

ONE ACTIVITY THAT COULD BE SHARED WITH ELEMENTARY LEARNERS:

GOAL 2: Apply Core Concepts and Principles

Academic Expectation 2.12: Students demonstrate understanding of concepts related to mathematical structure.

A. One Sample Instructional Activity/Project for Elementary Learners that Incorporates this Academic Expectation Could Be:

Students will develop and explain various experiments with liquids that demonstrate that the volume of water remains consistent when it is poured between containers of various sizes and shapes. Students will explore the various appearances of a liter of water in a variety of containers.

B. Ways Students with DIVERSE EDUCATIONAL ABILITIES AND INSTRUCTIONAL NEEDS Could Demonstrate this Academic Expectation within this Sample Class Activity

- (1) The student will pour the liquid between two containers and state that the quantity remains the same.
- (2) The student will fill the liter measuring beaker to a given line.
- (3) The student will offer a narrative explanation of why he knows the amount of water stays the same.
- (4) The student will develop and explain a process for determining which of two different shaped containers hold more water.
- (5) Given two identical containers, with different amounts of water, the student will identify the container with less water.
- (6)
- (7)
- (8)
- (9)
- (10)

C. Ideas for Providing Students with DIVERSE EDUCATIONAL ABILITIES AND INSTRUCTIONAL NEEDS Opportunities to Practice Basic Skills and Critical Activities Found on their IEPs While Participating in this Class Activity:

- (1) The student will pour liquids from one container to another with minimal spillage. [TARGETED SKILLS: motor skills] {COACH: SELECTED ACADEMICS #42}
- (2) The student will work cooperatively with a group of peers conducting an experiment on conservation of volume. [TARGETED SKILLS: communication skills, social skills, critical school activity] {COACH: COMMUNICATION #7; SCHOOL #65}
- (3) When asked - "Should we put more water in the container?" - the student will change expression and level of activity to indicate "more." [TARGETED SKILLS: communication skills, social skills] {COACH: COMMUNICATION #1, #10; SOCIALIZATION #13}
- (4)
- (5)

ONE ACTIVITY/PROJECT THAT COULD BE SHARED WITH MIDDLE SCHOOL LEARNERS:

GOAL 2: Apply Core Concepts and Principles

Academic Expectation 2.12: Students demonstrate understanding of concepts related to mathematical structure.

A. One Sample Instructional Activity/Project for Middle School Learners that Incorporates this Academic Expectation Could Be:

Students will develop a flow chart to define a process for adding numerals in base 5.

B. Ways Students with DIVERSE EDUCATIONAL ABILITIES AND INSTRUCTIONAL NEEDS Could Demonstrate this Academic Expectation within this Sample Class Activity:

- (1) The student will point to the steps in the process in sequence defined by the flow chart.
- (2) The student will follow the arrow to point to the step that comes next in the sequence.
- (3) The student will attend while various students count one to five.
- (4) The student will verbally state what numeral comes next from 0-4.
- (5) The student will state the name of numerals 1-5 when shown a flash card of the numeral.

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C. Ideas for Providing Students with DIVERSE EDUCATIONAL ABILITIES AND INSTRUCTIONAL NEEDS Opportunities to Practice Basic Skills and Critical Activities Found on their IEPs While Participating in this Class Activity:

- (1) The student will point to rectangles, circles and diamonds in the flow chart when given a model. [TARGETED SKILLS: communication, functional academics] {COACH: COMMUNICATION #7; SELECTED ACADEMICS #47}
- (2) The student will ask a peer for assistance with his 1-5 numeral recognition task. [TARGETED SKILLS: communication skills, social skills] {COACH: COMMUNICATION #9, #12; SOCIALIZATION #14, #19}
- (3) The student will respond appropriately when asked to write his name on a list of group members. [TARGETED SKILLS: communication, functional academic skills] {COACH: COMMUNICATION #7; PERSONAL MANAGEMENT #32; SELECTED ACADEMICS #49}

(4)

(5)

ONE ACTIVITY/PROJECT THAT COULD BE SHARED WITH HIGH SCHOOL LEARNERS:

GOAL 2: Apply Core Concepts and Principles

Academic Expectation 2.12: Students demonstrate understanding of concepts related to mathematical structure.

