

GO Math

1st Grade MATH

Unit 4: Subtraction strategies

Days in Unit: 14

Envision Math Alignment:

1.OA.1: Topic 1 – Lessons 1, 2, 3, 4, 5, 6, and 8, Topic 2 – Lessons 4, 5, 6, 7, 8, and 11, Topic 4 – Lessons 6, and 10, Topic 5 – Lessons 1, 2, 3, and 4, Topic 6 – Lessons 1, 2, and 7
1.OA.5: Topic 3 – Lessons 1 and 2, Topic 4 – Lessons 1 and 6

Unit Summary:

In this unit students build on the strategies and problem types with which they are familiar with from Kindergarten, extending the number range to 20. The data work in this unit provides a context for students to make important connections to addition and subtraction.

Focus Standards and *Specific Guidance for this Unit (*The MCCR Standard is listed along with specific guidance on what part of the standard to teach in this unit*)

Operations and Algebraic Thinking — 1.OA

A. Represent and solve problems involving addition and subtraction.

1.OA.A.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, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.

Teacher Notes: **1.OA.A.1** is addressed in full in unit 9 to include all problem types.

B. Understand and apply properties of operations and the relationship between addition and subtraction.

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

C. Add and subtract within 20.

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

1.OA.C.6 Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., $8 + 6 = 8 + 2 + 4 = 10 + 4 = 14$); decomposing a number leading to a ten (e.g., $13 - 4 = 13 - 3 - 1 = 10 - 1 = 9$); using the relationship

between addition and subtraction (e.g., knowing that $8 + 4 = 12$, one knows $12 - 8 = 4$); and creating equivalent but easier or known sums (e.g., adding $6 + 7$ by creating the known

equivalent $6 + 6 + 1 = 12 + 1 = 13$).

LEARNING OUTCOMES: Solve addition and subtraction word problems to 20; organize, represent and interpret data; use data to add and subtract within 20.

LEARNING TARGETS:

- **1.OA.1.1** Define clue words
- **1.OA.1.2** Locate clue words to solve problems.

- **1.OA.1.3** Match clue words to operation symbols in a word problem.
- **1.OA.1.4** Name and match the operation to its symbol.
- **1.OA.1.7** Solve addition word problems within 20.
- **1.OA.1.8** Solve subtraction word problems within 20.
- **1.OA.1.9** Model/Show/Draw/Write addition of numbers less than 20 with manipulatives.
- **1.OA.1.10** Model/Show/Draw/Write subtraction numbers less than 20 with manipulatives.
- **1.OA.5.1** Relate counting to addition and subtraction.
- **1.OA.5.2** Use skip counting to add and subtract starting at any given number.
- **1.OA.5.3** Use an array of examples to show repeated addition by skip counting.
- **1.MD.4.1** Identify the parts of a bar graph (title, numbers, categories).
- **1.MD.4.2** Identify the parts of a pictograph.
- **1.MD.4.3** Collect data by using tally marks.
- **1.MD.4.4** Collect data from up to three categories.
- **1.MD.4.5** Organize and represent collected data.
- **1.MD.4.6** Create a graph using information I have collected.
- **1.MD.4.8** Answer questions about collected data.

Unit Vocabulary:

- | | | |
|---------------------|-----------------|---------------------|
| • Addition | • Taking apart | • Interpret Data |
| • Adding to | • Word problems | • Data Points |
| • Putting together | • Clue Words | • Category |
| • Repeated Addition | • Solve | • Compare |
| • Skip Counting | • Match | • Array of examples |
| • Subtract | • Objects | • Bar Graph |
| • Subtraction | • Organize | • Pictograph |
| • Taking from | • Represent | • Tally Marks |
| | Collected Data | |

Essential Questions:

- How can I use drawings to represent an addition problem?
- How can I use drawings to represent a subtraction problem?
- How can I use objects to help me add?
- How can I use objects to help me subtract?
- How can I use drawings to help me solve word problems?
- How can I use objects to help me solve word problems?
- When adding two numbers how do you decide which number to start with?
- What does "=" mean in an equation?
- How are adding and subtracting similar to counting?
- How can I organize data using tally marks?
- What is a bar graph?
- What is a pictograph?
- How do I create a graph using data I have collected?
- How can I find out how many more or less objects are in one category versus another?

