# G&T Math Curriculum - Grades 1-5 - Unit 2

# **GRADES 1-2**

**Grades 1-2 Unit 2 - Area**

### Unit 2 - Lesson 1 - Objectives

- **Students will develop an understanding of area as the amount of space that a 2-dimensional figure covers that can be measured with non-overlapping equal sized units.**
- **Students will understand that different shapes can have the same area.**
- **Students will order figures from those with the least to those with the greatest area.**
- **Students will estimate the area of a figure as falling within a range of measurements in square feet and use a model to check the estimate.**
- **Students will practice addition and subtraction of 1- and 2- digit numbers.**

| Topic | Duration | Standards | Authentic Assessments |
|---|---|---|---|
| Unit - 2 - Lesson 1 - There's Always Room for One More<br><br>Part 1 - The Camping Trip | 60 minutes | 3.MD.C.5<br>3.MD.C.5.A<br>3.MD.C.5.B<br>3.MD.C.6<br>2.MD.A.1<br>2.MD.A.3 | Student Mathematician's Journal Page 37 - Sleeping Bag Estimates |
| Unit - 2 - Lesson 1 - There's Always Room for One More<br><br>Part 2 - Sleeping Bags | 60 minutes | 3.MD.C.5<br>3.MD.C.5.A<br>3.MD.C.5.B<br>3.MD.C.6<br>2.MD.A.1<br>2.MD.A.3 | Student Mathematician's Journal page 39 - Sleeping Bag Areas |
| Unit - 2 - Lesson 1 - There's Always Room for One More<br><br>Part 3 - Measuring Area | 60 minutes | 3.MD.C.5<br>3.MD.C.5.A<br>3.MD.C.5.B<br>3.MD.C.6<br>2.MD.A.1<br>2.MD.A.3 | Student Mathematician's Journal Page 41 - So BIG |

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|---|---|---|---|
| Unit - 2 - Lesson 1 - There's Always Room for One More<br><br>Part 4 - The Tents | 60 minutes | 3.MD.C.5<br>3.MD.C.5.A<br>3.MD.C.5.B<br>3.MD.C.6<br>2.MD.A.3 | Student Mathematician's Journal p. 43 - 45 Tent B |
| Unit  - 2 - Lesson 1 - There's Always Room for One More<br><br>Part 5 - Think Deeply Question | 60 minutes | 3.MD.C.5<br>3.MD.C.5.A<br>3.MD.C.5.B<br>3.MD.C.6<br>2.MD.A.3 | Student Mathematician's Journal P. 47 - 49 - Think Deeply |
| **Unit 2 - Lesson 2 - Objectives**<br><br>● **Students will strengthen their concept of area as a measure of covering the space inside a figure.**<br>● **Students will order different shapes from smallest to largest area.**<br>● **Students will understand the relationship between the size of a unit and the number of units needed to cover a space.**<br>● **Students will measure figures using square inches, square centimeters, and square feet.** | | | |
| Unit  - 2 - Lesson 2 - The Meerkat Mob<br>Part 1 - Meerkat Dens | 60 minutes | 3.MD.C.5<br>3.MD.C.5.B<br>3.MD.C.6<br>2.MD.A.3 | Student's Mathematician's Journal p. 53 - 59 |
| Unit - 2 - Lesson 2 - The Meerkat Mob<br>Part 2 - A New Tool | 60 minutes | 3.MD.C.5<br>3.MD.C.5.B<br>3.MD.C.6<br>2.MD.A.3 | Student's Mathematician's Journal p. 61 |
| Unit - 2 - Lesson 2 - The Meerkat Mob<br>Part 3 - The Scavenger Hunt | 60 minutes | 3.MD.C.5<br>3.MD.C.5.B<br>3.MD.C.6<br>2.MD.A.3 | Student's Mathematician's Journal p. 63 - 65 |
| Unit - 2 - Lesson 2 - The Meerkat Mob | 60 minutes | 3.MD.C.5 | Student's Mathematician's |

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| Part 4 - Think Deeply Question | | 3.MD.C.5.B<br>3.MD.C.6<br>2.MD.A.3 | Journal p. 67<br><br>Chapter 2 - Check-up p. 210 - 213 |
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# **GRADE 3**

