

Unit A - Figure the Facts

Overview

To begin the year, students will establish routines within the math workshop and Number Corner environment. Students use Work Places as regular opportunities to socially engage in mathematical learning while sharing strategies with fellow students. Small guided math groups are facilitated during this time to help students consolidate or extend their learning.

In this first unit, students develop confidence and fluency with number relationships, operations, and facts in the range of 0 to 20. This operational sense depends heavily on a solid number foundation developed in earlier grades. The goal of this unit is to help students develop solid understandings of addition and subtraction and some of the ways in which these two operations complement each other, which will lead to the development of confidence and fluency with the number facts as they appear in real-world contexts. Fact retrieval is based on models and the use of strategies as opposed to rote memorization and recall. They can create a variety of combinations of 20 and justify their solutions using models, pictures and words.

21st Century Capacities: Product Creation

Stage 1 - Desired Results

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| ESTABLISHED GOALS/ STANDARDS | Transfer: | |
| MP3 Construct viable arguments and critique the reasoning of others MP5 Use appropriate tools strategically MP7 Look for and make use of structure | <i>Students will be able to independently use their learning in new situations to...</i> | |
| | <ol style="list-style-type: none"> 1. Recognize patterns in simple addition and subtraction fact problems. 2. Justify reasoning using clear and appropriate mathematical language or tools. (Product Creation) | |
| | Meaning: | |
| CCSS.MATH.CONTENT.2.OA.A.1 Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem. ¹ | UNDERSTANDINGS: <i>Students will understand that:</i> <ol style="list-style-type: none"> 1. A whole can be broken into smaller parts or parts can be put together to make a whole 2. Tools and visual models help us to problem solve and explain our thinking 3. Strategies help us to recognize relationships between numbers to | ESSENTIAL QUESTIONS: <i>Students will explore & address these recurring questions:</i> <ol style="list-style-type: none"> A. How do addition and subtraction relate to one another? B. How is this problem like/different from the one we just solved? C. How can I use tools to develop strategies to add and subtract? D. What pattern(s) do I see in the numbers? |

Grade 2 Math Curriculum

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| <p>CCSS.MATH.CONTENT.2.OA.B.2 Fluently add and subtract within 20 using mental strategies.² By end of Grade 2, know from memory all sums of two one-digit numbers.</p> | <p>develop fact fluency</p> <p>4. Addition and subtraction complement each other</p> | <p>E. What is the best way to show my thinking?</p> |
| Acquisition: | | |
| <p>CCSS.MATH.CONTENT.2.OA.C.3 Determine whether a group of objects (up to 20) has an odd or even number of members, e.g., by pairing objects or counting them by 2s; write an equation to express an even number as a sum of two equal addends.</p> <p>CCSS.MATH.CONTENT.2.NBT.A.2 Count within 1000; skip-count by 5s, 10s, and 100s.</p> <p>CCSS.MATH.CONTENT.2.MD.B.6 Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points corresponding to the numbers 0, 1, 2, ..., and represent whole-number sums and differences within 100 on a number line diagram.</p> <p>CCSS.MATH.CONTENT.2.MD.C.7 Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.</p> <p>CCSS.MATH.CONTENT.2.MD.D.10 Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems¹ using information presented in a bar graph.</p> | <p><i>Students will know...</i></p> <ol style="list-style-type: none"> 1. Number combinations to 10 fluently 2. Fact strategies and models for number combinations to 20. 3. The relationship between even and odd numbers 4. How to use strategies to solve story problem contexts to 20. 5. Using models such as the ten frame and number rack to help visualize numbers, relationships, and combinations 6. Models allow for multiple mental pictures and representations of numbers 7. The relationship between the whole and the parts in addition and subtraction problems 8. <u>Vocabulary:</u> difference, sum, total, equivalent, equation, strategies, odd, even, number line., doubles, unknown NC: diagonal, vertical, horizontal, analog, digital, commutative property, century, decade | <p><i>Students will be skilled at...</i></p> <ol style="list-style-type: none"> 1. Understanding expectations and norms about mathematical inquiry and discourse 2. Using math tools such as the number rack, bead strings, and number line 3. Recalling number facts to 10 and apply strategies for facts to 20 4. Modeling number relationships and combinations 5. Recognizing strategies such as doubles and halves, doubles plus or minus one, even and odd numbers 6. Apply strategies within story problem contexts |