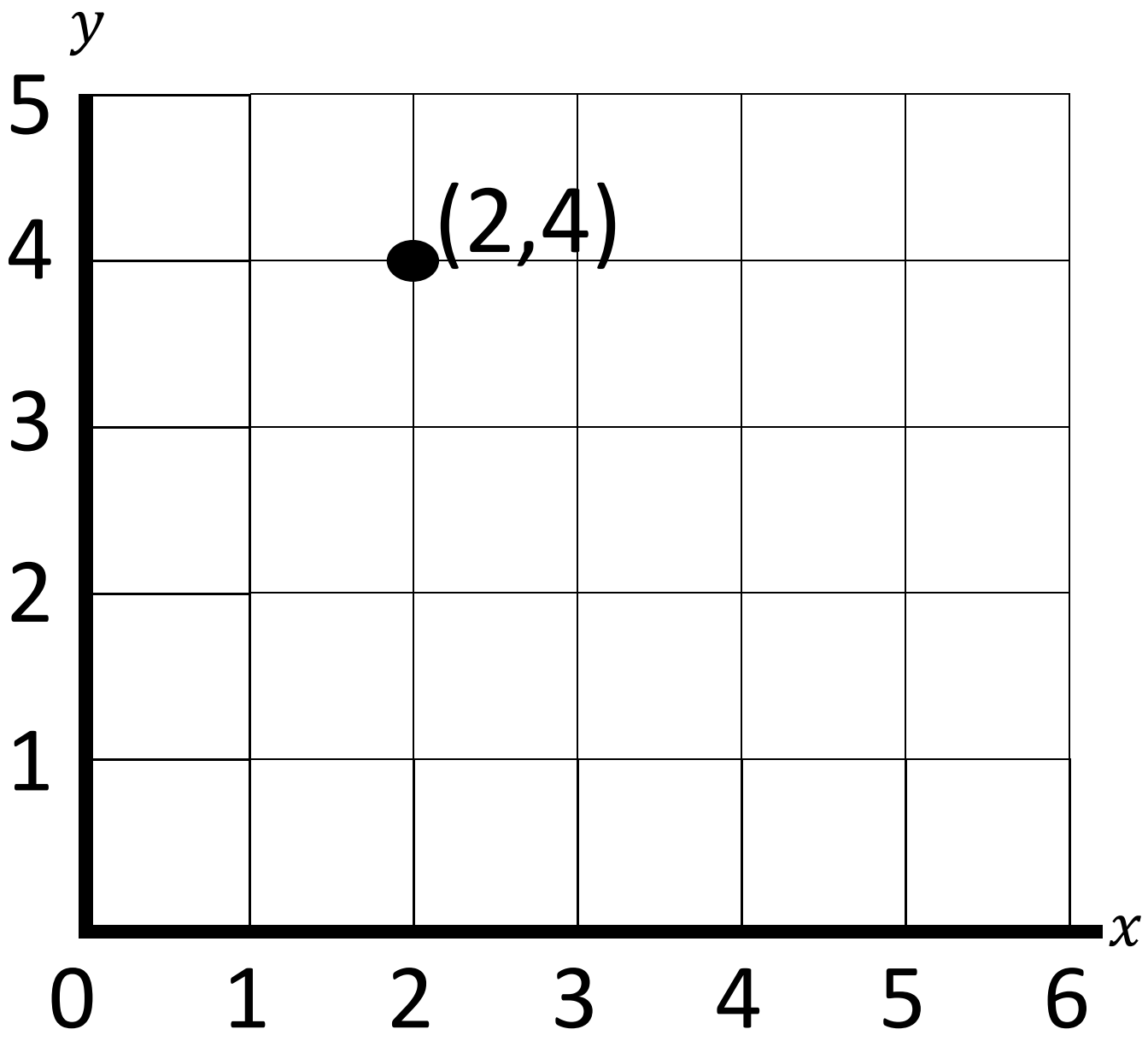
5.GM.1c3 Item 3 Stimulus Material 2

(1,3)

5.GM.1c3 Item 3 Stimulus Material 3

(7,5)

