Unit 3 Addition and Subtraction Strategies and Relationships
Math 1

Last Update: August 1, 2025

Archdiocesan Curriculum > Grade > Math 1 > Length of unit 53 to 55 days

Stage 1: Desired Results

General Information

In this unit, students develop fluency with basic addition and subtraction facts through various strategies such as using doubles, making tens, counting on and back, and related facts. They begin applying these skills to solve real-world problems and extend them to work with two-digit numbers using models and hundred charts.

Mathematical Practices

- MP1 – Make sense of problems and persevere in solving them.
- MP2 – Reason abstractly and quantitatively.
- MP4 – Model with mathematics.
- MP5 – Use appropriate tools strategically.
- MP7 – Look for and make use of structure.

Essential Question(s)

- How can I use different strategies to add and subtract numbers?
- What are doubles, and how can they help me solve problems?
- How can I use addition to help me subtract?
- What tools or models can I use to show how I solved a problem?
- How are addition and subtraction related?

Enduring Understanding/Knowledge

Students will:

- Count on to add 1, 2, or 3.
- Add doubles.
- Use doubles facts to solve addition problems.
- Use what I know about doubles to find other sums.
- Use strategies to add.
- Use a ten frame to add ten and some more.
- Use the make a ten strategy to add.
- Make a ten to solve addition problems.
- Solve real-world addition problems.

Review/Assess

- Count back 1, 2, and 3.
- Use an addition fact I know to find the answer to a subtraction fact.
- Use addition to find the answer to a subtraction fact.
- Make a ten to subtract.
- Break apart a number to subtract.
- Use subtraction strategies to solve problems.
- Solve real-world subtraction problems.

Review/Assess

- Add addends in any order.
- Add three addends.
- Group numbers to add three addends.
- Draw a picture to solve addition word problems.

Review/Assess

- Use related facts to complete equations with missing numbers.
- Identify related addition and subtraction facts.
- Use addition to check subtraction.
- Use a related fact to find an unknown number.
- Use an addition fact to find a related subtraction fact.

Vocabulary

New	Review
count on doubles doubles minus one doubles plus one make a ten count back related facts	addend subtraction sum difference number line ten frame hundred chart model equation total strategy regroup place value

- Choose which operation to use to solve a problem.
- Add and subtract in different ways to make the same number.
- Add and subtract to find if an equation is true or false.
- Use addition and subtraction strategies to help me find sums and differences.

Review/Assess

- Use strategies to add and subtract.
- Add tens.
- Subtract tens.
- Use a hundred chart to count on by ones or by tens.
- Use models to add ones or tens to a two-digit number.
- Make a ten to add 2-digit and 1-digit numbers.
- Model tens and ones to help me add two-digit numbers.
- Draw a picture to help me explain how to solve an addition problem.
- Use a hundred chart to show the relationship between addition and subtraction.

Review/Assess

Connections to Catholic Identity / Other Subjects

Religion/Catholic Identity:

- Using themes from the Bible to create word problems to solve basic math facts. (ie- If there are 12 apostles and 4 leave to evangelize, how many are still with Jesus)

Other Subject Here:

- **ELA:** Using weekly sight words, add up the number of letters and add them together. For example- once + ago + done= 4+3+4=11
- Clap syllables in words and then add them together.
- **Science:** Count seeds from apples, pumpkins or other science lessons. Students could work in pairs to add their seeds together .
- **Physical Education:** Count reps of exercises and then add or subtract other exercises. For example- do 8 jumping jacks + 5 push ups 3 sit ups. How many did you do?

Differentiation

Enrichment

- **Use Known Facts to Solve 2-Digit Problems** – Encourage students to apply doubles and make-a-ten strategies with two-digit numbers.
- **Justify Grouping of Addends** – Ask students to explain why they grouped certain addends when solving 3-addend problems.
- **Create and Solve Multi-Step Problems** – Have students write and solve word problems involving both addition and subtraction.
- **Explore Patterns in Related Facts** – Guide students to identify and extend patterns in families of facts.