**Grade 3 - Unit 2 - Grouping**

### **Unit 2 - Lesson 1 Objectives**

● **Students will explore addition and regrouping in base three.**

| Topic | Duration | Standards | Authentic Day Assessments |
| --- | --- | --- | --- |
| Unit 2 - Lesson 1 - Land of Treble<br><br>Day 1 - Initiate, Investigate p. 94 - 96<br><br>Day 2 - Mathematical Communication and Think Deeply p. 96 - 99 | 2 days | 3.NBT.A.2 | Day 1 - Student's Mathematician's Journal p. 25<br><br><br>Day 2 - Student's Mathematician's Journal P. 27, 29 |
| <div align="center">**Unit 2 - Lesson 2 Objectives**</div> | | | |
| <div align="center">● **Students will explore subtraction and regrouping in base three.**</div> | | | |
| Unit 2 - Lesson 2 - Land of Treble Subtraction<br><br>Day 1 - Initiate and Initiate, Investigate, and Mathematical Communication p. 112 - 116.<br><br>Day 2 - Think Deeply and Think Beyond p.116 - 117 | 2 Days | 3.NBT.A.2 | Day 1 - Student Mathematician's Journal p. 31<br><br>Day 2 - Student Mathematician's Journal p. 33 |
| <div align="center">**Unit 2 - Lesson 3 Objectives**</div> | | | |

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|---|---|---|---|
| ● **Students will compare base-ten and base-three systems for similarities and differences.**<br>● **Students will regroup in both base ten and base three.** | | | |
| <u>Unit 1 - Lesson 3 - The Race in a Base</u><br><u>Day 1</u> - Initiate, Investigate, and Mathematical Communication p. 122 - 123<br><br><u>Day 2</u> - Think Deeply and Think Beyond p. 124 - 126 | | 3.NBT.A.2 | Day 1 - Student Mathematician's Journal p. 37<br><br>Day 2 - Student Mathematician's Journal p. 39 or 41<br><br><br>Check up  4 p. 139 - 141 |

# **GRADE 4**

| Grade 4 - Unit 2 -It's Round and About: Representing and Interpreting Categorical Data |
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**Unit 2 - Lesson 1 Objectives**

● **Students will identify characteristics of categorical data sets.**
● **Students will develop survey questions to collect categorical data.**
● **Students will determine the categories for the set of data they collect.**
● **Students will organize the responses to the survey questions based on the categories.**
● **Students will represent categorical data using a pie graph.**

| Topic | Duration | Standards | Authentic Assessments |
|---|---|---|---|
| <u>Unit 2 - Lesson 1 - Food For Sale!</u><br><br><br><u>Day 1 -</u> Initiate and Investigate pg. 92 - 94<br><br><u>Day 2 -</u> Mathematical Communication and Think Deeply p. 95 - 97 | 2 days | 6.SP.A.1<br>6.SP.A.2 | Day 1 - Student Mathematician's Journal p. 17<br><br>Day 2 - Student Mathematician's Journal p. 19 What's the Answer and 21 to 23- Think Deeply |

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| **Unit 2 - Lesson 2 Objectives**<br><br>● **Students will represent categorical data using a pie graph.**<br>● **Students will identify the benefits of a pie graph as a representation.**<br>● **Students will compare pie and bar graphs for similarities and differences.**<br>● **Students will determine the fractions represented in a pie graph.**<br>● **Students will develop strategies to approximate fractions using more commonly used fractions such as one-half and one-third.** |  |  |  |
| Unit 2 - Lesson 2 - It's a Piece of the Pie<br><br>Day 1 - Initiate and investigate - p. 109 - 111<br><br>Day 2 - Mathematical communication and Think Deeply - p. 111 - 114 | 2 days | 4.NF.A.2 | Day 1 - Student Mathematician's Journal p. 25 & 35<br><br>Day 2 - Student Mathematician's Journal p. 27, 29, 31, 33<br><br>Check-up 3 |
| **Unit 2 - Lesson 3 Objectives**<br><br>● **Students will represent categorical data using a pie graph.**<br>● **Students will compare how the data on a pie graph may be affected by additional information.**<br>● **Students will represent categorical data using a double bar graph.**<br>● **Students will determine how a set of data would change if different groups were surveyed.** |  |  |  |
| Unit 2 - Lesson 3 - It's as Simple as Pie<br><br>Day 1 - Initiate and investigate - p. 128 - 130<br><br>Day 2 - Mathematical communication and Think Deeply - p. 130 - 132 | 2 days | 6.SP.A.1<br>6.SP.B.5.A<br>6.SP.B.5.B | Day 1 - Student Mathematician's Journal p. 35, 37<br><br>Day 2 - Student Mathematician's Journal p. 39, 41 |
| **Unit 2 - Lesson 4 Objectives**<br><br>● **Students will create a research question designed to collect categorical data.**<br>● **Students will develop a survey, a recording instrument and representations of data.**<br>● **Students will gather and represent data from two different sites using two pie** |  |  |  |