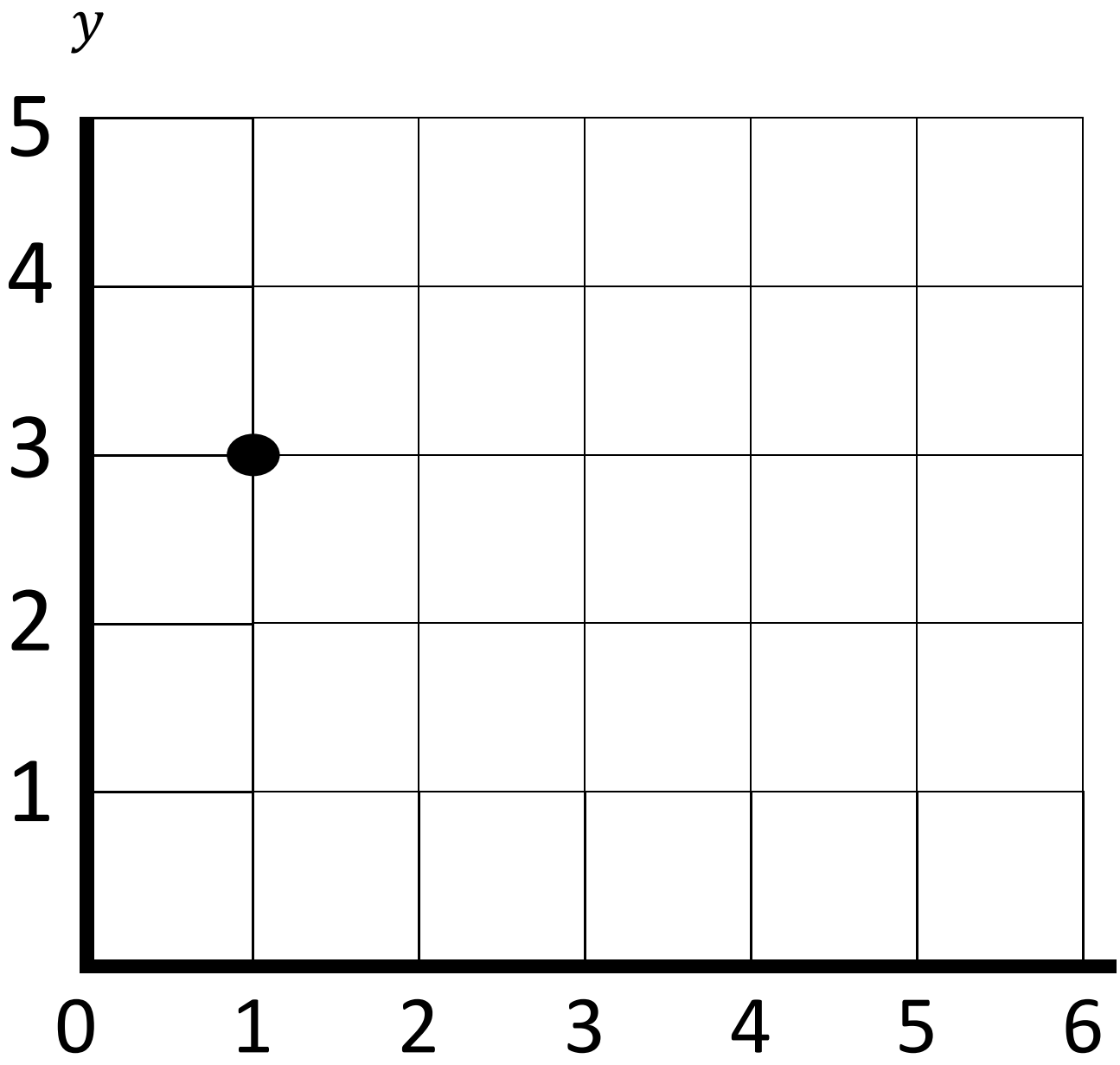
5.GM.1c3 Item 3 Stimulus Material 4



5.GM.1c3 Item 2 Stimulus Material 1

(_____ , _____)