Unit 6: Using data to add and subtract 20

Suggested Instruction Time: 12 days

ONLINE INSTRUCTIONAL VIDEOS:

- Songs for addition, subtraction clue words:

<http://www.songsforteaching.com/recall/addition-subtractionwordclues.htm>

https://www.youtube.com/watch?v=tDpt2C_Av9w

<https://www.youtube.com/watch?v=0gHA47jVsZU>

https://www.youtube.com/watch?v=WT_wvvEvkw4

- Addition Clue words:

<https://www.youtube.com/watch?v=kCAtkj7HKZQ>

- Ten minute instructional video for addition and subtraction clue words with sample problems:

<https://www.youtube.com/watch?v=PzDF6g8m56Y>

- Turkey Trot Solving Word Problems Review:

<https://www.youtube.com/watch?v=hYbSSFzB9qQ>

- Tally Marks Instructional Videos:

https://www.youtube.com/watch?v=P_UZiA_oxaY

<https://www.youtube.com/watch?v=BTH4GOyQR34>

- Pictograph Instructional Video:
<https://www.youtube.com/watch?v=O7VZaoJeY6U>
- Instructional Video for Bar Graph:
<https://www.youtube.com/watch?v=-Y9n67yG9d8>

INTERACTIVE SMARTBOARD ACTIVITIES

(Use to introduce lessons daily and/or for technology centers):

Note: The students can take turns answering the questions and the teacher can also allow the student to maneuver the mouse and actually host the game.

Online Games/Activities-

http://www.abcya.com/first_grade_computers.htm

<http://gregtangmath.com/breakapart>

http://www.internet4classrooms.com/common_core/understand_two_digits_two_digit_number_represent_number_operations_in_base_ten_first_1st_grade_math_mathematics.htm

http://www.internet4classrooms.com/common_core/organize_represent_interpret_data_up_to_three_measurement_data_first_1st_grade_math_mathematics.htm

<http://eduscapes.com/sessions/experience/first.html>

<http://www.adrianbruce.com/maths/>

<http://www.education.com/games/math/first-grade/>

<http://www.math-play.com/1st-grade-math-games.html>

<http://www.rabbittakeaway.co.uk/activity/>

http://numbernut.com/basic/activities/add_4card_1x1word.swf

http://exchange.smarttech.com/search.html?q=word+problems&subject=All+subjects&grade=Grade+1®ion=en_US

Online graphing activities:

http://www.bbc.co.uk/bitesize/ks2/maths/data/interpreting_data/play/popup.shtml

<http://www.topmarks.co.uk/Flash.aspx?f=barchartv2>

http://www.softschools.com/math/data_analysis/bar_graph/activities/favourite_colors_bar_chart/

Online graph activities:

<http://www.mathchimp.com/1.4.3.php>

Thinking Blocks; model and solve word problems:

http://www.mathplayground.com/tb_addition/thinking_blocks_addition_subtraction.html

WHOLE GROUP ACTIVITIES:

(Instructional strategies, guided practice, independent practice)

Clue Words Detectives-

Materials Needed: Story Problem "Clue" Words worksheet

http://www.teaching-tools.com/math-worksheets/clue_words_list.php

T-chart, one per student: <https://www.worksheetworks.com/miscellanea/graphic-organizers/tchart.html> or <http://www.timvandevall.com/templates/blank-t-chart-templates/>

TTW say: Many times there is a word or phrase that may give you a hint as to how to solve a word problem. I refer to these as "clue words". Certain words tell us to add or subtract. (You can make story problems even more enjoyable for students by making the process more fun. Try having the student pretend to be a detective to try and solve the mystery of the story problem by hunting for clues within the problem. Once they have spotted the "clues", then they can try the operation to solve the problem). The clue words often lead you to the correct operation, but there are always some ways to use a clue word in a tricky way. This doesn't happen very often, but it does happen. Therefore, it is important to always check to see if your answer makes sense.

