



## Bridging for Math Strength Resources

### [Standards of Learning Curriculum Framework](#)

**Standard of Learning (SOL) 2.4b** Represent fractional parts with models and with symbols



Student Strengths	Bridging Concepts	Standard of Learning
Students can represent fractional parts for halves and fourths with area/region models.	Students can represent fractional parts for halves and fourths with area/region, length/measurement, and set models.	Students can represent fractional parts with models and with symbols.

### Understanding the Learning Trajectory

**Big Ideas:**

- The whole must be defined when working with fractions.
- In a region/area model, the parts must have the same area.
- In a set model, the set represents the whole and each item represents an equivalent part of the set.
- In a length model, each length represents an equal part of the whole.

**Formative Assessment:**

- VDOE [Just in Time Mathematics Quick Check 2.4b \(PDF\)](#)
- VDOE [Just in Time Mathematics Quick Check 2.4b \(Google slides\)](#)

**Important Assessment Look Fors:**

- Student divides a whole region into the appropriate number of equal parts to represent the denominator of a fraction.
- Student uses the appropriate number of shapes to represent the identified numerator of the fraction.
- Student folds the paper strip (or other model) into equal parts, as represented by the denominator, and shades the parts identified by the numerator.

**Purposeful Questions:**

- When creating a model to represent a fraction, what does the numerator represent and what does the denominator represent?
- When making a model to represent a fraction, what must all the pieces have in common?

<b>Bridging Activity to Support Standard</b>	<b>Instructional Tips</b>
<b>Routine</b> <a href="#">Fraction Talks</a> from Math for Love	Choose the images that align with your goals and are appropriate for your students. Have students make observations independently or in pairs. Encourage them to lead the discussion. Record their thoughts and clarify as you move through the conversation.
<b>Rich Task</b> <a href="#">Sharing Cookies</a> Region 1  <a href="#">Sharing a Peanut Butter Sandwich</a> (Area/Region) Region 1	Sharing cookies (set and area models): Provide manipulatives that students can use to distribute cookies into groups.  Sharing sandwich: Provide squares of paper that students can fold and/or cut to model the sharing action.
<b>Games/Tech</b> <a href="#">Fun with Fractions</a> (Sets) Henrico County Public Schools  <a href="#">Fraction Barrier Game</a> (Area/Region)  <a href="#">Desmos 2.4b Using Benchmark Fractions on a Number line</a>	Fun with Fractions: a pencil and paper clip can be used as the spinner.  Fraction Barrier Game: listen for the language students use to describe fractional parts of the shapes.  Students mark the location of fractions on a number line to show understanding
<b>Other Resources:</b> <ul style="list-style-type: none"> <li>● <a href="https://www.k-5mathteachingresources.com/2nd-grade-geometry.html">https://www.k-5mathteachingresources.com/2nd-grade-geometry.html</a></li> <li>● VDOE Mathematics Instructional Plans (MIPS):               <ul style="list-style-type: none"> <li>○ <a href="#">2.4ab - Fair Shares</a> (Word) / <a href="#">PDF Version</a></li> <li>○ <a href="#">2.4abc - Cookie Fractions</a> (Word) / <a href="#">PDF Version</a></li> <li>○ <a href="#">2.4abc - Pattern Block Fractions</a> (Word) / <a href="#">PDF Version</a></li> </ul> </li> <li>● VDOE Word Wall Cards: Grade 2 (<a href="#">Word</a>)   (<a href="#">PDF</a>)</li> </ul> <b>Learning Trajectory Resources:</b> <p>Charles, R. (2005). Big ideas and understandings as the foundation for elementary and middle school mathematics. <i>Journal of Mathematics Education Leadership</i>, 7(3), NCSM.</p> <p>Clements, D. H., &amp; Sarama, J. (2019). Learning and teaching with learning trajectories [LT]2. Marsico Institute, Morgridge College of Education, University of Denver.  <a href="https://www.learningtrajectories.org/">https://www.learningtrajectories.org/</a></p> <p>Common Core Standards Writing Team. (2019). <a href="#">Progressions for the Common Core State Standards for Mathematics</a>. Tucson, AZ: Institute for Mathematics and Education, University of Arizona.</p> <p>Richardson, K. (2012). How Children Learn Number Concepts: A Guide to Critical Learning Phases. Bellingham: Math Perspectives Teacher Development Center.</p> <p>Van De Walle, J., Karp, K. S., &amp; Bay-Williams, J. M. (2018). <i>Elementary and Middle School Mathematics: Teaching Developmentally</i>. (10th edition) New York: Pearson (2019:9780134802084)</p>	

