

NJSLA Grade 5 Mathematics

Lesson 1: Identify the Domain

NJSLA Type 1

Rationale

- Students need to know that the CCSS for Grade 5 are organized into five domains: Operations and Algebraic Thinking, Number and Operations in Base Ten, Number and Operations – Fractions, Measurement and Data, and Geometry.
- NJSLA technology-enhanced Type I items are designed to measure concepts, procedural skills and fluency. There are constructed-response and selected-response items. Knowing how to reason is very important. In order to assure that students perform at their personal best, students need to understand the concepts within the CCSS and the format of the items, and develop strategies for responding to each type of item with accuracy and efficiency.

Goals

- To introduce the CCSS domains and standards.
- To identify the style of NJSLA Type I technology-enhanced items which present the greatest challenge for each student and the class as a whole.

Objectives

- Students will learn that there are five domains.
- Students will classify NJSLA Type I questions by domain.
- Students will identify math vocabulary within the questions.
- Students will identify areas of strength and difficulty.

Materials

- *Investigate the Domains*, Student page, 1 per student
- Question sheets cut into individual cards, 1 set per group of students
- Vocabulary Board, 1 per group of students.
- Personal Journals
- Class Folder Labeled: Lesson 1: Identify the Domains. (At the end of the lesson, place the class papers in the folder. If students used “scratch” paper, please have students attach the “scratch” paper to their Mathematics Items handout.)

Procedures

- Say, “This year, you will be taking the math NJSLA Assessment. It will test all of the things you have learned this year in math in order to find out if you have mastered the concepts or if you still need more practice. Today we will be learning about what you will need to know for the test. You will determine what is easy for you and what is challenging for you. We will then work on a plan for improving the areas which are difficult for you right now.”
- Assign students to groups of 2 or 3. Give them the question cards and the *Investigate the Domains* Student Page. Tell students that the question on each card represents one thing that they will be expected to know for the test.
- Introduce the five domains. Ask them to take a look at their investigation card and think about what the question is asking them to do. They should then try to determine in which domain their card would belong. Have them work as a group to sort the cards by domain.
- Encourage the students to use the vocabulary board, identifying key vocabulary words within the questions and relating the words to the domains.
- Have students share the questions and domains. Help them to reach a consensus regarding the proper domain for each card. (Some Operations and Algebraic Thinking questions may seem as though they could also fit into Number and Operations in Base Ten. Discuss the difference between the two.)
- Tell students that they will now look at each question and then rate it (individually) on their *Investigate the Domains* chart as easy, medium or difficult, based upon the style of the question. They should then solve the problem as a group.
- While the students are working, circulate the room and monitor students’ approaches. Note patterns of difficulty and/or errors.
- When students have finished, ask them to share their answers to the questions.
- After reviewing all of the answers, have students look at their charts and determine which styles are the easiest for them and which present more of a challenge.
- Have each student share one thing that they learned about themselves during the lesson. Did they identify a specific type of item or domain that will be the most difficult for them to answer? Did they find that they made errors even though they knew the content?

Assessment or Check for Understanding

- Journal writing: in the last 2-3 minutes of class, students should record what they learned about themselves regarding test taking strategies and the content of the CCSS.

Follow-up

- During any mathematics lesson, engage students in a discussion of why one item was less challenging and another item more challenging.