TSW will use the addition and subtraction words from the Story Problems "Clue" words worksheet above, scramble the addition and subtraction words and list them on the smart board. Give students a copy of the top half of the worksheet with only the addition and subtraction words. They will use the worksheet as a reference to find each word and list it on the T-chart as an addition or subtraction clue word

NOTE: Teacher will prepare T-Chart ahead of time using resource above.

Addition Word Clues-

Materials Needed: Attached word list from Addition Word Clues worksheet

<https://drive.google.com/file/d/0B8vpMCNniidbZWJmZTBkYTUtMDZjOC00NTBmLWFmOGU4ZTI3NDc5ZjdkM2Jl/view>

Using the attached list on the Addition Word Clues worksheet, students cut and paste or write addition words onto the page.

Sample Giant Story Problems-

Materials Needed: Sample Giant Story Problems-

http://www.readwritethink.org/files/resources/lesson_images/lesson146/SampleGiantStoryProblems.pdf

Note: Students can use Counting Cubes if needed

Use the sample problems on the resource provided. TTW model searching for “Clue Words” and solving the problems.

TTW call on students and gradually scaffold back assistance allowing them to find the clue words and solve problems on their own. Students can use tally marks, drawings or manipulatives to help then determine and solve the equations.

Partner Up and Solve it-

Materials Needed: Partner up and Solve it: Word Problems worksheet

<http://www.mathworksheets4kids.com/word-problems.html>

1. Students will work with a partner to complete a worksheet for solving word problems using addition and/or subtraction.
2. Students will circle clue words and determine if the problem is addition or subtraction.
3. Students will then create an equation on their own paper for each problem and solve them.
4. Students can draw tally marks, pictures or manipulatives to demonstrate why their equation and answer matches the word problem.

Note: According to students' abilities and progress within the grade level standards of this unit, teacher will choose a worksheet from the resource provided above.

Making Apple 20 Packs-

Materials Needed: Counting cubes, two colors, 20 each per partner group

Blank number chart 1-20

<http://www.mathworksheets4kids.com/number-charts/read-write-1to20.pdf>

Addition worksheet for Making Apple 20 packs

<https://boardmakeronline.com/Activity/1869150>

TTW give the students the following real world situation and questions: The produce worker at the supermarket wanted to make a pack of 20 apples. How many different ways could the greengrocer make a 20 pack with some red and some yellow or green apples?

TTW model different possibilities.

TSW use manipulatives, blank number chart 1-20, and addition worksheet to show two numbers of two colors added together to make 20. One problem at a time they demonstrate an equation using manipulatives and then write the equation with the solution on their worksheet.

Note: Students work with a partner. They can work alone if you have enough manipulatives for each student. If you don't have enough counting cubes you can cut squares out of colored paper.

Increasing Rigor Questions-

TTW present the class with the following questions one at a time. Students will work with a partner to use manipulatives and drawings to come up with the correct equation and solution. Teacher will call on a partner team to present the correct answer and explanation to

the class. Other partner teams will be given the opportunity to object or agree and if they disagree they can present what they have as the correct answer and why.

- Gail and Bill found 12 seashells on the beach. Some of them were shaped like cones. The rest of them were shaped like half circles. How many could have been shaped like cones? How many could have been shaped like half circles?
- Maria has eight more crayons than Brian. Maria has 10 crayons. How many crayons does Brian have? Use this answer to solve the next question.
- Ana has 4 crayons. If she puts her crayons with Brian and Maria's crayons, will they have enough crayons to fill a box that holds 16 crayons? How do you know?
- Jim had sixteen toy cars. He went to the toy store with his father. His father bought him some more cars. When Jim got home, he counted his cars and then he had 20. How many cars did his father buy for him?

