

Comparing Volume – A Co-Teaching Lesson Plan

Co-Teaching Approaches

A “(Y)” in front of the following list items indicates the approach is outlined in the lesson. An “(N)” in front of the following list items indicates the approach is not outlined in the lesson.

- (Y) Parallel Teaching
- (Y) Team Teaching
- (N) Station Teaching
- (N) One Teach/One Observe
- (N) Alternative Teaching
- (N) One Teach/One Assist

Subject

Kindergarten Mathematics

Strand

Measurement and Geometry

Topic

Comparing Volume

SOL

K.9 The student will compare two objects or events, using direct comparisons, according to one or more of the following attributes: length (longer, shorter), height (taller, shorter), weight (heavier, lighter), temperature (hotter, colder), volume (more, less), and time (longer, shorter).

Outcomes

Students will be able to compare and describe volumes of two containers as more or less, using direct comparison.

Materials

- Solid containers of various sizes
- Container of marbles (or similar same-sized small objects)
- Two clear bottles of water (identical sizes)
- Classroom objects/manipulatives (e.g., pencils, counters, crayons, buttons)
- Sand/rice/dried corn/beans/pasta

- Chart paper or whiteboard
- Markers

Vocabulary

compare, equal, less, more, volume (the measure of capacity of a container)

Co-Teacher Actions

Lesson Component	Co-Teaching Approach(es)	General Educator (GE)	Special Educator (SE)
Anticipatory Set	Team Teaching	The GE will place two different-sized containers on a table. Ask students to describe the containers and what they might hold. Continue the discussion, asking students whether the containers would hold the same amount of anything that might be put inside them.	The SE will assist the GE with getting containers, asking questions, creating class dialogue, etc.
Lesson Activities/ Procedures	Team Teaching	<p>1. The GE will pour one bottle of water into the first container and repeat the process with the second container. After pouring the water into the containers, set the water bottles on the table, side by side, where all students can see them.</p> <p>Guide students through exploration of volume by leading a discussion about which water bottle has the most and/or least liquid remaining in it. Using this analysis, students will be able to determine which container held the most or least amount of liquid.</p>	<p>2. The SE will place a different set of containers on the table. The SE will call on students to come place some marbles in the containers, until they are filled. Once the containers are full, help the students count and record the number of marbles held in each container.</p> <p>Then lead the class in a discussion about volume by determining which container held more and which held less marbles.</p>
Guided/Independent Practice	Parallel Teaching	<p>Teachers will randomly divide the class into two separate groups to practice the skill.</p> <p>Teacher-led Group 1: Using one of the following – rice/dried corn/beans/sand/or pasta – the GE will guide students through an activity of measuring the volume of</p>	<p>Teacher-led Group 2: Using classroom manipulatives (e.g., buttons, counters, pencils, crayons), students will count out the number of items that fit into the</p>

Lesson Component	Co-Teaching Approach(es)	General Educator (GE)	Special Educator (SE)
		<p>various-sized containers by first filling a container with the material and then pouring the contents from that container into another. Students will practice using the vocabulary terms (<i>more, less, equal, volume</i>) by comparing the volume of the two containers.</p> <p>After guided practice, students will flip-flop and go to Teacher-led Group 2.</p>	<p>provided containers. Students will practice using the vocabulary terms (<i>more, less, equal, volume</i>) by comparing the volume of the two containers.</p> <p>After guided practice, students will move to Teacher-led Group 1.</p>
Closure	Team Teaching	Teachers will bring all students back to the whole-group setting. Once there, using chart paper and markers, teachers and students will work together to discuss and chart their findings (i.e., which containers held the most, least, same amount)	Same as GE.
Formative Assessment Strategies	Team Teaching	<p>During the teacher-led practice, the teacher will notate who is demonstrating correct usage of the vocabulary terms and who is able to compare the volume of containers.</p> <p>Exit Ticket</p> <p>Draw a picture of something that would hold more water than my water bottle (hold up the bottle). Draw a picture of something that would hold less water than my water bottle.</p>	Same as GE.
Homework	Team Teaching	Give parents a synopsis of the activities used in this lesson. Ask them to continue the exploration of comparing volume at	Same as GE.

Lesson Component	Co-Teaching Approach(es)	General Educator (GE)	Special Educator (SE)
		home (i.e., “I need to cook enough spaghetti for all of our family. Which pot should I use to boil the water?”)	

Specially Designed Instruction

- The teacher can provide repetitive practice for counting objects
- The teacher can provide direct instruction in math vocabulary (less, more, etc)

Accommodations

- Provide students with a number line to assist with counting objects.
- Noise-canceling headphones to eliminate extraneous noise.
- Flexible seating arrangements for students needing it.
- Preferential seating for students who need to be near a teacher.
- Use of manipulatives.

Modifications

- As always, use modifications as documented on specific student IEPs.
- Limit the number of objects student required to count

Notes

- “Special educator” as noted in this lesson plan might be an EL teacher, speech pathologist, or other specialist co-teaching with a general educator.
- Enhancing the lesson: Use video clips found online that demonstrate volume at a preschool/kindergarten level.