# Unit 2: Making Relevant Connections through Number System Fluency

**MYP year:** 1  
**Unit duration (hrs):** 20 Hours

**Mastering Content and Skills through INQUIRY (Establishing the purpose of the Unit): What will students learn?**

## GA DoE Standards

**6.NR.1: Solve relevant, mathematical problems involving operations with whole numbers, fractions, and decimal numbers.**

- **6.NR.1.1** Fluently add and subtract any combination of fractions to solve problems.
- **6.NR.1.2** Multiply and divide any combination of whole numbers, fractions, and mixed numbers using a student-selected strategy. Interpret products and quotients of fractions and solve word problems.
- **6.NR.1.3** Perform operations with multi-digit decimal numbers fluently using models and student-selected strategies.

**6.NR.2 Apply operations with whole numbers, fractions and decimals within relevant applications.**

- **6.NR.2.1** Describe and interpret the center of the distribution by the equal share value (mean).
- **6.NR.2.2** Interpret numerical data to answer a statistical investigative question created. Describe the distribution of a quantitative (numerical) variable collected, including its center, variability, and overall shape.
- **6.NR.2.3** Design simple experiments and collect data. Use data gathered from realistic scenarios and simulations to determine quantitative measures of center (median and/or mean) and variability (interquartile range and range). Use these quantities to draw conclusions about the data, compare different numerical data sets, and make predictions.
### Concepts/Skills to support mastery of standards

<table>
<thead>
<tr>
<th>Expectations</th>
<th>Evidence of Student Learning</th>
<th>Age/Developmentally Appropriate</th>
</tr>
</thead>
</table>
| **6.NR.1.1** Fluently add and subtract any combination of fractions to solve problems. | **Terminology**  
- Fluently/Fluency – Students choose flexibly among methods and strategies to solve mathematical problems accurately and efficiently. | **Students should be allowed to choose an appropriate strategy to demonstrate fluency.** |
| **6.NR.1.2** Multiply and divide any combination of whole numbers, fractions, and mixed numbers using a student-selected strategy. Interpret products and quotients of fractions and solve word problems. | **Strategies and Methods**  
- Students should be able to utilize fractions with denominators including 2, 3, 4, 5, 6, 8, 10, and 12.  
- Students should be able to use numerical reasoning to interpret applicable, mathematical situations involving fractions.  
- Students can use a variety of strategies, including but not limited to concrete models, visual fraction models, student-generated strategies, a standard algorithm, or other strategies based on numerical reasoning to represent and solve problems.  
- Students should be given the opportunity to apply reasoning strategies and use written methods that make sense to them.  
- Students should use flexible, accurate, and efficient written methods to express computational thinking based on numerical reasoning and sense-making developed from learning experiences that focus on the numbers as quantities.  
- Students may solve problems in different ways and have the flexibility to choose a mathematical strategy that allows them to make sense of and strategically solve problems using efficient methods that are most comfortable for and makes sense to them. | 

**Resources, materials, assessments not linked to SGO or unit planner will be reviewed at the local school level.**
Vocabulary:

<table>
<thead>
<tr>
<th>Algorithm</th>
<th>Quotient</th>
<th>Reciprocal</th>
<th>Skewed Data</th>
<th>Subtrahend</th>
<th>Product</th>
</tr>
</thead>
<tbody>
<tr>
<td>Difference</td>
<td>Dividend</td>
<td>Divisor</td>
<td>Factor</td>
<td>Mean</td>
<td>Sum</td>
</tr>
<tr>
<td>Measurement Model of Division</td>
<td>Median</td>
<td>Multiple</td>
<td>Partitive Model of Divisions</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Key concept | Related concept(s) | Global context |
--- | --- | --- |
Logic | Model Representation | Globalization and Sustainability |

Statement of inquiry

Making decisions can be improved by using a model to represent relationships.

Published: August, 2023

Resources, materials, assessments not linked to SGO or unit planner will be reviewed at the local school level.
Inquiry questions

**Factual:**
- How do you add or subtract decimals?
- How do you divide whole numbers and decimals?
- How do you divide a fraction by a fraction?

**Conceptual:**
- How do you use decimal operations to solve real-world problems?
- How are decimal/fraction operations similar to whole number operations?
- In what situations do we use division in our lives?
- When is it useful to decompose a number?

**Debatable:**
- Does being fluent in operations with decimal operations make our everyday lives easier?

<table>
<thead>
<tr>
<th>MYP Objectives</th>
<th>Assessment Tasks</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>What specific MYP objectives will be addressed during this unit?</strong></td>
<td><strong>Relationship between summative assessment task(s) and statement of inquiry:</strong></td>
</tr>
<tr>
<td>Criterion A: Knowing and Understanding</td>
<td><strong>List of common formative and summative assessments.</strong></td>
</tr>
<tr>
<td>Criterion D: Applying Mathematics in Real-life Contexts</td>
<td>Students will use models to represent the relationship between whole numbers, fractions and decimals after performing the four basic operations.</td>
</tr>
<tr>
<td></td>
<td><strong>Formative Assessment(s):</strong></td>
</tr>
<tr>
<td></td>
<td>Unit 2 CFA</td>
</tr>
<tr>
<td></td>
<td>Topic 1 Performance Assessment Form A (Volunteer Food Bank/ Bean Soup Recipe)</td>
</tr>
<tr>
<td></td>
<td><strong>Summative Assessment(s):</strong></td>
</tr>
<tr>
<td></td>
<td>Unit 2 Test</td>
</tr>
</tbody>
</table>

Published: August, 2023

Resources, materials, assessments not linked to SGO or unit planner will be reviewed at the local school level.
<table>
<thead>
<tr>
<th>Approaches to learning (ATL)</th>
</tr>
</thead>
</table>

**Category:** Social  
**Cluster:** Collaboration  
**Skill Indicator:**
- Take responsibility for one’s own actions  
- Manage and resolve conflict and work collaboratively in teams  
- Listen actively to other perspectives and ideas  
- Encourage others to contribute  

Published: August, 2023

Resources, materials, assessments not linked to SGO or unit planner will be reviewed at the local school level.
<table>
<thead>
<tr>
<th>Objective or Content</th>
<th>Learning Experiences</th>
<th>Personalized Learning and Differentiation</th>
</tr>
</thead>
<tbody>
<tr>
<td>● 6.NR.1.3 Perform using operations with multi-digit decimals numbers fluently using models and student-selected strategies.</td>
<td><strong>Topic 1 Mid Topic Performance Task pg. 26</strong> Savvas Resource&lt;br&gt;In this learning plan, students will build upon their understanding of adding, subtracting, multiplying, and dividing multi-digit decimals.&lt;br&gt;The learning goals are:&lt;br&gt; ● Fluently divide multi-digit numbers using the standard algorithm.&lt;br&gt; ● Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation.</td>
<td>This activity can be implemented using stations and strategically grouped students. Teachers can provide scaffolded questioning to groups needing more support.</td>
</tr>
</tbody>
</table>

### Content Resources

- **DOE Unit 2**
- **Savvas**
  - Savvas Topic 1
- **Intervention Tasks (DOE)**
- **Additional Resources**

Published: August, 2023

Resources, materials, assessments not linked to SGO or unit planner will be reviewed at the local school level.