How Many Cookies?

Materials Needed:

White boards and markers, one each student (can use cardstock in sheet protectors)

Worksheet - How Many Cookies?

<http://betterlesson.com/lesson/resource/2766167/cookie-start-unknown-day-2-docx>

TTW have some cookies in a container. TTW say: I have some cookies and it is a mystery how many I have! You are going to use your smart math brains to figure it out today. TTW ask: How can I act out and write a matching number sentence for a problem when the whole is missing? TTW choose a student and say: I see _____ doing a great job! So I am going to give her 1 cookie. I have 11 cookies left. (I'll show the rest of the cookies). How many cookies did I start with? TTW will lead discussion of the problem:

Students talk to partner to discuss: What happened first, next and last in the story? TTW say: I'll show a chart paper storyboard, students retell the story and then I'll chart what happened. TTW say: Which part do we not know? What happened at that part of the story? (The teacher had some cookies and we don't know how many) TTW put a question mark for that part of the story. I don't know how many cookies I had then so I will put "? Cookies at first".

Students will talk to a partner to discuss: What number sentence can we write to match this story?

Extension - Make a prediction: Will the number that goes in this blank be greater or lesser? Why?

TTW give students whiteboards or have them do this at their desk. They should quickly show a strategy for how many cookies the teacher started with. Students compare with partners. TTW call on a student to share with the class.

Present Students with the next problem: Ms. Cole has cookies in her basket. She gives 2 of them to her friend. She has 13 cookies left. How many cookies did Ms. Cole have in her basket at first? Students draw story on whiteboards to push active engagement and then share with a partner. Next, students write a number sentence that matches this story. TTW ask: Did we add or take away? We took away! Let's use a heart for the missing part today"

TTW say: Check your partner's storyboard. Does it look like yours? Are your number sentences the same?

Partner talk Questions:

- Will the number that goes in the blank be greater or lesser? Why?
- How can we figure out how many cookies we started with? Some students might need cubes at this point to act it out.
- Why did you put the numbers together?

TTW quickly model how 2 students solved, first with cubes to help students visualize the action and then with a number line. This helps students move from concrete (cubes) to a more abstract way of thinking (numerical representation). Students complete the How Many Cookies? Worksheet.

Bicycle Shop Orders-

Materials Needed:

Bike Shop Orders, one per student

<http://betterlesson.com/lesson/resource/2766193/bike-shop-orders-docx>

Bike Shop Problems

http://betterlesson.com/lesson/resource/2766184/bike-shop-problems-docx?from=lessonsection_narrative

TTW choose one student to be the "Boss" who sends down the orders. I make a station with the orders so students feel very official bringing them to me! Give each student a bike shop order.

TTW model: First order just came in! We need 8 red bike and some blue bikes. We need 14 bikes total.

Guiding Questions:

- Hmm...what does the boss want us to make today?
- What do we know about what he wants? What do we not know?
- What number sentence could I write to match this order? Why do we need a plus sign? Why did I put a blank here? What does the blank mean? What does the 14 mean?

Partner talk: How can we figure out what goes in the blank? TTW say: I'll choose 2 students to share out their answer and how they did it! I'll chart their strategies, focusing mostly on counting and number line strategies because I want to support students moving from concrete modeling to abstract strategies (MP2) at this point in the unit. TTW model: Another order just came in! You made some bikes. You sent 8 bikes back to the shop to be fixed. We have 11 left. Guiding Questions:

- What do we not know in this problem?
- Who can retell what we know first, next and last?
- What number sentence matches this story problem? What operation did we need, + or -? Why subtraction?
- Where did the blank go for the missing number? Why did it go in the beginning? Will that number be bigger than 6 or smaller than 6? Why?

