Unit 7 Reveal Grade 5

Content Area: Math
Course(s): Math
Time Period: February
Length: 2 weeks
Status: Published

Unit overview

UNIT 7 PLANNER Divide Whole Numbers

PACING: 11 days SOCIAL AND EMOTIONAL								
LESS	ON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	LEARNING OBJECTIVE	LESSON	KEY VOCABULAR		
Unit	nit Opener Wirw Division Puzzles Solve 3 by 3 number puzzles using division facts.							
7-1	Division Patterns with Multi-Digit Numbers	Students use place-value patterns and basic facts to divide a whole number by a multiple of 10.	Students talk about how to use place-value patterns and basic facts to divide a whole number by a multiple of 10 using the modal verb con.	Students recognize personal strengths through thoughtful self-reflection.	7-1	Math Terms dividend divisor quotient		
7-2	Estimate Quotients	Students estimate quotients of multi-digit numbers using the same strategies used to estimate quotients of lesser numbers. Students use estimated quotients to make predictions about a calculated solution. Students use estimated quotients to assess the reasonableness of a calculated solution.	Students talk about estimating quotients, using the terms greater than, less than, and about.	Students set learning goals and initiate work on tasks to accomplish their goals.	7-2	estimate		
7-3	Relate Multiplication and Division of Multi-Digit Numbers	Students use the relationship between multiplication and division to determine the quotient of multi-digit numbers.	Students describe the relationship between multiplication and division that helps them to find the quotient when dividing by a multiple of 10 using the vest determine and the adjectives some and different.	Students collaborate with peers and contribute to group effort to achieve a collective mathematical goal.	7-3	dividend divisor		
7-4	Represent Division of 2-Digit Divisors	Students use an area model to determine partial quotients and add partial quotients to calculate the quotient.	Students explain how to use an area model to determine and add partial quotients using comparatives more useful, less useful, more helpful, and less helpful.	Students discuss how a rule or routine can help develop mathematical skills and knowledge and be responsible contributors.	7-4	partial quotient		
7-5	Use Partial Quotients to Divide	Students record partial quotients using an algorithm.	Students discuss recording partial quotients while using the verb relate.	Students exchange ideas for mathematical problem-solving with a peer, listening attentively and providing thoughtful and constructive feedback.	7-5	partial quotient		
7-6	Divide Multi-Digit Whole Numbers	Students solve division problems using partial quotients, which sometimes include remainders.	Students explain how to solve division problems using partial quotients, which sometimes include remainders, using <i>K</i> then.	Students set a focused mathematical goal and make a plan for achieving that goal.	7-6	partial quotient remainder		
7-7	Solve Problems Involving Division	Students solve word problems involving division. Students interpret the remainder, when necessary, to solve problems.	Students talk about solving word problems involving division while using the modals can and could.	Students break down a situation to identify the problem at hand.	7-7	remainder		
Math	Probe Solving Division W	ord Problems Solve a division word pr	oblem.					
	Review ncy Practice							
Unit	Assessment							
Perf	ormance Task							

Essential Questions

See Above.

Instructional Strategies and Learning Activities LESSON 7-1 **Division Patterns with Multi-Digit Numbers Learning Targets** - I can explain patterns when dividing by a multiple of 10. . I can use patterns to determine the quotient when dividing by a multiple of 10. Standards • Major A Supporting • Addition Content 5.NBT.B Perform operations with multi-digit whole numbers and with decimals to hundredths. S.NBT.B.6 Find whole number quotients of whole numbers with up to four-digit dividends and two-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. Math Practices and Processes MPP Reason abstractly and quantitatively. MPP Look for and make use of structure. Focus Content Objective Language Objectives SEL Objective - Students use place value Students recognize personal strengths through thoughtful . Students talk about how to use patterns and basic facts to divide place-value patterns and basic a whole number by a multiple facts to divide a whole number self-reflection by a multiple of 10 using the modal verb can. - To support maximizing cognitive and linguistic meta-awareness, ELs participate in MLR8:

Coherence

Previous

- · Students found whole number quotients and remainders with up to four-digit dividends and one-digit divisor (Grade 4).
- · Students multiplied decimals to hundredths (Unit 6).

