



Grade 2 - Unit A - Figure the Facts

Unit Focus

To begin the year, students will establish their rights and responsibilities 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, the use of strategies, and intuition, 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.

Stage 1: Desired Results - Key Understandings

| Standard(s) | Transfer | |
|--|---|--|
| Standards <ul style="list-style-type: none">Common Core<ul style="list-style-type: none"><i>Mathematics: 2</i><ul style="list-style-type: none">Represent and solve problems involving addition and subtraction.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. (<i>CCSS.MATH.CONTENT.2.OA.A.1</i>)Add and subtract within 20.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. (<i>CCSS.MATH.CONTENT.2.OA.B.2</i>)Work with equal groups of objects to gain foundations for multiplication.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. (<i>CCSS.MATH.CONTENT.2.OA.C.3</i>)Work with time and money.Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m. (<i>CCSS.MATH.CONTENT.2.MD.C.7</i>) | <i>Students will be able to independently use their learning to...</i> T1 Choose appropriate tools to make reaching solutions more efficient, accessible and accurate. T2 Apply an understanding of known patterns to new problems and make connections between concepts. | |
| | Meaning | |
| | Understanding(s) | Essential Question(s) |
| | <i>Students will understand that...</i> U1 Mathematicians strategically use different tools to build conceptual knowledge or solve problems. U2 Mathematicians use their knowledge from patterns and structures to apply efficient strategies to solve a problem. | <i>Students will keep considering...</i> Q1 What tool is most effective and efficient? Q2 How can we apply knowledge of a pattern to similar problems? |
| | Acquisition of Knowledge and Skill | |
| | Knowledge | Skill(s) |
| | <i>Students will know...</i> K1 Number combinations to 10 fluently K2 Fact strategies and models for number combinations to 20. | <i>Students will be skilled at...</i> S1 Understanding expectations and norms about mathematical inquiry and discourse |

Stage 1: Desired Results - Key Understandings

- Mathematical Practices
- Use appropriate tools strategically. (*CCSS.MATH.MP.5*)
- Look for and express regularity in repeated reasoning. (*CCSS.MATH.MP.8*)

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- Analyzing: Examining information/data/evidence from multiple sources to identify possible underlying assumptions, patterns, and relationships in order to make inferences. (*POG.1.2*)
- Product Creation: Effectively use a medium to communicate important information. (*POG.3.2*)

K3 The relationship between even and odd numbers
K4 How to use strategies to solve story problem contexts to 20.

K5 Using models such as the ten frame and number rack to help visualize numbers, relationships, and combinations

K6 Models allow for multiple mental pictures and representations of numbers

K7 The relationship between the whole and the parts in addition and subtraction problems

K8 Vocabulary: difference, sum, total, equivalent, equation, strategies, odd, even, number line, doubles, unknown NC: diagonal, vertical, horizontal, analog, digital, commutative property, century, decade

S2 Using math tools such as the number rack, bead strings, and number line

S3 Recalling number facts to 10 and apply strategies for facts to 20

S4 Modeling number relationships and combinations

S5 Recognizing strategies such as doubles and halves, doubles plus or minus one, even and odd numbers

S6 Apply strategies within story problem contexts