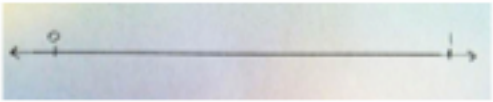
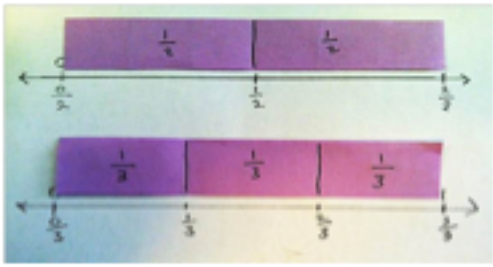
Grade Level	3	**Content Area**	Mathematics
Course Title (grades 9-12 Only)	NA		
Expected Prior Knowledge *List the knowledge/skills mastered earlier in the year that are foundational to the mastery of the Required Standard(s).*	At this point in the year scholars will have mastered the previous skills in second grade of partition circles and rectangles into two, three, or four equal shares, describe the shares using the words *halves*, *thirds*, *half of*, *a third of*, etc., and describe the whole as two halves, three thirds, four fourths. Scholars will have also mastered recognition that equal shares of identical wholes need not have the same shape. The scholars will know and understand the word partition and the meaning of parts or breaking something into parts.		
Alignment to Program of Instruction *Describe how the methods of instruction found in this sequence of lessons align to the Program of Instruction described in the application package.*	The Arizona College and Career math standards form the basis for The Grande Innovation Academy's math curriculum. Scholars will learn standards using the Arizona College and Career building from year to year. EngageNY will be used along with manipulatives to build conceptual understanding. First in Math online will be used for developing automaticity with math facts to increase mathematical fluency. Scholars, Kindergarten through Eighth Grade, will annually participate in The Grande Innovative Academy's Math Olympics program to generate motivation for math fluency.		
Standard Number* and Description *The standard number and description of the Required Standard(s) being instructed and assessed to mastery in the curriculum sample.*	**3.NF.A.2.** *Understand a fraction as a number on the number line; represent fractions on a number line diagram. a. Represent a fraction 1/b on a number line diagram by defining the interval from 0 to 1 as the whole and partitioning it into b equal parts. Recognize that each part has size 1/b and that the endpoint of the part based at 0 locates the number 1/b on the number line. b. Represent a fraction a/b on a number line diagram by marking off a lengths 1/b from 0. Recognize that the resulting interval has size a/b and that its endpoint locates the number a/b on the number line.*		
Materials/Resources Needed *List all items the teacher and students will need for the entire sequence of instruction (excluding common consumables)*	Whiteboards and markers, independent worksheets and interactive math notebook. • Whiteboards • Blank paper • Fraction strips • Whiteboards/markers • Interactive Math Notebook/Journal • Ruler		

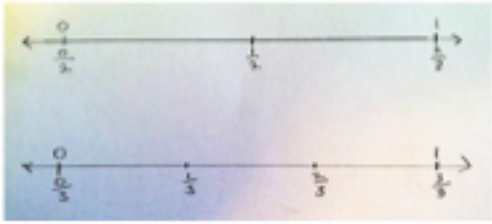
* ***Standard Number***: *For English Language Arts (Reading and Writing), use Grade, Strand, Standard (e.g., 3.RI.2). For K-8 Math, use Grade, Domain, Cluster, Standard (e.g., 6.EE.B.7). For HS Math, use Conceptual Category-Domain, Cluster, Standard (e.g., A-REI.C.6).*