· Students use place-value patterns to determine quotients when dividing by multiples of 10.

Discussion Supports.

- · Students will use compatible numbers to estimate quotients (Lesson 2).
- Students will fluently divide multi-digit numbers using the standard algorithm (Grade 6).

Rigor

Conceptual Understanding

 Students build on their understanding of division by using place-value patterns to calculate quotients.

Procedural Skill & Fluency

- Students develop proficiency with dividing whole numbers by multiples of 10.

Application

· Students apply their understanding of division to solve real-world problems

Application is not a targeted element of rigor for this standard.

207A

LESSON 7-2 Estimate Quotients

Learning Targets

- . I can explain how to estimate quotients of multi-digit numbers.
- . I can estimate quotients of multi-digit numbers to determine if calculations are reasonable.
- . I can use an estimated quotient to make predictions about a calculated solution.

Standards + Major A Supporting • Additional

Content

- \$\triangle\$ 5.NBT.B Perform operations with multi-digit whole numbers and with decimals to hundredths.
- S.NBT.B.6 Find whole-number quotients of whole numbers with up to four-digit dividends and two-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.

Math Practices and Processes

MPP Reason abstractly and quantitatively.

MPP Use appropriate tools strategically.

Focus

Content Objectives

- Students estimate quotients of multi-digit numbers using strategies they used to estimate quotients of lesser numbers.
- Students use estimated quotients to make predictions and asses the reasonableness of a calculated solution.

Language Objectives

- Students talk about estimating quotients, using the terms greater than, less than, and about.
- To support optimizing output, ELs participate in MLR7: Compare and Connect.

SEL Objective

 Students set learning goals and initiate work on tasks to accomplish their goals.

Coherence

Previous

- Students used place-value strategies to find quotients quotients (Grade 4).
- Students used place-value patterns to determine quotients when dividing by multiples of 10 (Lesson 1).

Now

 Students use compatible numbers to estimate quotients of two whole numbers.

Next

- Students will use the relationship between mulipication and division to divide (Lesson 3).
- Students will fluently divide multi-digit numbers using the standard algorithm (Grade 6).

Rigor

Conceptual Understanding

 Students build their understanding of division through estimating quotients.

Procedural Skill & Fluency

 Students use estimation strategies to begin to build proficiency with division.

Application

 Students apply their understanding of estimating quotients to solve problems.
 Application is not a specific

Application is not a specific element of rigor for this standard.

211A

LESSON 7-3

Relate Multiplication and Division of Multi-Digit Numbers

Learning Target

 I can use the relationship between multiplication and division to determine the quotient when dividing by a 2-digit divisor.

Standards • Major A Supporting • Additional

Content

- \$ 5.NBT.B Perform operations with multi-digit whole numbers and with decimals to hundredths.
- S.NBT.B.6 Find whole-number quotients of whole numbers with up to four-digit dividends and two-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.

Math Practices and Processes

MPP Look for and express regularity in repeated reasoning.

Focus

Content Objective

 Students use the relationship between multiplication and division to determine the quotient when dividing by a 2-digit divisor.

Language Objective

- Students describe the relationship between multiplication and division that helps them to find the quotient when dividing by a multiple of 10 using the verb determine and the adjectives some and different.
- To support sense-making, ELs participate in MLR2: Collect and Display.

SEL Objective

 Students collaborate with peers and contribute to group effort to achieve a collective mathematical goal.

Coherence

Previous

- Students used place value strategies to find quotients with up to 4-digit dividends and 1-digit divisors (Grade 4).
- Students estimated quotients using rounding (Lesson 3).

Now

 Students use the relationship between multiplication and division to divide multi-digit numbers.