Investigating the Domains



Operations and Algebraic Thinking

Card Number	Easy	Medium	Difficult

Number and Operations in Base Ten

Card Number	Easy	Medium	Difficult

Number and Operations - Fractions

Card Number	Easy	Medium	Difficult

Measurement and Data

Card Number	Easy	Medium	Difficult

Geometry

Card Number	Easy	Medium	Difficult

Operations and Algebraic Thinking

parentheses

numerical expressions

numerical patterns

brackets braces

Number and Operations in Base Ten

place value

decimal

multiplication/division

area models

Number and Operations - Fractions

fraction

equivalent

unlike

numerator

denominator

Measurement and Data

conversion

line plot

volume

unit cube

cubic units

Geometry

coordinate plane

ordered pairs

two-dimensional

defining characteristic

quadrants

Operations and Algebraic Thinking

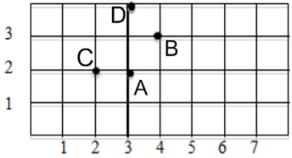
Number and Operations in Base Ten

Number and Operations-Fractions

Measurement and Data

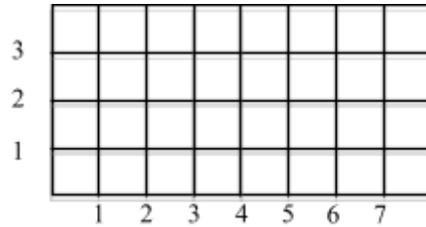
Geometry

Answer Key

Item	Answer	Standard
1	<div style="display: flex; align-items: center;"> <div style="border: 1px solid black; padding: 5px; margin-right: 10px;"> A. (3,2) B. (4,3) C. (2,2) D. (3,4) </div> <div style="border: 1px solid black; padding: 5px;">  </div> </div>	5.G.1
2	$\frac{5}{4}$ cups $1\frac{1}{4}$ cups	5.NF.2
3	30.19	5.NBT.7
4	A B C	5.MD.5b
5	$\frac{2}{3}$ foot 8 inches	5.NF.3
6	LO is parallel to MN	5.G.3
7	$\frac{7}{6}$ or equivalent	5.NF.4
8	$4(3 + 2) - 6 \div 2 + 1$ <div style="border: 1px solid black; border-radius: 10px; padding: 5px; margin: 5px 0; width: fit-content;"> $[4(5)] - 6 \div 2 + 1$ </div> <div style="border: 1px solid black; border-radius: 10px; padding: 5px; margin: 5px 0; width: fit-content;"> $20 - 6 \div 2 + 1$ </div> <div style="border: 1px solid black; border-radius: 10px; padding: 5px; margin: 5px 0; width: fit-content;"> $20 - 3 + 1$ </div> <div style="border: 1px solid black; border-radius: 10px; padding: 5px; margin: 5px 0; width: fit-content;"> $17 + 1$ </div> <div style="border: 1px solid black; border-radius: 10px; padding: 5px; margin: 5px 0; width: fit-content;"> 18 </div>	5.OA.1
9	A C D	5.OA.3

1. Plot each point on the graph.

Label with the letter.



A. (3,2) B. (4,3) C. (2,2) D. (3,4)

2. Choose the **two** correct answers.

Laura needs $\frac{3}{4}$ cup of sugar for her chocolate chip cookies and $\frac{1}{2}$ cup of sugar for her peanut butter cookies. How much sugar does she need altogether?

$\frac{5}{4}$ cups

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

$\frac{3}{6}$ cups

$\frac{4}{4}$ cup

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

3. Find the sum.

$$30 + .1 + .09 =$$

4. Choose the **three** correct answers.

If a cereal box measures 10 inches high, 8 inches long and 2 inches wide, what other box sizes would hold the same volume of cereal?

(Use the formula $V = l \times w \times h$)

A. 16 in. high, 5 in. long and 2 in. wide

B. 10 in. high, 4 in. long and 4 in. wide

C. 8 in. high, 5 in. long and 4 in. wide

D. 12 in. high, 5 in. long and 3 in. wide

E. 20 in. high, 6 in. long and 2 in. wide

5. Choose the **two** correct answers.

A teacher cut a 4 foot long string into 6 equal pieces.

How long is each piece?

$\frac{2}{3}$ foot

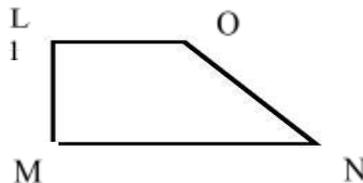
2 inches

8 inches

6 inches

$\frac{1}{2}$ foot

6.



LMNO is a trapezoid. Which statement is true?

A. LO is parallel to MN

B. LM is perpendicular to ON

C. Angle M and Angle N are congruent.

D. Angle L and Angle O are congruent.

7. Find the product. Enter **only** the answer.

$$2\frac{1}{3} \times \frac{1}{2}$$



8. Select the solution steps from the menu and place them in sequence.

Simplify: $[4(3+2)] - 6 \div 2 + 1$

$14 \div 2 + 1$	$20 - 6 \div 2 + 1$	$17 + 1$
18	$20 - 3 + 1$	$7 + 1$
		$[4(5)] - 6 \div 2 + 1$

9. Choose **three** correct statements.

Pattern A: Start with 2, Add 3 **Pattern B:** Start with 2, Add 5

Which of the following statements are true about patterns A and B?

- A. Both patterns are increasing in value.
- B. The terms in pattern B are 5 more than the terms in pattern A.
- C. Both patterns alternate odd and even sums.
- D. The terms in pattern B are 2 more than the terms in pattern A.
- E. The terms in pattern A are 2 more than the terms in pattern B.