

# MATH

## I. COUNTING & CARDINALITY

Counting & Cardinality is the ability to understand the relationship between numbers and quantities. Before learning to **count**, a student needs to understand “one to one correspondence.” This means they are able to match one object to one other object. They also need to understand that the total quantity in a set can be determined by subitizing or counting. While subitizing allows students to perceive the cardinality of small sets, counting requires them to understand that the last number in the counting sequence represents the quantity of the set.

A.

### Students may have Difficulty in the Following Areas

- Consistently using the number words in the same order.
- Counting every item in a set only once and using only one number word.
- Understanding that the last number word used represents the cardinality of the set.
- Recognizing that any collection of like or unlike items can be counted as a set.
- Understanding that the result is the same no matter the order in which the objects are counted.

B.

### Assessment Tools

1. Use **Formative Assessment Strategies** that focuses on accuracy, efficiency, flexibility, and appropriate strategy selection:
  - **Interviews** – Students explain what they know about a topic (e.g. How did you figure this out?)
  - **Observations** – Tracking the strategies the students use (e.g. Students tell their peers or teacher both the answer and how they solved it.)
  - **Journaling** – The students explain what they know about a topic by drawing pictures (e.g. Draw a picture of a spider with 8 legs.)
  - **Quizzes** – Questions are used to see if students know foundational facts. (e.g. What number comes next?)

<b>C.</b>	<b>Progress Monitoring Tools</b>
	<ul style="list-style-type: none"> <li>• Mastery Connect</li> <li>• Jordan School District grade level Benchmark Assessments</li> <li>• Observe and Record the following: <ul style="list-style-type: none"> <li>Does the student rote count in order correctly?</li> <li>Does the student count each object once and only once?</li> <li>Does the student keep track of what is counted?</li> <li>Does the student check and recheck for correct counting?</li> <li>Does the student remember the number of objects counted corresponds to the last number said?</li> </ul> </li> </ul>
<b>D.</b>	<b>Research-Based Interventions</b>
	<ol style="list-style-type: none"> <li>1. Number Board Game</li> <li>2. Magic Number: Numbers 11-19</li> <li>3. Number Plus or Minus One</li> </ol>
<b>E.</b>	<b>Research Based Teaching Strategies</b>
	<ol style="list-style-type: none"> <li>1. Number Talks Strategy</li> <li>2. K 5 Math: <a href="http://www.k-5mathteachingresources.com/kindergarten-math-activities.html">http://www.k-5mathteachingresources.com/kindergarten-math-activities.html</a></li> <li>3. Jordan School District Elementary Math website: <a href="http://elemmath.jordandistrict.org/">http://elemmath.jordandistrict.org/</a></li> <li>4. USOE: Mathematics Tutoring Tips, Targeted Intervention: Practice and Strategies <a href="http://www.schools.utah.gov/CURR/mathem/Tutoring-Tips/Kindergarten.aspx">www.schools.utah.gov/CURR/mathem/Tutoring-Tips/Kindergarten.aspx</a></li> <li>5. Utah Education Network: Counting and Cardinality <a href="http://www.uen.org/core/displayLinks.do?courseNumber=5100&amp;standardId=71383">http://www.uen.org/core/displayLinks.do?courseNumber=5100&amp;standardId=71383</a></li> </ol>
<b>F.</b>	<b>Additional Intervention Materials</b>
	<ol style="list-style-type: none"> <li>1. Interventional Central: <a href="http://www.interventioncentral.org/">http://www.interventioncentral.org/</a></li> </ol>
<b>G.</b>	<b>Readings and Reference Materials</b>
	<ul style="list-style-type: none"> <li>• Jordan School District Elementary Math website: <a href="http://elemmath.jordandistrict.org/">http://elemmath.jordandistrict.org/</a></li> </ul>
<b>H.</b>	<b>EL Resources</b>

**PD Bites - A Buffet of Learning (WIDA, SIOP, Engagement, Culturally Responsive Teaching)**

"On Demand" Professional Development Modules designed to help you help all of your students, including your culturally and linguistically diverse students, find academic success in your classroom.

These modules are located in Canvas and can be accessed by following the links below.

Modules can be completed at your own pace and on your own time.

Topics include: WIDA, SIOP, Academic Language, Culturally Responsive Teaching, Engagement, etc.

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