TTW write the number sentence and have students solve on whiteboards.

TTW model: Another order just came in! While we fill this order, remember our thinking job for today: Your thinking job is: How do I figure out what part of the story is missing and then use

strategies to figure out the missing part? We need some red bike and 9 blue bikes. We need 16 bikes in all. Guiding Questions: These questions help students plan their strategy for when they go to solve it on their own!

- What do we know in this problem? What do we not know?
- What number sentence would match this problem?

TTW send students to desk to show the number sentence that matches and show the strategy they use to solve. Students will probably need 5 minutes to solve. Students share the solution. Teacher will ask:

- Why did you use addition?
- What part do we not know? Why did you put the blank in the middle? How did you solve the story problem?

How is this different from the other orders?

Students solve problems with unknowns in all positions. Differentiate their problems based on what strategies they are using to solve. Give Bike Problems Worksheets to students to work.

- Group A: Relying on cubes and concrete models to solve
 - These students solve problems with numbers under 10.
- Group B: Using cubes but mostly counting to solve
 - These students solve problems with numbers under 20.
- Group C: Using mental math to solve almost all problems. These students get multistep story problems.

Note: One thing that works well with helping kids figure out which part of the story is missing is to tell them to write the number sentence with the "mystery box" before they start solving.

For example: There were 7 red bikes and some blue bikes. There were 12 bikes in all. How it looks:

Kids write $7 + \square = 12$ before they start solving. To make this number sentence more concrete, they can touch each number and tell the story again and make sure it matches.

"7 tells me 7 red bikes. The mystery box means I don't know how many blue bikes. The $=12$ part means I have 12 bikes in total".

Game Tickets-

Materials Needed: Linking cubes

TTW present students with the following problem:

Bo bought 20 tickets to play games at Family Fun Night at his school. He wants to play each game at least once. He needs to use all of his tickets. How many times might he play each game? Find at least two ways he can do it.

Game Tickets	Number of
Ring Toss	2
Putt-Putt Golf	4

Soccer Kick	6
Moon Walk	4

When all pairs of students have had a chance to find at least one solution, the teacher can lead a whole-group discussion and record each solution as an equation on chart paper or the chalkboard/whiteboard/SmartBoard.

Note: For this problem, young children might arrange concrete objects such as linking cubes or counters to represent the mathematical elements of the problem, draw a picture, or write an addition sentence to describe the situation.

Note: Collecting and organizing data is an important part of mathematics and lends itself to problem solving situations. It is important that students collect the data by asking questions of the class or taking surveys. Once the data has been collected, it needs to be organized and then analyzed. Students should use tally marks, bar graphs and pictographs to organize the data. Once the data is organized students need to draw conclusions from what the data is saying.

Favorite Fruit-

Materials Needed: Graph Paper, one sheet per student

http://www.math-aids.com/cgi/pdf_viewer_4.cgi?script_name=graphing_paper.pl&size=4&x=85&y=18

Ask the students to name their favorite kind of fruit. As they do so, write each one on the board. Then ask each student to place a tally mark next to his or her favorite fruit. When all have done so, ask what kind of fruit was named most often. Now display a large bar graph and call on volunteers to title the graph, label the rows with the fruits named, and fill in the number of squares in that row that is equal to the mentions that kind of fruit received. Now ask the students to compare the rows of the graph by posing a question such as, "How many more students liked apples than liked oranges?" Next, encourage the students to generate similar questions, and call on their peers to answer them. Next, assign the students to groups of four students each. Hold up a fan of index cards so that the students cannot see what is written on them and ask each group to take one card.

Note: Before the lesson, write on separate file cards survey questions and three or four answers. Such questions could include:

- Which color do you like best: red, yellow, blue, or green?
- What is your favorite pizza topping: pepperoni, mushroom, or plain cheese?
- What ice cream flavor do you like best: vanilla, chocolate, or strawberry?
- What is your favorite subject: math, reading, social studies, or science?