Lesson (add as needed)	**Instructional Strategies -** *List and describe teacher actions, lesson by lesson, which will provide students with opportunities to engage the grade-level rigor defined by the Required Standard(s). Indicate alignment of instructional strategies to specific component(s) or content/skill(s) of the Required Standard/component.*	**Student Activities -** *Describe the activities, lesson by lesson, in which students will engage to allow them to master the grade-level rigor defined by the Required Standard(s). Indicate alignment of student activities to specific component(s) or content/skill(s) of the Required Standard/component.*
1	**Anticipatory Set:** Read excerpts from Fraction Action by Loreen Leedy and Piece=Part=Portion by Scott Gifford. Review visual representation of ½, ¼, ¾, and ⅝ using divided/shaded shapes like rectangles, squares, and circles on an informational chart. **Objective and Purpose:** TW post on board for scholars to write in their interactive daily math journal. Scholars will be able to understand a fraction on the number line and represent fractions on a number line diagram. **Instructional Delivery: Whole Group** TW model the steps below as scholars follow along on their personal white boards. **Modeling:** TW tell scholars to draw a horizontal line with a ruler that is a bit longer than one of your fraction strips. TW instruct scholars to place a whole fraction strip just above the line they just drew TW then make a small mark on number line that is even with the right end of the strip. TW then make a small mark on number line that is even with the left end of the strip. 	**Anticipatory Set:** Scholars will sit quietly and listen to excerpts from Fraction Action, which will be read by the teacher. **Objective and Purpose:** Scholars will write posted objective and purpose in their interactive daily math journal. **Instructional Delivery: Whole Group** Scholars will model along with teacher drawing a number line and labeling it with 0 and 1. **Modeling:** Scholars will draw a horizontal line with a ruler that is a bit longer than their fraction strip. Scholars will make a small mark on the left and right of the fraction strip and label it 0 (left) and 1 (right). Scholars will follow along as teacher models the steps of marking the fraction strip with halves. **Check for Understanding** (CFU, using Teach Like a Champ) Scholar stands as teachers gives Check for Understanding signal of "Get Ready Get Ready, scholar." If scholar doesn't respond in five seconds, greater than , scholar will still need to be ready as there is no opt out and teacher will come back again. **Guided Practice: Small Groups** Scholars will engage in small groups listening for guidance from teacher.

TW then label that mark 0 above the line. This is where we start measuring the length of the strip.
TW then label the small mark on the number line that is even with the right end of the strip and mark 1 above the line.
TW ask scholars "If we start at 0, the 1 tells us when we've travelled 1 whole length of the strip."

TW now mark the fraction strip with halves above the line.
TW make a mark on the number line at the right end of 1 half. This is the length of 1 half of the fraction strip.
TW label that mark 1/2. TW also label 0 halves and 2 halves.
TW repeat the process to measure and label other fractions on the number line.

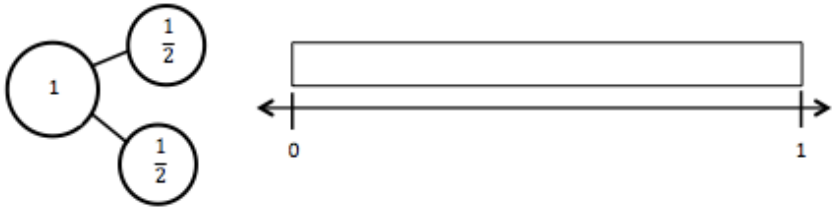




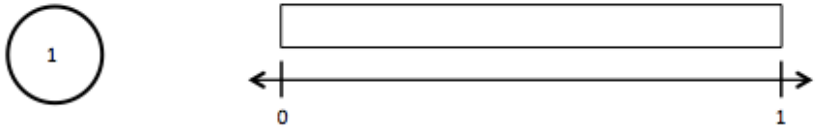
Check for Understanding (CFU, using Teach Like a Champ)
TW circulate the room and say "Get Ready, Get Ready scholar, is 2/3 greater than or less than 1/2?" TW wait no more than five seconds for response. If no response TW call on another scholar while circulating the room, then goes back to scholar with no response, says "What did scholar say"

Scholars will draw a number bond for the fractional units.
Partition the fraction strip to show the unit fractions of the number bond. Scholars will use the fraction strip to help label the fractions on the number line.

a. Halves



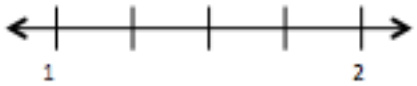
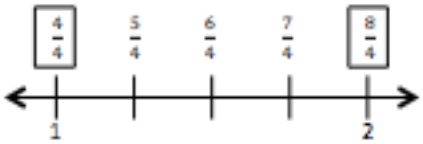
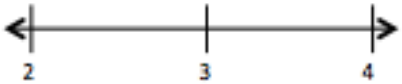
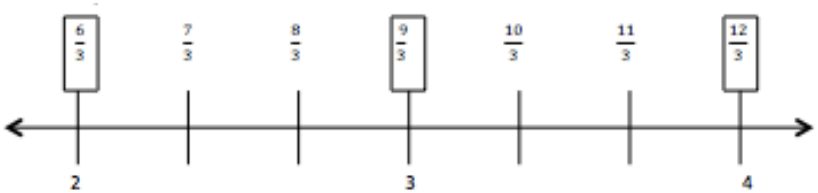
b. Thirds



Independent Practice:
Scholars will complete five independent problems of the problem sets using fraction strip to label their number lines with thirds, fourths, fifths.
Scholars will have ten minutes to complete their problem sets.
Scholars are expected to do their personal best with high quality work correctly completing all five problems for mastery.