A. One Sample Instructional Activity/Project for High School Learners that Incorporates this Academic Expectation Could Be:

A group of students will create alphabetic codes based upon mathematical pattern of binary numbers and then challenge a group of peers to “break the code.”

B. Ways Students with DIVERSE EDUCATIONAL ABILITIES AND INSTRUCTIONAL NEEDS Could Demonstrate this Academic Expectation within this Sample Class Activity:

- (1) The student will point to a card with a 1 upon request.
- (2) The student will sort sets of alphabet cards into sets marked A-F, G-L, M-R and S-Z.
- (3) The student will sort each set into subsets for each individual letter.
- (4) The student will sort sets of cards representing different binary numbers (e.g., 1, 11, 10, 111).
- (5) Given a code showing the match between a letter and a binary number, the student will follow the code and write the appropriate letter given the binary number.

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C. Ideas for Providing Students with DIVERSE EDUCATIONAL ABILITIES AND INSTRUCTIONAL NEEDS Opportunities to Practice Basic Skills and Critical Activities Found on their IEPs While Participating in this Class Activity:

- (1) The student will attend to the speakers as members of his group discuss their plan for coding. [TARGETED SKILLS: communication skills, social skills] {COACH: SOCIALIZATION #13; SELECTED ACADEMICS #41}
- (2) The student will work with a peer to type a coded message from a model on the computer. [TARGETED SKILLS: communication skills, motor skills, functional academic skills] {COACH: SELECTED ACADEMICS #42, #44, #45, #46, #47, #55}
- (3) The student and peer will write out the binary code for each letter alphabet – the student will write the alphabet letter and the peer the appropriate binary code. [TARGETED SKILLS: communication skills, motor skills, functional academic skills] {COACH: COMMUNICATION #7; SELECTED ACADEMICS #4 A group of students will create alphabetic codes based upon mathematical pattern of binary numbers and then challenge a group of peers to “break the code.”7, #49}

(4)

(5)

MORE IDEAS AND EXAMPLES:

GOAL 2: Apply Core Concepts and Principles

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General Demonstrators of this Academic Expectation which May Be Appropriate for Individuals with DIVERSE EDUCATIONAL ABILITIES AND INSTRUCTIONAL NEEDS and Might be Adapted to a Variety of Age-Appropriate Activities or Projects:

The student will:

- (1) Given two numerals 1-10, and a vertical number line, the student states which numeral is more.
- (2) Sort triangles, rectangles and circles by shape.
- (3) Given a simple flow chart for using a calculator, complete the addition process for a basic 2 digit by 2 digit addition problem.
- (4) Sort student papers into piles – words, numbers, drawings.
- (5) Place furniture in the proper room of a model house.
- (6) Fill in a missing numeral on a 1-10 number line.
- (7) Fill in missing numerals on a 1-100 (10 X 10) number chart.
- (8) Sort foods by food groups.
- (9) Read the greater than sign (>) accurately in defining the relationship between two numerals.
- (10) Sort items by category and subcategory (red – circle, square triangle, yellow circle, square triangle).
- (11) Fill in the missing numeral on a clock face.
- (12) Match numerals 1-5 with Roman numbers I, II, III, IV, V.
- (13) Given a basic equation involving addition or subtraction, accurately carry out the process on a calculator
- (14) Given a basic equation involving addition (e.g., $5 + 3 = 8$), explain the process in a narrative.
- (15) Follow a flow chart to calculate sales tax on a given amount using a calculator.

- (16)
- (17)
- (18)
- (19)
- (20)

If you are using COACH-2, * the following COACH Activities might fall within this Academic Expectation:

SELECTED ACADEMICS: #44, differentials, discriminates between various things; #51, counts with correspondence; #52, calculates; #53, uses clock; #54, uses calendar.

* Giangreco, M.F., Cloninger, C.J., & Iverson, V.S. (1998). Choosing options and accommodations for children: A guide to planning inclusive education. 2nd Edition. Paul H. Brookes: Baltimore.