Support

- **Use Ten Frames and Manipulatives** – Provide concrete tools to model counting on, doubles, and subtraction.
- **Number Line Support** – Use number lines to support count on, count back, and related fact strategies.
- **Partner Practice with Fact Families** – Use games and visual aids to reinforce connections between addition and subtraction.
- **Scaffold Multi-Addend Problems** – Break three-addend problems into two steps using grouping visuals or manipulatives.

Standards & Benchmarks

Addition Strategies:

1.NBT.4

Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens to tens and ones to ones, and that it is sometimes necessary to compose a ten.

1.OA.6.a

Use strategies such as counting on; making ten (for example, 8 + 6 = 8 + 2 + 4 = 10 + 4 = 14); decomposing a number

leading to a ten (for example, 13 − 4 = 13 – 3 – 1 = 10 – 1 = 9); using the relationship between addition and subtraction (for example, knowing that 8 + 4 = 12, one knows 12 – 8 = 4); and creating equivalent but easier or known sums (for example, adding 6 + 7 by creating the known equivalent 6 + 6 + 1 = 12 + 1 = 13).

1.OA.1
Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions. For example, use objects, drawings, and equations with a symbol for the unknown number to represent the problem.

1.OA.5
Relate counting to addition and subtraction. For example, by counting on 2 to add 2.

1.OA.A.1
Use addition and subtraction within 20 to solve word problems with unknowns in all positions (e.g., by using objects, drawings, and/or equations with a symbol for the unknown number to represent the problem).

1.OA.C.5
Relate counting to addition and subtraction (e.g., by using counting on 2 to add 2).

Subtraction Strategies:

1.OA.6.a
Use strategies such as counting on; making ten (for example, 8 + 6 = 8 + 2 + 4 = 10 + 4 = 14); decomposing a number leading to a ten (for example, 13 − 4 = 13 – 3 – 1 = 10 – 1 = 9); using the relationship between addition and subtraction (for example, knowing that 8 + 4 = 12, one knows 12 – 8 = 4); and creating equivalent but easier or known sums (for example, adding 6 + 7 by creating the known equivalent 6 + 6 + 1 = 12 + 1 = 13).

1.OA.8
Determine the unknown whole number in an addition or subtraction equation relating three whole numbers. For example, determine the unknown number that makes the equation true in each of the equations 8 + ? = 11, 5 = ? – 3, 6 + 6 = ?

1.OA.4
Understand subtraction as an unknown-addend problem. For example, subtract 10 – 8 by finding the number that makes 10 when added to 8.

1.OA.1
Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions. For example, use objects, drawings, and equations with a symbol for the unknown number to represent the problem.

1.OA.5
Relate counting to addition and subtraction. For example, by counting on 2 to add 2.

1.OA.A.1
Use addition and subtraction within 20 to solve word problems with unknowns in all positions (e.g., by using objects, drawings, and/or equations with a symbol for the unknown number to represent the problem).

1.OA.C.5
Relate counting to addition and subtraction (e.g., by using counting on 2 to add 2).

1.OA.D.8
Determine the unknown whole number in an addition or subtraction equation relating three whole numbers (e.g., determine the unknown number that makes the equation true in each of the equations 8 + __ = 11, 5 = __ − 3, 6 + 6 = __).

More Addition Strategies:

1.OA.6.a
Use strategies such as counting on; making ten (for example, 8 + 6 = 8 + 2 + 4 = 10 + 4 = 14); decomposing a number leading to a ten (for example, 13 − 4 = 13 – 3 – 1 = 10 – 1 = 9); using the relationship between addition and subtraction (for example, knowing that 8 + 4 = 12, one knows 12 – 8 = 4); and creating equivalent but easier or known sums (for example, adding 6 + 7 by creating the known equivalent 6 + 6 + 1 = 12 + 1 = 13).