Next

- Students will extend their understanding to divide using an area model using partial quotients (Lesson 4).
- Students will fluently divide multi-digit numbers using the standard algorithm (Grade 6).

Rigor

Conceptual Understanding

 Students build their understanding of multiplication and division using basic facts to divide multi-digit numbers.

Procedural Skill & Fluency

 Students build proficiency with multi-digit division using basic multiplication facts.

Application

 Students solve real-world division problems.

Application is not a specific element of rigor for this standard.

LESSON 7-4

Represent Division of 2-Digit Divisors

Learning Target

 I can use an area model to determine partial quotients and add partial quotients to calculate the quotient.

Standards • Major A Supporting • Additional

Content

- \$ 5.NBT.B Perform operations with multi-digit whole numbers and with decimals to hundredths.
- 5.NBT.B.6 Find whole-number quotients of whole numbers with up to four-digit dividends and two-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.

Math Practices and Processes

MPP Model with mathematics.

MPP Look for and make use of structure.

Focus

Content Objective

 Students use an area model to determine partial quotients and add partial quotients to calculate the quotient.

Language Objectives

- Students explain how to use an area model to determine and add partial quotients using comparatives more useful, less useful, more helpful, and less helpful.
- To support optimizing output, ELs participate in MLR1: Stronger and Clearer Each Time.

SEL Objective

 Students discuss how a rule or routine can help develop mathematical skills and knowledge and be responsible contributors.

Coherence

Previou

- Students used place-value strategies to find quotients (Grade 4)
- Students used the relationship between multiplication and division to divide (Lesson 3).

Now

 Students extend their understanding of division to divide using an area model and partial quotients.

Next

- Students will use partial quotients to divide by 2-digit divisors (Lesson 5).
- Students will fluently divide using an algorithm (Grade 6).

Rigor

Conceptual Understanding

 Students build on their understanding of division as they begin to divide with 2-digit divisors using area models.

Procedural Skill & Fluency

 Students build proficiency with division facts for dividing with 2-digit divisors.

Application

 Students apply their understanding of division to solve real-world problems.

Application is not a specific element of rigor for this standard.

LESSON 7-5

Use Partial Quotients to Divide

Learning Target

. I can record partial quotients using a strategy.

Standards • Major A Supporting • Additional

Content

- 5.NBT.B Perform operations with multi-digit whole numbers and with decimals to hundredths.
- S.NBT.B.6 Find whole-number quotients of whole numbers with up to four-digit dividends and two-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.

Math Practices and Processes

MPP Make sense of problems and persevere in solving them.

MPP Look for and express regularity in repeated reasoning.

Focus

Content Objective

Students record partial quotients using a strategy.

Language Objectives

- Students discuss recording partial quotients while using the verb relate.
- To support optimizing output, students participate in MLR4: Info Gap.

SEL Objective

 Students exchange ideas for mathematical problem-solving with a peer, listening attentively and providing thoughtful and constructive feedback.

Coherence

Previous

- Students used place-value strategies to find quotients with up to 4-digit dividends and 1-digit divisor (Grade 4).
- Students extended their understanding of division to divide using an area model and partial quotients (Lesson 4).

ow

 Students use partial quotients to divide multi-digit dividends by 2-digit divisors to find quotients.

Next

- Students will divide multi-digit numbers by 2-digit numbers to find quotients with remainders (Lesson 6).
- Students will fluently divide multi-digit numbers using the standard algorithm (Grade 6).

Rigor

Conceptual Understanding

 Students understanding of division is enhanced as they divide multi-digit numbers using partial quotients.

Procedural Skill & Fluency

 Students gain skills and fluency with division as they repeat the process for using partial products throughout the lesson.

Application

 Students apply their understanding of division to solve problems with real-world

Application is not a specific element of rigor for this standard.

223A

LESSON 7-6 Divide Multi-Digit Whole Numbers

Learning Target

. I can use partial quotients to solve division problems, which sometimes include a remainder.

Standards • Major • Supporting • Additional

Content

S.NBT.B Perform operations with multi-digit whole numbers and with decimals to hundredths.