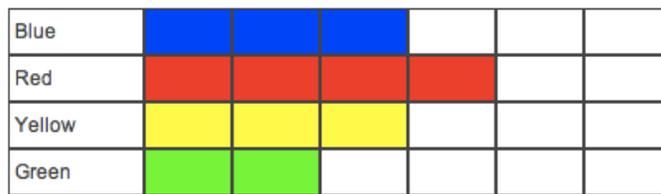
Next ask the group to make a tally chart on which they can record the answers to their question.

Example: Tally Chart – Favorite Colors

Blue	
Red	
Yellow	
Green	

Encourage the students to think of a way that they can survey at least ten classmates. Allow plenty of time for the students to collect the data, and then ask them to make a bar graph.

Distribute Graph Paper to the students. Students should create a bar graph on the graph paper. When they have done so, ask them to think of four questions they can answer by looking at their bar graph.



Example: Bar Graph – Favorite Colors

TTW circulate while students are working. When finished, as time allows, have students take turns sharing what they have learned about each other.

What Color Are Your Eyes?

Materials Needed: Our Class Eye Color Graph-Teacher Created; sample:



Eye Color Activity Sheet, one per person

<http://www.getcoloringpages.com/coloring/18663>

This segment of the lesson can be used to capture students' interest and provide a preview of the main lesson. It is best conducted in a community area, such as the class rug. Start the lesson by displaying magazine photographs of people's eyes. Ask students to share ways that eyes are different from person to person. Be prepared for students to share disabilities, such as blindness or a glass eye. Accept all appropriate responses. Emphasize that no two people's eyes are the same and that eye color is one way eyes can differ. Ask if anyone knows what the colored part of the eye is called iris. Next, have the students brainstorm the different eye colors. Students may give answers other than blue, brown, and green, such as black or red. Explain that all eyes are a variant of blue, brown, or green although they may reflect other colors (i.e. red-eye in photographs). List the three colors on chart paper for student reference.

Tell the students that they will be collecting data on eye color. Encourage students to pose questions they might answer with this data. Record all the questions students generate. For example, questions may include:

What color is the most common among the class?
What is the most common color for boys?
What is the most common color for girls?

Place the Eye Color Graph in the front of the classroom with glue sticks. Inform students that they will use this graph to organize information about their eye color. Distribute the Eye Color Activity Sheet.

Instruct students to color in their eye color, cut out the eye, and paste it in the correct row on the Eye Color Graph when they are finished. Circulate around the classroom with the mirror so that students can determine their eye color.

Share data with the class. Discuss which of the student-generated questions can be answered with the data. Ask students if they could reorganize the data to answer other questions. For example, to answer the questions a) What is the most common color for boys? b) What is the most common color for girls? The class could have made one graph for boys and one graph for girls. Ask students if there are any other questions they could answer with the data. How many more students have brown eyes than green eyes?

What Color Are Your Eyes? Day Two Extension-

Explain that each student will be matched up with another student from a participating class of the same grade. They will be collecting data on the eye color of that student. They will repeat the data collection process used previously. Using the list of all the questions formulated the day before, the class should decide on one question that will be used to guide the collection of data. Solicit student input to create a graph that organizes the data to answer the selected question.

You will have made prior arrangements with another class from your grade to conduct this inquiry. Students will gather data on the eye color of their partner and return to the classroom to color in the eye color of the student they surveyed using the Eye Color Activity Sheet. After students color and cut out the eye representing their partner, they organize their data on the appropriate graph.

After everyone has had time to display the data collected, have the students join together in a circle and discuss the data gathered from the other class. Use the data to answer the question posed. Now you can compare the two data sets and ask additional questions. Which class had more blue eyes? How many more did they have? Is the same eye color most common in both classes? Ask students to summarize their findings to present, along with the graphs from each class, to the "buddy" classroom. Use chart paper to record the students' summary in a class letter.