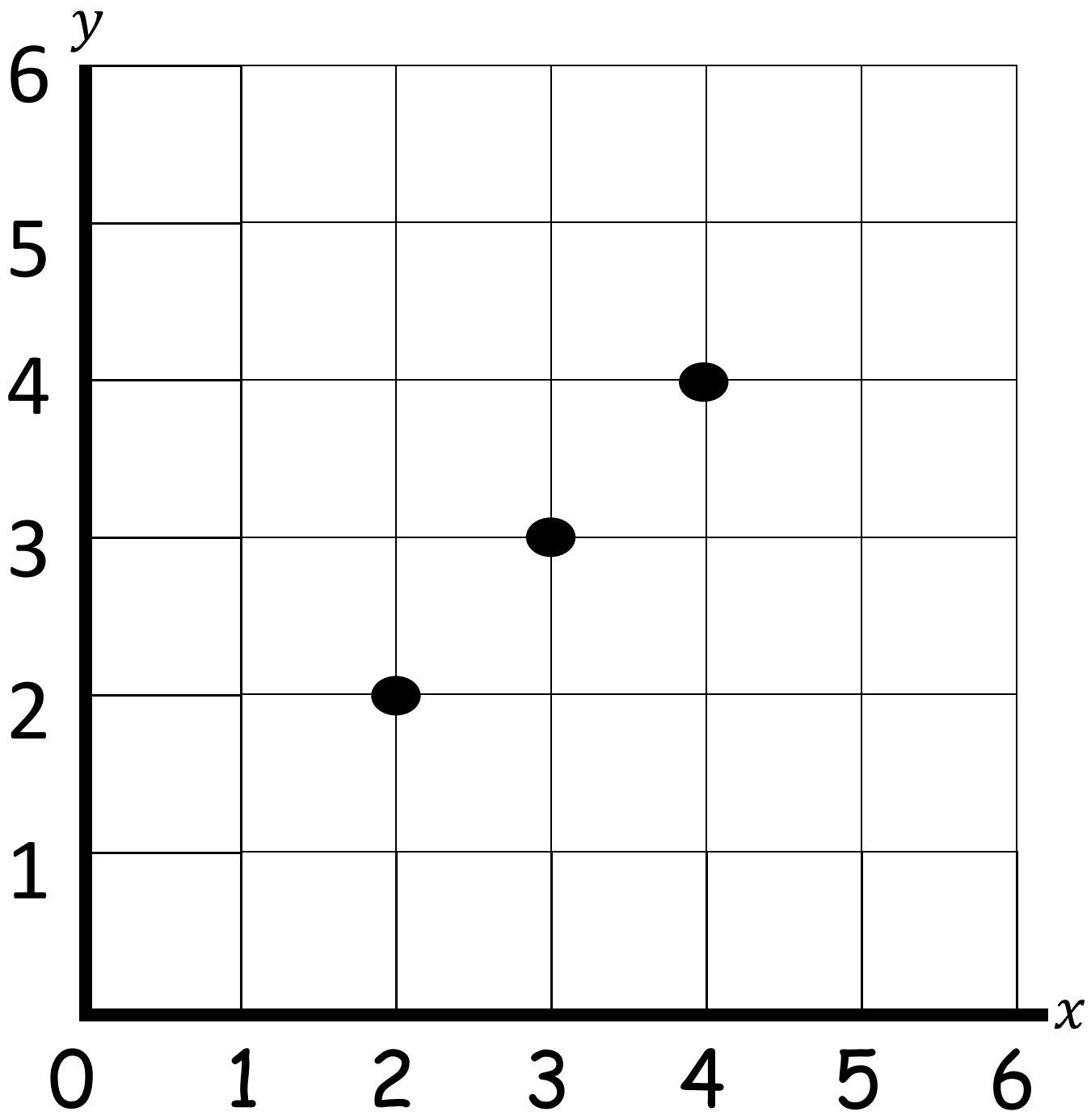
5.GM.1c3 Item 2 Stimulus Material 2



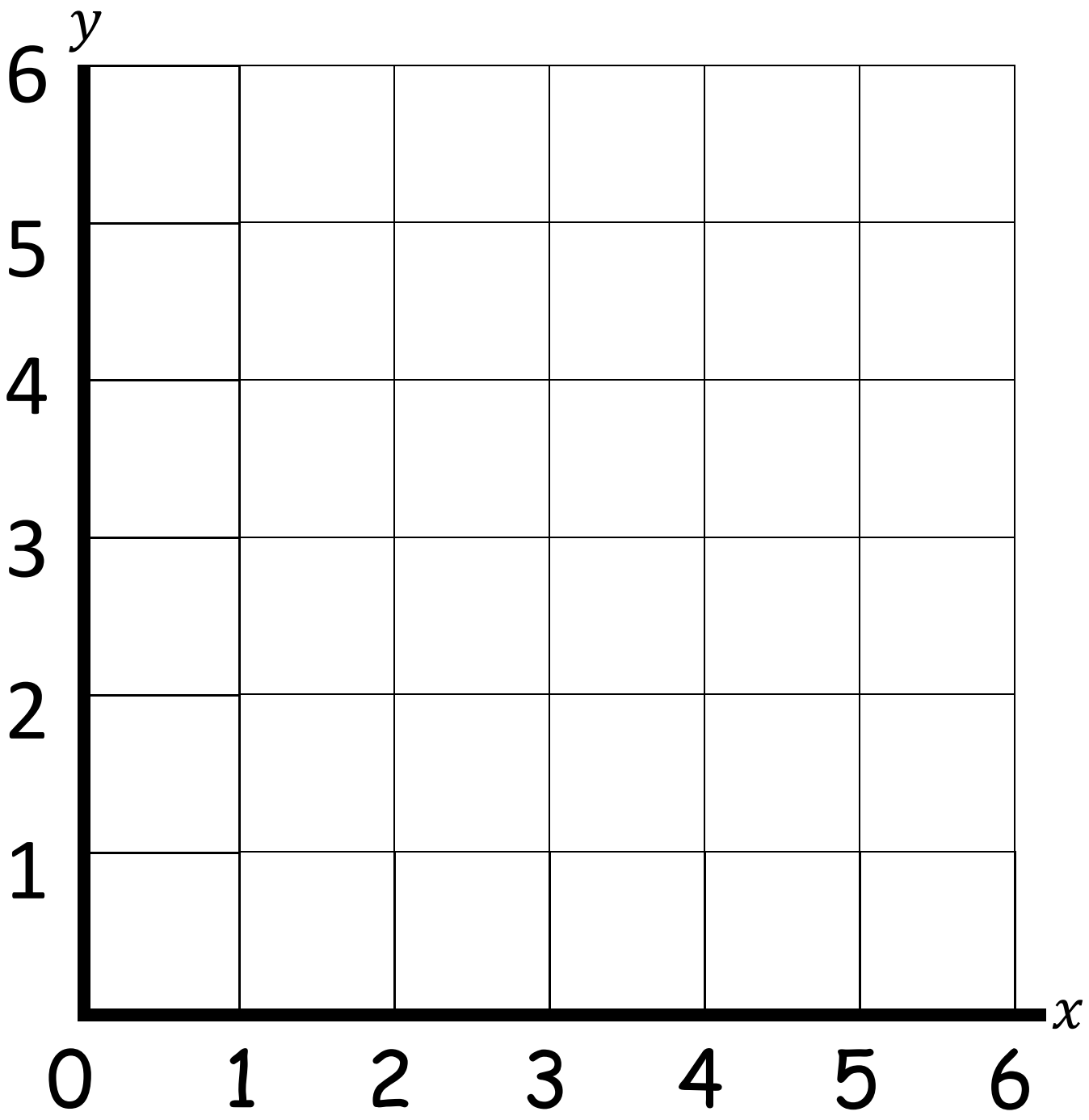
A. (1,3)

B. (2,4)

C. (3,1)



5.GM.1c3 Item 2 Stimulus Material 1



5.GM.1c3 Item 2 Stimulus Material 2