S.NBT.B.6 Find whole-number quotients of whole numbers with up to four-digit dividends and two-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 models.

Math Practices and Processes

MPP Make sense of problems and persevere in solving them.

MPP Use appropriate tools strategically.

Focus

Content Objective

 Students solve division problems using partial quotients, which sometimes include remainders.

Language Objectives

- Students explain how to solve division problems using partial quotients, which sometimes include remainders, using If...then.
- To support maximizing linguistic and cognitive meta-awareness, ELs participate in MLRS: Co-Craft Questions and Problems.

SEL Objective

 Students set a focused mathematical goal and make a plan for achieving that goal.

Coherence

Previous

- Students used place-value strategies to find quotients with up to 4-digit dividends and 1-digit divisors (Grade 4).
- Students used partial quotients to divide multi-digit numbers by 2-digit divisors to find quotients di essan Si

Now

 Students divide multi-digit numbers by 2-digit numbers to find quotients with remainders.

Next

- Students will solve word problems involving division by 2-digit numbers and interpreting remainders (Lesson 7).
- Students will fluently divide multi-digit numbers using the standard algorithm (Grade 6).

Rigor

Conceptual Understanding

 Students build on their understanding of division as they represent multi-digit division by 2-digit divisors.

Procedural Skill & Fluency

 Students build proficiency by using partial quotients to represent division with remainders.

Application

 Students apply their understanding of division to solve problems with real-world contexts.

Application is not a specific element of rigor for this standard.

227A

Learning Targets I can use solve word problems involving division. I can interpret the remainder when solving word problems. Standards • Major • Supporting • Additional Content 5.NBT.B. Perform operations with multi-digit whole numbers and with decimals to hundredths. 5.NBT.B. Find whole number quotients of whole numbers with up to four-digit dividends and two-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 models. Math Practices and Processes MPP Make sense of problems and persevere in solving them. MPP Reason abstractly and quantitatively.

Focus Content Objectives Language Objectives SEL Objective · Students talk about solving word · Students break down a situation · Students solve word problems to identify the problem at hand. problems involving division while involving division. using the modals con and could. . Students interpret the To support sense making, ELs remainder, when necessary, to solve problems. participate in MLRG: Three Reads. Coherence Next · Students used place-value - Students solve word · Students will solve problems strategies to find quotients with up to 4-digit dividends and problems involving division by 2-digit numbers and involving division with decimals to hundredths (Unit 8). 1-digit divisors (Grade 4). interpreting remainders. Students will fluently divide Students divided multi-digit multi-digit numbers using the numbers by 2-digit numbers to standard algorithm (Grade 6). find quotients with remainders (Lesson 6). Rigor Conceptual Understanding Procedural Skill & Fluency Application · Students build on their · Students build proficiency · Students will apply their understanding of division as they by using partial quotients understanding of division to solve problems with represent multi-digit division by to represent division with remainders. 2-digit divisors. real-world contexts. Application is not a specific element of rigor for this standard.

Unit 7 - Divide Whole Numbers

Integration of Career Readiness, Life Literacies and Key Skills

PFL.9.1.2. FI.1	Differentiate the various forms of money and how they are used (e.g., coins, bills, checks, debit and credit cards).
PFL.9.1.2.PB.2	Explain why an individual would choose to save money.
WRK.9.2.5.CAP.1	Evaluate personal likes and dislikes and identify careers that might be suited to personal likes.
WRK.9.2.5.CAP.2	Identify how you might like to earn an income.
WRK.9.2.5.CAP.3	Identify qualifications needed to pursue traditional and non-traditional careers and

