



# artsNOW

Integrated learning solutions

## ALL IN A ROW: ADDITION TABLEAU

Grade Band: Grade 1

Content Focus: Theatre & Math



### LEARNING DESCRIPTION

Students will represent numbers with their bodies. They will work together to form addition sentence tableaux in order to visualize how 1-, 2-, and 3-digit addition works.

### LEARNING TARGETS

Essential Questions	"I Can" Statements
How can the arts help to clarify mathematics concepts?	I can play a role in an addition tableau.

### GEORGIA STANDARDS



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Curriculum Standards	Arts Standards
<p><b>Grade 1:</b> MCC1.OA.6 Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., <math>8 + 6 = 8 + 2 + 4 = 10 + 4 = 14</math>); decomposing a number leading to a ten (e.g., <math>13 - 4 = 13 - 3 - 1 = 10 - 1 = 9</math>); using the relationship between addition and subtraction (e.g., knowing that <math>8 + 4 = 12</math>, one knows <math>12 - 8 = 4</math>); and creating equivalent but easier or known sums (e.g., adding <math>6 + 7</math> by creating the known equivalent <math>6 + 6 + 1 = 12 + 1 = 13</math>).</p>	<p><b>Grade 1:</b> TAES1.3 Acting by developing, communicating, and sustaining roles within a variety of situations and environments.</p>

## SOUTH CAROLINA STANDARDS

Curriculum Standards	Arts Standards
<p><b>Grade 1:</b> 1.NSBT.1.c. Read, write and represent numbers to 100 using concrete models, standard form, and equations in expanded form 1.NSBT.4 Add through 99 using concrete models, drawings, and strategies based on place value to: a. add a two-digit number and a one-digit number, understanding that sometimes it is necessary to compose a ten (regroup)</p>	<p><b>Anchor Standard 3:</b> I can act in improvised scenes and written scripts.</p>

## KEY VOCABULARY

Content Vocabulary	Arts Vocabulary
<p><u>Place Value</u> - The value of where the digit is in the number, such as units, tens, hundreds, etc.</p>	<p><u>Statue (Statues)</u> - An actor frozen in a pose. <u>Tableau (Tableaux)</u> - A group of actors frozen to create a picture.</p>

## MATERIALS

<p>Plus (+) and equal (=) sign placards that can stand on the floor (one possibility – written with marker on an inverted file folder - or part thereof – and capable of standing like a tent).</p>
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## Opening/Activating Strategy

### Letter Statues

Introduce or review what a statue is – an actor in a frozen pose. Explain that the students will make letter statues with their bodies. Call out one letter at a time and have them make the letters. Use a drum, another percussion instrument, or clapping to cue the statues. Encourage students to be creative, using full body, limbs, fingers, etc., and exploring the possibilities of standing, kneeling, sitting, lying down, etc., as appropriate for the classroom space. Use observational language to comment on the different ways in which students use their bodies to create the statues.

## Work Session

### Number Statues

- Repeat the process with numbers (single digits). After exploring multiple possibilities, inform students that they will focus on making number statues that use their whole bodies, and for which they will remain standing. Practice standing number statues.
- Ask students how they would make a statue of a number up to 100. Elicit from them, or guide them to, the idea of working in pairs or trios.
- Introduce or review what a tableau is – a group of actors frozen in a picture. Explain that tableaux often create pictures with characters and settings, but the tableaux today will be of numbers and number sentences.
- Invite two, and then three, volunteers to model creating a tableaux up to 100. Ask students what each digit in a multiple-digit number represents. Introduce or review the concept of place value. Ensure that students understand that the digit to the left represents a higher place value than the digit to the right, and identify the units: ones, tens, and hundreds places.
- Have students work in pairs to create a 2-digit number tableau (full-body, standing). Have them work together to say the name of the number together out loud. After creating a number, have them switch positions and say the name of the number with the digits switched. Move among the pairs to confirm that they are expressing each number correctly.
- If students have grasped the 2-digit numbers and are ready for 3-digit numbers, have them repeat the process in trios. Each trio can explore all the possibilities with their three digits (if the digits are all different, e.g., 1, 2, and 3, there will be six permutations: 123, 132, 213, 231, 312, 321.)
- Introduce the idea of moving from number tableaux to addition sentence tableaux.
- Invite three students to model a simple addition sentence tableau, e.g.,  $3 + 4 = 7$ . Have the students assume their positions, and then have them speak the sentence together. (Note: this is an opportunity, if relevant, to introduce or reinforce the Commutative Property of addition by having the addends switch places.)
- Provide plus and equal sign tent cards and have students work in trios to create addition sentence tableaux.
- Use the same process, first modeling and then having the students work in small groups, to move into more complex addition sentences: adding two 1-digit numbers that result in a 2-digit sum (e.g.,  $5 + 7 = 12$ ), adding a 1- and a 2- digit number together, without and then with sums that require making a new ten (e.g.,  $31 + 7 = 38$ , and then  $29 + 3 = 32$ ), and then adding two 2-digit numbers, without and then with sums that require carrying to the tens and hundreds places (e.g.,  $45 + 12 = 57$ , then  $24 + 19 = 43$ , then  $74 + 38 = 112$ ).



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### Teaching Tips:

- As appropriate to the class, use established addition strategies (counting on, making ten, etc.) to calculate sums, and advance only as far in the sequence of complexity as the class can manage.
- This may be a lesson that is done over time. The first step may best be suited for when single digit addition is taught, then adding 2-digit addition as the concept is taught, and so on.

### Closing/Reflection

Ask students: How did you use your bodies to create letter and number statues and addition sentence tableaux? Which were more challenging, letter statues or number statues? How do we determine the name and value of a 2- or 3-digit number? How did you determine your place or role in the number sentence?

## ASSESSMENTS

### Formative

- Students should be able to calculate answers to the mathematical problems.
- Students should accurately represent the numbers with their bodies.

### Summative

Assign various addition problems to the students at the level reflected in the lesson, and gauge their ability to visualize and complete the problems.

## DIFFERENTIATION

### Acceleration:

Acceleration and remediation are built into the lesson in terms of how far into the sequence of complexity the lesson goes, and how much students are asked to create and calculate the numbers and addition sentences on their own. For acceleration, there should be greater complexity and more independent (unguided, in pairs, trios, quads, and more) work.

### Remediation:

Acceleration and remediation are built into the lesson in terms of how far into the sequence of complexity the lesson goes, and how much students are asked to create and calculate the numbers and addition sentences on their own. For remediation, there should be less complexity, more modeling, and more full-class, guided work.

*\*This integrated lesson provides differentiated ideas and activities for educators that are aligned to a sampling of standards. Standards referenced at the time of publishing may differ based on each state's adoption of new standards.*

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