Closure/Exit Ticket:
Scholars will draw a number bond for the fractional unit "sixths" and

	Guided Practice: The scholar will participate in small groups to promote concept development of drawing number bonds to correspond to the number lines. TW use questioning while circulating to help them see similarities and differences between the bonds, fraction strips, and fractions on the number line. TW ask: □ What do both the number bond and the number line show? □ Which model shows you how big the unit fraction is in relation to the whole? Explain how. □ How do your number lines help you make number bonds? TW circulate the room, checking for scholar understanding at each step. **Independent Practice:** TW pass out problem sets and scholars should do their personal best to complete their independent practice set within the allotted 10 minutes. For some scholars it may be appropriate to modify the assignment by specifying which problem they work on first. **Closure/Exit Ticket:** TW circulate the room and check scholar whiteboards for correct drawing and labeling.	label the fraction on a number line using their personal white boards. Scholars will wait for teacher to call for closure and check for understanding.
2	**Anticipatory Set:** TW project a number line on the board with the endpoints 0 and 3. TW ask select scholars to come and partition into thirds. **Objective** TW post objectives onto the board for scholars to write into their interactive daily math journals. The scholars will write the objective: Scholars will place whole number fractions and fractions between whole numbers on the number line. **Instructional Delivery: Whole Group** TW instruct scholars to draw a number line on their personal white board with the endpoints 1 and 2. TW ask where our endpoint 0 is. TW	**Anticipatory Set:** The scholars will sit at their tables and raise their hands accordingly. Two or three scholars will share their responses as called upon. **Objective and Purpose:** The scholars will write in the lesson objective and purpose in their interactive daily math journals. The scholars will place whole number fractions and fractions between whole numbers on the number line. **Instructional Delivery: Whole Group** Scholars will draw a number line on their personal white board and label the endpoints with 1 and 2.

	instruct scholars to talk to their elbow partner. TW tell scholars that our number line doesn't start at 0, so we can't start at 0 fourths. "How many fourths are in 1 whole?" TW label 4 fourths at whole number 1. Label the rest of the fractions up to 2. TW instruct scholars to check their work with a partner. "What are the whole number fractions?-the fractions equal to 1 and 2?" TW ask scholars how many fourths would be equivalent to, or at the same point as 3? TW instruct scholars to draw a number line with the endpoints 2 and 4. TW ask scholars "what whole number is missing from this number line?" TW ask scholars to partition each whole number into 3 equal lengths. "To label the number line that starts at 2, we have to know how many thirds are equivalent to 2 wholes. Discuss with your table how to find the number of thirds in 2 wholes." **Check for Understanding** (CFU, using Teach Like a Champ) TW circulate room and cold call on 5 select students to share their whiteboard drawings. **Guided Practice: Small Groups/Pairs** TW instruct scholars to follow the previous examples using endpoints 3 and 6, allowing scholars to place 2 whole numbers on the number line, and then partition into halves. **Independent Practice:** TW provide scholars with problem sets to do their personal best with an exit ticket and allotted time of 10 minutes. **Closure/Exit Ticket:** TW project the following problem on the board. "Draw a number line with the endpoints 0 and 2. Label the wholes. Estimate to partition each whole into sixths and label them. Box the fractions that are located at the same points as whole numbers." TW circulate the room when scholars give a "thumbs up" to check for closure.	 Scholars will discuss about where the 0 has gone. It didn't disappear; it is to the left of the 1. The arrow on the number line tells ups that there are more numbers, but we just didn't show them. Scholars will partition their number line into fourths. Scholars will reply with "4 fourths" Scholars will label the rest of the fractions up to 2.  Scholars will "box" 4/4 and 8/4 as they are equivalent to the whole numbers 1 and 2. Scholars will discuss with their table that 12 fourths would be equivalent to 3. Scholars will draw/label a number line with the endpoints 2 and 4.  Scholars will label 3 halfway between 2 and 4. Scholars will discuss that 3 thirds makes 1 whole. So 6 units of thirds makes 2 wholes. 6 thirds are equivalent to 2 wholes. Scholars will fill in the rest of their number line.  **Check for Understanding** (CFU, using Teach Like a Champ) Scholars are ready as teacher gives Check for Understanding of the cold