occupations. WRK.9.2.5.CAP.4 Explain the reasons why some jobs and careers require specific training, skills, and certification (e.g., life guards, child care, medicine, education) and examples of these requirements. TECH.9.4.8.CI.1 Assess data gathered on varying perspectives on causes of climate change (e.g., crosscultural, gender-specific, generational), and determine how the data can best be used to design multiple potential solutions (e.g., RI.7.9, 6.SP.B.5, 7.1.NH.IPERS.6, 8.2.8.ETW.4). TECH.9.4.8.CI.4 Explore the role of creativity and innovation in career pathways and industries. TECH.9.4.8.CT.2 Develop multiple solutions to a problem and evaluate short- and long-term effects to determine the most plausible option (e.g., MS-ETS1-4, 6.1.8.CivicsDP.1). TECH.9.4.8.CT.3 Compare past problem-solving solutions to local, national, or global issues and analyze the factors that led to a positive or negative outcome. TECH.9.4.8.DC.2 Provide appropriate citation and attribution elements when creating media products (e.g., W.6.8). TECH.9.4.8.DC.4 Explain how information shared digitally is public and can be searched, copied, and potentially seen by public audiences. TECH.9.4.8.DC.5 Manage digital identity and practice positive online behavior to avoid inappropriate forms of self-disclosure. Explain how communities use data and technology to develop measures to respond to TECH.9.4.8.DC.8 effects of climate change (e.g., smart cities). TECH.9.4.8.TL.1 Construct a spreadsheet in order to analyze multiple data sets, identify relationships, and facilitate data-based decision-making. TECH.9.4.8.TL.2 Gather data and digitally represent information to communicate a real-world problem (e.g., MS-ESS3-4, 6.1.8.EconET.1, 6.1.8.CivicsPR.4). TECH.9.4.8.TL.3 Select appropriate tools to organize and present information digitally. TFCH.9.4.8.TL.5 Compare the process and effectiveness of synchronous collaboration and asynchronous collaboration. TECH.9.4.8.TL.6 Collaborate to develop and publish work that provides perspectives on a real-world problem. Model how to navigate cultural differences with sensitivity and respect (e.g., 1.5.8.C1a). TECH.9.4.8.GCA.1 TECH.9.4.8.GCA.2 Demonstrate openness to diverse ideas and perspectives through active discussions to achieve a group goal. Identify specific examples of distortion, exaggeration, or misrepresentation of TECH.9.4.8.IML.2 information. TECH.9.4.8.IML.3 Create a digital visualization that effectively communicates a data set using formatting techniques such as form, position, size, color, movement, and spatial grouping (e.g., 6.SP.B.4, 7.SP.B.8b). TECH.9.4.8.IML.4 Ask insightful questions to organize different types of data and create meaningful visualizations. TECH.9.4.8.IML.5 Analyze and interpret local or public data sets to summarize and effectively communicate the data. TECH.9.4.8.IML.7 Use information from a variety of sources, contexts, disciplines, and cultures for a specific

TECH.9.4.8.IML.12 Use relevant tools to produce, publish, and deliver information supported with evidence for an authentic audience.

6.1.8.CivicsDP.4.b, 7.1.NH. IPRET.8).

purpose (e.g., 1.2.8.C2a, 1.4.8.CR2a, 2.1.8.CHSS/IV.8.AI.1, W.5.8, 6.1.8.GeoSV.3.a,

Technology and Design Thinking

CS.3-5.8.1.5.CS.3	Identify potential solutions for simple hardware and software problems using common troubleshooting strategies.
CS.3-5.8.1.5.DA.1	Collect, organize, and display data in order to highlight relationships or support a claim.
CS.3-5.8.1.5.DA.3	Organize and present collected data visually to communicate insights gained from different views of the data.
CS.3-5.8.1.5.DA.4	Organize and present climate change data visually to highlight relationships or support a claim.
	Data can be organized, displayed, and presented to highlight relationships.

