# GT Differentiated Exemplar Lesson

<table>
<thead>
<tr>
<th>Grade Level: 5</th>
<th>Subject Area(s):</th>
<th>TEKS/Student Expectations:</th>
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<tbody>
<tr>
<td></td>
<td>Reading, Writing, Science</td>
<td>Number and operations. The student applies mathematical process standards to develop and use strategies and methods for positive rational number computations in order to solve problems with efficiency and accuracy. The student is expected to:</td>
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<tr>
<td></td>
<td>X Mathematics</td>
<td>5.3C solve with proficiency for quotients of up to a four digit dividend by a two digit divisor using strategies and the standard algorithm;</td>
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<tr>
<td></td>
<td>__ Social Studies</td>
<td>5.3F represent quotients of decimals to the hundredths, up to four digit dividends and two digit whole number divisors, using objects and pictorial models, including area models;</td>
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<tr>
<td></td>
<td></td>
<td>5.3G solve for quotients of decimals to the hundredths, up to four digit dividends and two digit whole number divisors, using strategies and algorithms, including the standard algorithm;</td>
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## Essential Question(s):  
How can you divide by 2-digit divisors?  
How can the strategy draw a diagram help you solve a division problem?  
How can you divide decimals by whole numbers?  
How can you divide a decimal by a 2-digit whole number?

## Assessment(s):  
__ Pre-Assessment  
X Formative  
X Summative

## GT Scope and Sequence Skills:  
(Aligned with 21st Century Skills Framework & College and Career Readiness Standards)

- X Creative Thinking  
- X Critical Thinking  
- __ Communication  
- __ Research

## Student Learning Styles:  

- __ Auditory  
- X Visual/Spatial  
- __ Kinesthetic  
- X Other: Logical/Mathematical

## Elements of Depth and Complexity:  

- X Language of the Discipline  
- __ Details  
- __ Patterns  
- X Trends  
- X Rules  
- __ Ethical Considerations  
- __ Unanswered Questions  
- __ Over Time  
- __ Different Perspectives  
- X Big Ideas

## Lessons and Activities

- X Whole Class  
- __ Small Group  
- X Independent Activity

### PART ONE:

#### Whole Class:

Read *The Doorbell Rang* by Pat Hutchins to engage students and review mental division skills. Also use this opportunity to review/discuss what division is – taking a set of data and breaking into groups. Review vocabulary – quotient, divisor, dividend, remainder

### On Grade Level:

Each student will write their own version of *The Doorbell Rang* using 3 or 4 digit dividends and 2 digit divisors. Quotients may have decimal remainders. Create a bound book using Dinah Zike’s Foldables (see Resources Column). The book should have a total of 8 pages inside – one page per word problem in the story. Students should create a cover for their book, and then write their story following the story format of the book.

### Resources:

(More than 230 copies available in school libraries around the district)  
[ibistro.austinisd.org](http://ibistro.austinisd.org)
Each page should include the word problem, all long division steps, a graphical representation of the long division, and a statement giving the answer to the division problem, correctly labeled.

**GT Level Group:**
Students will make the same book, but will expand the numbers used to include 4 or 5 digit dividends and 3 digit divisors. At least four problems **must** have decimal remainders in the quotients. Teach students to divide with decimals in the divisor – dividing by parts of a whole. Encourage them to find ways to incorporate this into their word problems.
### Process Assessment

Teacher observes the following:

**Process Observation - Frequency:**

<table>
<thead>
<tr>
<th>Seldom/Never</th>
<th>Occasionally</th>
<th>Often</th>
<th>Consistently</th>
</tr>
</thead>
</table>

Student demonstrates inquiry skills throughout the stages of the tasks.

**Process Observation – Frequency:**

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<th>Seldom/Never</th>
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</table>

Student uses language of the discipline during interactions and mathematical work.

**Process Observation – Quality:**

<table>
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<tr>
<th>Typical of Peers</th>
<th>Fluent Thinker</th>
<th>Flexible Thinker</th>
<th>Unique and Original</th>
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Student ideas are creative and original throughout the task.

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Student uses background information and knowledge to create appropriate work.

### Product Assessment

<table>
<thead>
<tr>
<th>Score</th>
<th>Long Division</th>
<th>Reasoning</th>
<th>Terminology</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Long Division steps are consistently clear and correct throughout the work; graphic representations of division supports the long division work</td>
<td>Uses unusual and highly complex mathematical reasoning.</td>
<td>Correct terminology and notations are used creatively and originally.</td>
</tr>
<tr>
<td>2</td>
<td>Long Division steps are clear and correct throughout most of the work; graphic representations of division support some of the long division work</td>
<td>Uses complex and refined mathematical reasoning.</td>
<td>Correct terminology and notations are always used, making it easy to understand what was done.</td>
</tr>
<tr>
<td>1</td>
<td>Long Division steps are not clear and correct – shows several errors; graphic representations of division does not thoroughly support long division work</td>
<td>Uses effective mathematical reasoning</td>
<td>Correct terminology and notations are usually used, making it fairly easy to understand what was done.</td>
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