		call. **Guided Practice: Small Groups/Pairs** Scholars will work in pairs to draw and label number lines with endpoints 3 and 6 (partition into halves), 0 and 5 (partition into fifths). **Independent Practice:** The scholars will complete 5 independent problems in their problem set using number lines to place whole numbers fractions and fractions. Scholars will have 10 minutes to complete their problem sets. Scholars are expected to do their personal best with high quality work correctly completing all five problems for mastery. **Closure/Exit Ticket:**. Scholars will give "thumbs up" when they have finished their exit ticket problem on their personal white board. Teacher will come and check for closure.
S.A.	*Provide an opportunity for the student to complete the summative assessment items which is clearly separate from instruction and guided or independent practice, and in which the student is assessed independently. In the Student Activities column, provide a brief description of the summative assessment (S.A.) items that will allow students to demonstrate mastery of the rigor of the Required Standard(s)/components, and the context in which the items will be administered.*	**Direct Instruction:** Scholars will be seated at their tables listening for directions. **Independent Practice:** Scholars will be seated at their tables to complete their math and labeling and using number line to place whole numbers fractions and fractions.

Summative Assessment Item 1: Given the following instructions, the scholar will solve. A total of 12 points is possible for this assessment. Scholars will receive a maximum of 4 points for correctly identifying the numbers on a number line (a) a maximum of 4 points for identifying the half-way point (b) and a possible 4 points for the equivalent fraction (c). (See answer key) Scholar mastery will be set at 9 points. (75%)

Jerry put 7 equally spaced hooks on a straight wire so students could hang up their coats. The whole length is from the first hook to the last hook.

a. On the picture below, label the fraction of the wire's length where each hook is located.

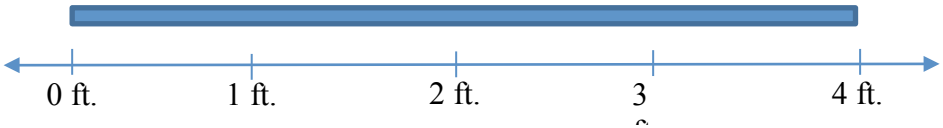
b. At what fraction is Betsy's coat if she hangs it at the halfway point?
c. Write a fraction that is equivalent to your answer for Part (b).

Summative Assessment Item 2: A total of 12 points is possible for this assessment. Scholars will receive a maximum of 4 points for correctly identifying (a) a maximum of 4 points for identifying (b) and a possible 4 points for (c). (See answer key) Scholar mastery will be set at 9 points. (75%)

1. Jerry and his son have the exact same granola bars. Jerry has eaten $\frac{3}{6}$ of his granola bar. His son has eaten $\frac{3}{8}$ of his own granola bar. Who has eaten more? Explain your answer using a) words, b) pictures, and c) numbers.

Summative Assessment Item 3: A total of 8 points is possible for this assessment. Scholars will receive a maximum of 4 points for correctly identifying (a) and a maximum of 4 points for identifying (b) (See answer key) Scholar mastery will be set at 6 points. (75%)

2. Jerry has a fruit roll that is 4 feet long.
   a. Label the number line to show how Jerry might cut his fruit roll into pieces $\frac{1}{3}$ of a foot long. Label every fraction on the number line, including renaming the wholes.



b. Jerry's son says that 1 third is the same as 2 sixths. Do you agree? Why or why not?

Answer Key	Evidence of solid reasoning with a correct answer. (4 Points per correct answer)
Summative Assessment 1 **12 points**	The student correctly: ▪ Labels the number line with sixths. ▪ Identifies $\frac{3}{6}$ as the halfway point for Betsy's coat. ▪ Writes any fraction equivalent to $\frac{3}{6}$, such as $\frac{1}{2}$.
Summative Assessment 2 **12 points**	The student clearly explains: ▪ Jerry has eaten more of his granola bar. ▪ $\frac{3}{6} > \frac{3}{8}$. ▪ $\frac{3}{6}$ is greater than $\frac{3}{8}$ because the units are larger.
Summative Assessment 3 **8 points**	The student correctly: ▪ Shows all of the fractions from $\frac{0}{3}$ up to $\frac{12}{3}$ numerically, including renaming the wholes. ▪ Explains $\frac{1}{4}$ or $\frac{3}{12}$ of the whole roll was eaten with an accurate model in Part (b).