1.OA.2
Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20. For example, use objects, drawings, and equations with a symbol for the unknown number to represent the problem.

1.OA.B.3
Apply properties of operations (commutative and associative properties of addition) as strategies to add and subtract within 20.

1.OA.A.2
Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20 (e.g., by using objects, drawings, and/or equations with a symbol for the unknown number to represent the problem).

Addition and Subtraction Relationships:

1.OA.7
Understand the meaning of the equal sign, and determine whether equations involving addition and subtraction are true or false. For example, which of the following equations are true and which are false? 6 = 6, 7 = 8 – 1, 5 + 2 = 2 + 5, 4 + 1 = 5 + 2.

1.OA.3
Apply properties of operations as strategies to add and subtract. For example: If 8 + 3 = 11 is known, then 3 + 8 = 11 is also known. (Commutative property of addition.) To add 2 + 6 + 4, the second two numbers can be added to make a ten, so 2 + 6 + 4 = 2 + 10 =12. (Associative property of addition.) First grade students need not use formal terms for these properties.

1.OA.6.a
Use strategies such as counting on; making ten (for example, 8 + 6 = 8 + 2 + 4 = 10 + 4 = 14); decomposing a number leading to a ten (for example, 13 − 4 = 13 – 3 – 1 = 10 – 1 = 9); using the relationship between addition and subtraction (for example, knowing that 8 + 4 = 12, one knows 12 – 8 = 4); and creating equivalent but easier or known sums (for example, adding 6 + 7 by creating the known equivalent 6 + 6 + 1 = 12 + 1 = 13).

1.OA.8
Determine the unknown whole number in an addition or subtraction equation relating three whole numbers. For example, determine the unknown number that makes the equation true in each of the equations 8 + ? = 11, 5 = ? – 3, 6 + 6 = ?

1.OA.4
Understand subtraction as an unknown-addend problem. For example, subtract 10 – 8 by finding the number that makes 10 when added to 8.

1.OA.1
Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions. For example, use objects, drawings, and equations with a symbol for the unknown number to represent the problem.

1.OA.A.1
Use addition and subtraction within 20 to solve word problems with unknowns in all positions (e.g., by using objects, drawings, and/or equations with a symbol for the unknown number to represent the problem).

1.OA.B.4
Understand subtraction as an unknown-addend problem within 20 (e.g., subtract 10 − 8 by finding the number that makes 10 when added to 8).

1.OA.B.3
Apply properties of operations (commutative and associative properties of addition) as strategies to add and subtract within 20.

Two-Digit Addition and Subtraction:

1.NBT.4
Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens to tens and ones to ones, and that it is sometimes necessary to compose a ten.

1.OA.6.a
Use strategies such as counting on; making ten (for example, 8 + 6 = 8 + 2 + 4 = 10 + 4 = 14); decomposing a number leading to a ten (for example, 13 − 4 = 13 – 3 – 1 = 10 – 1 = 9); using the relationship between addition and subtraction (for example, knowing that 8 + 4 = 12, one knows 12 – 8 = 4); and creating equivalent but easier or known sums (for example, adding 6 + 7 by creating the known equivalent 6 + 6 + 1 = 12 + 1 = 13).

1.NBT.2.c
The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).

1.NBT.2
Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases:

1.NBT.6
Subtract multiples of 10 in the range 10–90 from multiples of 10 in the range 10–90 (positive or zero differences), using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.

1.OA.5
Relate counting to addition and subtraction. For example, by counting on 2 to add 2.

1.NBT.B.2c
The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).
1.NBT.C.6
Subtract multiples of 10 in the range of 10 to 90 (positive or zero differences), using objects or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction. Relate the strategy to a written form.

Teaching Ideas/Resources

Websites/Resources:

- **Polypad – Virtual Manipulatives** – Another virtual manipulative resource that offers digital number lines (including arrows for 'jumping') as well as cubes and number frames for representing problems.