**graphs.**
- **Students will explore similarities and differences between data sets collected at different sites.**
- **Students will interpret data and prepare recommendations based on their analysis of this data.**

| Unit 2 - Lesson 4 - The Ace Place to Be<br><br>Day 1 - Initiate and investigate - p. 142 - 143<br><br>Day 2 - Mathematical communication and Think Deeply - p. 143 - 145 | 2 days | 6.SP.A.1<br>6.SP.B.5.A<br>6.SP.B.5.B | Day 1 - Student Mathematician's Journal p. Student research questions and chart with two pie graphs.<br><br>Day 2 - Student Mathematician's Journal p. 45 |
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# **GRADE 5**

| Grade 5 - Unit 2 - Change Artists: Twice as Long and Half as Tall |
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| **Unit 2 - Lesson 1 Objectives**<br><br>- **Students will construct scale drawings of two-dimensional shapes.**<br>- **Students will explore changes in perimeter when creating scale drawings.**<br>- **Students will learn that the ratio of perimeters in similar figures is equal to the ratio of their corresponding sides.**<br>- **Students will demonstrate mathematical reasoning by generalizing patterns, making conjectures, and explaining their logic.** |

| Topic | Duration | Standards | Authentic Assessments |
|---|---|---|---|
| Unit 2 - Lesson 1 - The Long and Short of It.<br><br>Day 1 - Initiate p. 153 - 154<br><br>Day 2 - Investigate - p. 154 - 158<br><br>Day 3 - Mathematical | 3 days | 6.RP.A.1<br>6.RP.A.3.D<br>7.G.A.1<br>HSG.SRT.A.1 | Day 1 - Student Mathematician's Journal p. 39, 41, 43, 44, 45<br><br>Day 2 - Student Mathematician's Journal p. 47- 48 |

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|---|---|---|---|
| communication and Think Deeply - p. 158 - 160 | | | Day 3 - Student Mathematician's Journal p. 49, 51 and<br><br>Check-up 4 |
| **Unit 2 - Lesson 2  Objectives**<br><br>● **Students will construct similar polygons using multiple copies of the original polygon.**<br>● **Students will explore geometric and numerical patterns related to similar polygons.**<br>● **Students will learn that if you scale each dimension of a polygon by a scale factor of $k$, the area of the scaled polygon will be $k^2$ times the area of the original polygon.**<br>● **Students will learn about square numbers and how to write square numbers using exponents.** | | | |
| Unit - 2 -  Lesson 1 - Growing, Growing, Growing Polygons<br><br>Day 1 - Initiate and investigate - p. 177 - 179<br><br>Day 2 - Mathematical Communication - p. 179 - 182<br><br>Day 3 - Mathematical Communication and Think Deeply - p. 182 - 184 | 3 days | 6.EE.A.1<br>6.RP.A.1<br>6.RP.A.3.D<br>7.G.A.1<br>HSG.SRT.A.1 | Day 1 - Student Mathematician's Journal p. 55, 59,<br><br>Day 2 - Student Mathematician's Journal p. 60, 61<br><br>Day 3 - Student Mathematician's Journal p.  65, 69<br><br>Check-up 5 |
| **Unit 2 - Lesson 3  Objectives**<br><br>● **Students will create enlargements and reductions of three-dimensional figures using physical models.**<br>● **Students will calculate the volumes of rectangular prisms.**<br>● **Students will recognize that a relationship exists between the volume of two similar figures that is related to the scale factor.**<br>● **Students will generalize patterns, make conjectures, and provide logical arguments about scaling.** | | | |
| Unit 2 - Lesson 3 - Fantastical Elastical Boxes | 3 days | 5.MD.C.3<br>5.MD.C.3.A<br>5.MD.C.3.B | Day 1 - Student Mathematician's Journal p. 71 - 72 |

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| | | 7.G.A.1 HSG.SRT.A.1 | |
|---|---|---|---|
| Day 1 - Initiate and investigate - p. 206 - 208  Day 2 - Investigate - p. 208 - 210  Day 3 - Mathematical Communication and Think Deeply - p. 210 - 212 | | 7.G.A.1 HSG.SRT.A.1 | Day 2 - Student Mathematician's Journal p. 73  Day 3 - Student Mathematician's Journal p. 77, 79 |

## Unit 2 - Lesson 4  Objectives

- **Students will write review questions that can be used in the "Let the Fun Begin!" game.**
- **Students will play the game as a way to review concepts and skills learned in the unit.**

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| Unit 2 - Lesson 4 - Let the Fun Begin!  Day 1 - Initiate and Investigate - p. 227 -  Day 2 - Mathematical communication and Think Deeply - p. 228 - 229 | 2 days | 5.MD.C.3 5.MD.C.3.A 5.MD.C.3.B 6.EE.A.1 6.RP.A.1 6.RP.A.3.D 7.G.A.1 HSG.SRT.A.1 | Day 1 - Student Mathematician's Journal p.  Day 2 - Student Mathematician's Journal p. 95, 97 |