Unit 3: Division Strategies
Math 4

Last Update: August 1, 2025

Archdiocesan Curriculum > Grade 4 > Math > Length of unit 17 to 19 days

Stage 1: Desired Results

General Information

This unit strengthens students' understanding of division by emphasizing a variety of strategies—models, repeated subtraction, place-value reasoning, partial quotients, and the Distributive Property—to divide up to four-digit numbers by one-digit divisors, interpret and apply remainders, estimate to check reasonableness, and solve multi-step real-world problems.

Mathematical Practices

- MP1 – Make sense of problems and persevere in solving them.
- MP2 – Reason abstractly and quantitatively.
- MP4 – Model with mathematics.
- MP7 – Look for and make use of structure.

Essential Question(s)

- How can models such as base-ten blocks, drawings, and repeated subtraction help you solve and explain division problems?
- What clues does place value give for where to place digits in a quotient?
- How do estimation strategies validate or refine your division solutions?
- How does the meaning of a remainder change depending on the context of a real-world problem?
- In what ways do partial quotients and the Distributive Property connect division to multiplication and subtraction?

Enduring Understanding/Knowledge

Students will:

- Use models to solve division problems with remainders.
- Interpret remainders in a division problem.
- Use place value to divide a whole number up to four digits by a one-digit whole number.
- Use estimation to help solve division problems.
- Use the Distributive Property to solve division problems.

Review/Assess

- Use repeated subtraction to find quotients.
- Use place value to identify the placement of the first digit in the quotient.
- Divide numbers up to 9,999 by a one-digit number.
- Solve multi-step real-world division problems.
- Use partial quotients to divide by one-digit divisors.
- Use base-ten blocks and drawings to model division with regrouping.

Review/Assess

Vocabulary

New	Review
• remainder • partial quotient	• multiplication • product • factor • place value • estimate • rounding • equation • regrouping • multi-digit numbers • mental math • addition • subtraction • quotient • divisor • dividend

Connections to Catholic Identity / Other Subjects

Religion/Catholic Identity:

- Numbers 31:27 ~ Divide the spoils equally between the soldiers who took part in the battle and the rest of the community.
- https://www.savoringeachmoment.com/50-bible-verses-about-math/
- https://bible.knowing-jesus.com/topics/Math

Differentiation

Enrichment

- **Analyze Remainder Meaning in Context** – Have students create real-world scenarios requiring different interpretations of remainders and justify each choice.
- **Extend to Two-Digit Divisors** – Challenge students to adapt partial-quotient and area-model strategies to division by two-digit divisors, comparing efficiency.

Subject Here: ● **Science:** Plan a healthy snack for the class or divide servings from recipes. Use a partial quotient to divide items like fruit slices, crackers, or cups of juice among students. Use remainders to decide if someone gets extra or if items need to be cut smaller. Promotes healthy choices and fairness through real-life math. ● **PE**: Divide students into equal teams or stations for games or exercises. Use partial quotients to divide total players or equipment. Remainders help spark decisions (e.g., rotate, rest, or coach). Real-time application of division in group activities.	● **Connect Fractions and Division** – Require students to express remainders as fractions or mixed numbers and explain the relationship between the two forms. ● **Design and Code Division Games** – Guide students in using block-based coding platforms to build interactive games that incorporate division with remainders. **Support** ● **Concrete-Representational-Abstract Progression** – Begin with base-ten blocks, move to sketches, then to numeric algorithms for each division step. ● **Guided Partial Quotient Frames** – Provide scaffolded recording sheets that cue each subtraction step within the partial-quotient method. ● **Remainder Comparison Sort** – Use card sorts where students classify problems by size or presence of remainders to deepen conceptual understanding. ● **Repeated Subtraction Number Lines** – Employ number lines and skip-counting strips so students visualize repeated subtraction leading to a quotient. ● **Math Fact Fluency Centers** – Integrate daily multiplication/division fact games to support automaticity essential for long-division success.

Standards & Benchmarks

Division Strategies:

4.NBT.3
Use place value understanding to round multi-digit whole numbers to any place.

4.NBT.6
Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

4.NBT.B.6
Demonstrate understanding of division by finding whole-number quotients and remainders with up to four-digit dividends and one-digit divisors.

4.OA.3
Solve multi-step word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted.

4.OA.3.a
Represent these problems using equations with a letter standing for the unknown quantity.

Divide by 1-Digit Numbers:

4.OA.2
Multiply or divide to solve word problems involving multiplicative comparison, for example, by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

4.OA.3
Solve multi-step word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted.

4.OA.3.a
Represent these problems using equations with a letter standing for the unknown quantity.

4.NBT.6
Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

4.NBT.B.6
Demonstrate understanding of division by finding whole-number quotients and remainders with up to four-digit dividends and one-digit divisors.

Teaching Ideas/Resources

Websites/Resources:

- K5 Learning pages on Division