



WEEK 5, Day 1

## Math Center: Recycle Subtration

Children solve subtraction stories using recycled materials.

<b>Big Ideas</b>	<p>Children will:</p> <ul style="list-style-type: none"> <li>● communicate mathematically through multiple forms of expression.</li> <li>● persevere in solving questions with a growth mindset.</li> <li>● solve mathematical problems using a variety of strategies.</li> <li>● make sense of the world around them through mathematics.</li> <li>● connect math to other learning and real-world examples.</li> </ul> <p>A strong, interdependent math community has qualities, such as:</p> <ul style="list-style-type: none"> <li>● shared responsibility, collaboration and support for each other.</li> </ul>
<b>Guiding Questions</b>	<p>What does it mean to be a member of a math community?                  How do you use math tools?                  How do you most effectively communicate your mathematical thoughts and ideas?                  Why is collaboration and listening to the ideas of others important?</p>
<b>Vocabulary</b>	<p><b>recycle:</b> taking old, used items like plastic bottles, paper, and glass, and turning them into new products instead of throwing them away</p> <p><b>subtract:</b> when you take one number away from another number to decrease the size, number, or amount.</p>
<b>Materials and Preparation</b>	<ul style="list-style-type: none"> <li>● small recyclable items such as marker caps, glue stick covers, milk caps (might be borrowed from the Beautiful Stuff collection)</li> <li>● <a href="#">Recycle Subtraction 10 frame</a> Laminate to increase longevity.</li> <li>● <a href="#">recycling bin subtraction cards</a> Laminate to increase longevity.</li> <li>● Dot cube(s)</li> <li>● Optional: dump truck</li> </ul>

<p><b>Intro to Centers</b></p>	<p><i>We've been learning about <b>Recycling</b>. What does it mean to recycle?</i> Provide one minute of quiet think time. Harvest a few responses.</p> <p><i>At the Math Center this week, I invite you to run a recycling center. You will find some materials to be recycled, ten frames, number cards, and cubes.</i></p> <p>Show materials. <i>First, you will draw a number card and place the same number of materials in your ten frame.</i></p> <p>Model. <i>Then, carefully roll your dot cube, removing the same number of recycled items from your ten frame. What is this action called?</i></p> <p>Provide one minute of quiet think time and then harvest a few responses. <i>Yes, it's subtraction. Subtraction is breaking a number into two smaller parts.</i></p> <p><i>Place the items you removed from your ten frame back in the starting pile (or load them into your dump truck and drive them to the recycling center).</i></p> <p><i>Repeat the process as many times as you want. Remember when you are finished, put your materials away and leave the center ready for the next person.</i></p>
<p><b>During Centers</b></p>	<p>Encourage children to verbally express the subtraction story as they solve the equations. (e.g., <i>12 bottle caps take away (or subtract) 3 bottle caps is 9 bottle caps left.</i>) Follow the children's lead and use precise mathematical vocabulary to narrate what they are doing in their plans.</p> <p>Take observational notes of the children's exploration and language.</p>
<p><b>Facilitation</b></p>	<ul style="list-style-type: none"> <li>● How can we show our understanding? How can you record and explain your thinking?</li> <li>● What can you do to help you be successful when working in Centers? What can your partner(s) do to help you be successful? What can your teacher do?</li> <li>● What can you do when there is a math standard that you're not sure about?</li> <li>● What numbers could you write to create this equation? (K.CC.A.3)</li> <li>● What is a "how many?" question that could be asked about what you are observing? What would the answer be? (K.CC.B.5)</li> </ul> <p>Possible extension:</p>

	<ul style="list-style-type: none"> <li>• Children ask and answer math questions about their recycling center or create story problems.</li> </ul>
<b>Standards</b>	<p>A variety of standards may be posted, based on the math curriculum used in the classroom. Common options might include:</p> <p><b>QR.C.1</b> Know the number names and the count sequence.</p> <ul style="list-style-type: none"> <li>• <b>K.CC.A.3:</b> I can write numbers from 0 to 20. I can write the numbers 0-20 to represent a number of objects.</li> </ul> <p><b>QR.C.2</b> Count to tell the number of objects.</p> <ul style="list-style-type: none"> <li>• <b>K.CC.B.5:</b> I can count to answer “how many?” questions for as many as 20 things arranged in different ways. Given a number from 1-20, I can count out that many objects.</li> </ul> <p><b>QR.C.3</b> Compare numbers.</p> <ul style="list-style-type: none"> <li>• <b>K.CC.C.6:</b> I can identify if the number of objects in one group is greater than, less than, or equal to the number of objects in another group</li> </ul> <p><b>AR.C.1</b> Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.</p> <ul style="list-style-type: none"> <li>• <b>K.OA.A.1:</b> I can represent addition and subtraction with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations.</li> <li>• <b>K.OA.A.2:</b> I can solve addition and subtraction word problems, and add and subtract within 10.</li> </ul> <p><b>GR.C.1</b> Identify, describe, analyze, compare, create, and compose shapes based on their attributes.</p> <ul style="list-style-type: none"> <li>• <b>K.G.A.1:</b> I can describe objects in the environment using words such as above, below, beside, in front of, behind, and next to.</li> </ul> <p><b>SR.C.1</b> Describe and compare measurable attributes.</p> <ul style="list-style-type: none"> <li>• <b>K.MD.A.1:</b> I can describe the attributes of objects, such as length or weight. I can describe several attributes for a single object.</li> <li>• <b>K.MD.A.2:</b> I can compare two objects with a measurable attribute in common, to see which object has "more of"/"less of" the attribute and describe the difference.</li> <li>• <b>K.MD.B.3:</b> I can put objects into categories; count the numbers of objects in each category and sort the categories by count.</li> </ul> <p><b>Standards for Mathematical Practice: 1-8</b></p>

<b>Notes</b>
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