Interdisciplinary Connections

LA.RI.5.1	Quote accurately from a text and make relevant connections when explaining what the text says explicitly and when drawing inferences from the text.
LA.RI.5.2	Determine two or more main ideas of a text and explain how they are supported by key details; summarize the text.
LA.RI.5.3	Explain the relationships or interactions between two or more individuals, events, ideas, or concepts in a historical, scientific, or technical text based on specific information in the text.
LA.RI.5.4	Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade 5 topic or subject area.
LA.RI.5.5	Compare and contrast the overall structure (e.g., chronology, comparison, cause/effect, problem/solution) of events, ideas, concepts, or information in two or more texts.
LA.RI.5.6	Analyze multiple accounts of the same event or topic, noting important similarities and differences in the point of view they represent.
LA.RI.5.7	Draw on information from multiple print or digital sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently.
LA.RI.5.8	Explain how an author uses reasons and evidence to support particular points in a text, identifying which reasons and evidence support which point(s).
LA.RI.5.9	Integrate and reflect on (e.g., practical knowledge, historical/cultural context, and background knowledge) information from several texts on the same topic in order to write or speak about the subject knowledgeably.
LA.RI.5.10	By the end of year, read and comprehend literary nonfiction at grade level text-complexity or above, with scaffolding as needed.
LA.W.5.4	Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)
LA.SL.5.1	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 5 topics and texts, building on others' ideas and expressing their own clearly.
LA.L.5.1	Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
LA.L.5.2	Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.

Differentiation

- Understand that gifted students, just like all students, come to school to learn and be challenged.
- Pre-assess your students. Find out their areas of strength as well as those areas you may need to address before students move on.
- Consider grouping gifted students together for at least part of the school day.
- Plan for differentiation. Consider pre-assessments, extension activities, and compacting the curriculum.
- Use phrases like "You've shown you don't need more practice" or "You need more practice" instead of words like "qualify" or "eligible" when referring to extension work.
- Encourage high-ability students to take on challenges. Because they're often used to getting good grades, gifted students may be risk averse.

• Definitions of Differentiation Components:

- Content the specific information that is to be taught in the lesson/unit/course of instruction.
- Process how the student will acquire the content information.
- o Product how the student will demonstrate understanding of the content.
- Learning Environment the environment where learning is taking place including physical location and/or student grouping

Differentiation occurring in this unit:

Use Differentiation guide in Teacher's manual for each unit

Modifications and Accommodations

Refer to QSAC EXCEL SMALL SPED ACCOMMOCATIONS spreadsheet in this discipline.

Modifications and Accommodations used in this unit:

Benchmark Assessments

Benchmark Assessments are given periodically (e.g., at the end of every quarter or as frequently as once per month) throughout a school year to establish baseline achievement data and measure progress toward a standard or set of academic standards and goals.

Schoolwide Benchmark assessments:

Aimsweb benchmarks 3X a year

Linkit Benchmarks 3X a year

DRA

Additional Benchmarks used in this unit:

Formative Assessments

Assessment allows both instructor and student to monitor progress towards achieving learning objectives, and can be approached in a variety of ways. **Formative assessment** refers to tools that identify misconceptions, struggles, and learning gaps along the way and assess how to close those gaps. It includes effective tools for helping to shape learning, and can even bolster students' abilities to take ownership of their learning when they understand that the goal is to improve learning, not apply final marks (Trumbull and Lash, 2013). It can include students assessing themselves, peers, or even the instructor, through writing, quizzes, conversation, and more. In short, formative assessment occurs throughout a class or course, and seeks to improve student achievement of learning objectives through approaches that can support specific student needs (Theal and Franklin, 2010, p. 151).

Formative Assessments used in this unit:

Teacher Observations

Checklists

Questions and Discussions

Quizzes

Summative Assessments

Summative assessments evaluate student learning, knowledge, proficiency, or success at the conclusion of an instructional period, like a unit, course, or program. Summative assessments are almost always formally graded and often heavily weighted (though they do not need to be). Summative assessment can be used to great effect in conjunction and alignment with formative assessment, and instructors can consider a variety of ways to combine these approaches.

Summative assessments for this unit:

End of Unit Assessments

Instructional Materials

See Above

Standards

MATH.5.NBT.B.6

Find whole-number quotients of whole numbers with up to four-digit dividends and two-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.