### Essential Questions
- How can the same fractional amount be named using symbols in different ways?
- How can fractions be compared and ordered?
- What does it mean to add & subtract fractions and mixed numbers?
- How can fractions and mixed numbers be added and subtracted as a number line?

### Key Concepts
- Understanding of fractions
- Equivalent fractions
- Compare and order fractions
- Common denominators
- Add/Subtract fractions (like denominators of 2, 4, 8, 10, 12, 100)
- Rename fractions - Improper ↔ Mixed
- Add/Subtract Mixed Numbers

### Algorithms/Diagrams
- \( \frac{1}{2} \times \frac{2}{2} = \frac{4}{8} \)
- \( \frac{4}{8} \div \frac{2}{2} = \frac{2}{4} \)
- \( 2 \times \frac{1}{3} + \frac{3}{3} = \frac{4}{3} \)
- \( -\frac{1}{2} - \frac{2}{3} \to \frac{3}{3} \)
- \( 5: 5, 10 \)
- \( 2: 2, 4, 6, 8, 10 \)

### Visual Models of Concepts

### Pre and Post Assessments

<table>
<thead>
<tr>
<th>Pre</th>
<th>Post</th>
</tr>
</thead>
<tbody>
<tr>
<td>topic 11, 12, 13</td>
<td>topic 11, 12, 13</td>
</tr>
<tr>
<td>Alt assessment (less problems)</td>
<td>Post assessments</td>
</tr>
</tbody>
</table>

### Connections (Real World Applications)
- Recipes
- Construction work
- Measurement
- Distances
- Money
Compare equal to Language Functions/Structures
— is greater than — because...
I know that — is the same as — because....
I can add — and — because they have common denominators.

Vocabulary

| Fraction       | Multiple       | Mixed Number
<table>
<thead>
<tr>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Numerator</td>
<td>Proper Fraction</td>
<td>Benchmark Fraction</td>
</tr>
<tr>
<td>Denominator</td>
<td>Improper Fraction</td>
<td>Common Denominator</td>
</tr>
<tr>
<td>Factor</td>
<td>Equivalent</td>
<td>Simplest Form</td>
</tr>
<tr>
<td>Compare</td>
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</tbody>
</table>

Focus and Motivation

Activity

We have...Who has...
Prove fractions are the same.

Literature
Inchworm and a Half by Elmer J. Penzes
Fraction Action by Loreen Leedy
Fraction Fun by David Adler

Brainpop - Fractions
Addition and Subtraction of Fractions

StudyJams - Fractions
- Equivalent Fractions
- Compare Fractions & Mixed #’s
- Addition and Subtraction of Common Denominators