Virginia Essentialized Standards of Learning
Instruction Resource
Mathematics Sample Activities

Grade 3: Number, Number Sense, Computation, and Estimation (NNSCE)

VESOL Code	VESOL Reporting Category	VESOL Text	Complexity Continuum
M-3 5	Number, Number Sense, Computation, and Estimation (NNSCE)	Add and subtract whole numbers from 0 through 20.	Sums for addition problems will not exceed 20.

Instructional Example

Objective:
Students will be able to add and subtract whole numbers up from 0 to 20.

Vocabulary:
add, subtract, plus, minus, equals, count, forward, backwards

Materials: *Sample activities range across a continuum of complexity and may include materials such as*: Numbers 1-20 cards in a variety of sizes and visual contrast, variety of counters in different sizes and colors, math mat, math symbol cards, magnet or tactile numbers, variety of magnetic counting objects, whiteboard, number line, addition problems with sums up to 20, subtraction problems that result in an answer from 1-10 using numbers 1-20

Procedures for Instruction:

These instructional activities can be used at various points on the complexity continuum, depending upon student ability. Many possibilities exist for lesson creation between the examples presented here. It is important to start instruction where the student is currently functioning and implement the appropriate instructional strategy with them. Once data indicate that the student is ready for the next level of instruction, proceed to it after reviewing the level the student has mastered. Let the data be your guide.

Sample Activity 1

Students will place objects on a number card to represent that number. Number cards used should take into consideration the need for tactile and visual support. Students who need a larger space to place items will be provided a math mat with visual and/or tactile boundaries. High contrast number cards should be considered for students requiring visual contrast.

Sample Activity 2

Students will place objects on a whiteboard or math mat to represent each number in an addition number sentence written on a white board or math mat and then count all of the objects to find the sum. Students who need a larger space to place items will be provided a math mat with visual and/or tactile boundaries. High contrast number cards should be considered for students requiring visual contrast.

Sample Activity 3

Students will use a number line to solve number sentences with sums between 11-15. The student will place a counter on the number line for the first number represented in the addition problem, and then move the counter or object forward on the number line to the number of spaces indicated by the second number in the number sentence. For example, if the math problem is "5 + 6 = ?" the student would place the counter on the number 5, then count forward 6 spaces to land on 11. The student response will be recorded after the equal sign in the number sentence.

Sample Activity 4

Students will use a number line to solve subtraction problems with an answer between 1-10. The student will place a counter on the number line for the bigger or first number in the subtraction sentence, and then move the counter or object backwards towards 0 the number of spaces represented by the second or smaller number in the number sentence. For example, if the math problem is "11-6 = ?," the student would place the counter on the number 11 and then count backwards 6 spaces to land on 5. The student response will be recorded after the equal sign in the number sentence.

Additional Resources:

Evidence-Based Instructional Practices:

- Evidence-Based Practices for Students with Significant Cognitive Disabilities
    - Discrete Trial Teaching AFIRM module
    - Discrete Trial Teaching Implementation Checklist
    - Least-to-Most Prompting
    - Task Analysis Step-by-Step Guide

Communication:

- 36 Location Universal Core Board
- Core Vocabulary and Math: Core words that can be modeled and targeted during lessons:
    - More
    - All/Some
    - Up/Down
    - Get more
    - No/not more
    - There
    - Stop/Go

Number lines:

- Paths to Literacy *Functional Number Line for Students with CVI*.
- Concrete-Representational-Abstract: Instructional Sequence for Mathematics

Virtual Manipulative Resources:

- Virtual Manipulative Resources
- Toy Theater Virtual Manipulatives
- Math Playground Virtual Manipulatives

Desmos:

- Desmos Activity Log- an Excel spreadsheet, contains a tab for each grade-level/mathematics course from Grade 2 through Algebra II. Each grade level sheet includes a list of SOL-aligned Desmos activities with a brief description and direct link to the activity on the Desmos website.
    - Adding Whole Numbers
    - Addition Shapes

Virginia Department of Education Resources:

- Mathematics Vocabulary Word Wall Cards (K-8, Algebra I, Geometry, AFDA, and Algebra II) – provide a display of mathematics content words and associated visual cues to assist in vocabulary development.
- Rich Mathematical Tasks – (K-8, Algebra I, Geometry, Algebra II) These resources are provided to support teachers in implementing the 2016 *Mathematics Standards of Learning* in their classrooms. Teachers are encouraged to not only use these tasks with their students, but also to endeavor to implement them with fidelity by utilizing the detailed information provided in the task implementation templates.
- Mathematics Instructional Plans – includes instructional plans aligned to the 2016 *Mathematics Standards of Learning* to assist teachers in aligning instruction to the essential knowledge and skills.
- Evidence-Based Specially Designed Instruction in Mathematics Resource Guide (PDF) provides an overview of evidence-based instructional strategies that educators can utilize to support students with mathematics disability or difficulty at any grade.
- The Students with Disabilities in Mathematics: Frequently Asked Questions (PDF) document provides an overview of the characteristics of mathematics disability as well as information about accommodations, modifications, and assistive technology that can support a student with a disability in mathematics. Mathematics Vertical Articulation Tool - This tool provides support in identifying concepts aligned to the 2016 *Mathematics Standards of Learning* (SOL) that articulate across mathematics grade levels or courses.
- 2016 Mathematics Vertical Articulation Grades K – Algebra II SOL by Strand Concepts- These versions of the MVAT address all five strands across select grade levels and include only references to mathematics SOL by number.