Word Problem Challenge-

Materials Needed: Word Problem Challenge Worksheet

<http://www.education.com/download/worksheet/114963/word-problem-challenge.pdf>

Students work the problems on the Word Problem Challenge worksheets using manipulatives

or white boards to create drawings to represent the problems. Next, students write an equation to represent the problems. Depending on where students are in the learning progression, teacher may need to facilitate and lead the students in working the problems. Teacher can call on students to find and circle clue words, come to the board and draw pictures to illustrate the problem, and write equations.

Books on the Shelf-

Books on the Shelf worksheet

<http://www.education.com/download/worksheet/114373/math-story-problems.pdf>

Students use the pictures on the worksheet to solve the problems. Teacher will copy the pages and let the students color the books.

Favorite Ice Cream-

TTW ask students the question:

“Which flavor of ice cream do you like best?”

Put three categories on the board. For Example: Chocolate, Vanilla, Strawberry. Write the following questions on popsicle sticks:

- “How many students answered this question?”
- “Which has the most?”
- “Which has the fewest?”
- “Are any the same?”
- “How many are in each category?”

Group Activity and Discussion:

Begin with all students sitting together in a circle on the floor. Read the question aloud to the students, and ask individual students to answer the question by putting an x next to their answer. Ensure that as each child answers, they put their x next to or above the previous one (depending on how you create the bar graph). When each child has answered, you will have a bar graph with three categories.

Draw a popsicle stick and model answering the question to the whole group. Divide students into five groups and have each group pick a popsicle stick. Students then read the question on the popsicle stick, discuss the question as a group, and then answer it in front of the class using the graph as a model to defend their answer.

Tally Marks Hunt-

Materials Needed: Tally Marks Hunt, one copy per student

https://www.scribd.com/doc/70714164/Tally-Marks-Hunt?secret_password=1vgk78rfnwyy9bfshk4f

Students look at the pictures and count the tally marks and complete the chart respectively.

Additional Activities Found Here:

<http://www.education.com/worksheets/word-problems/>

<http://betterlesson.com/lesson/resource/2807803/student-whiteboard-strategies>

<http://www.primaryresources.co.uk/maths/mathsD1.htm>

<http://teacherexpress.scholastic.com/math-word-problems-strategy-guess-and-check-smart-boardtm-lesson>

Optional addition, subtraction and word problem worksheets:

<http://www.math-aids.com/Addition/>

<http://www.mathworksheetsland.com/1/addsubunder20/>

<http://www.math-aids.com/Subtraction/>

MINI LESSONS/CLOSURE ACTIVITIES:

Clue Words

TTW Model Looking for Clue Words in the following problem:

There were 7 children at the park. Then 4 more showed up. How many children were at the park all together?

OR

There were 11 children at the park. 4 decided to leave. How many children were left at the park?

Note: Show students how to use pictures to figure out what equation to write...

Solutions: $7 + 4 = 11$ and $11 - 4 = 7$

Flash Cards

TTW use flash cards to quiz students on addition and subtraction clue words.

<https://quizlet.com/6698557/addition-and-subtraction-key-words-flash-cards/>

Boys and Girls

TTW use one of the following word problems. TTW call on a student to come to the board, circle clue words and determine if problem is addition or subtraction. TTW call on another student to come and draw pictures to represent the equation. TTW call on another student to come up and write the numerical equation to show solution.

1. There were 9 boys and 8 girls in the class. How many were in the class in all?

Possible solutions:

$9+8= ?$ $8+9= ?$ $? = 9+8$ $? = 8+9$

2. There were 17 children in the class. 9 were boys and the rest were girls. How many girls were in the class?

Possible solutions:

$$17=9+ ? \quad 17= ? + 9 \quad 9+ ? =17 \quad ? +9=17 \quad 17-9= ?$$

3. 17 children were in the class. There were some boys and 8 girls. How many boys were there in the class?

Possible solutions:

$$17=8+ ? \quad 17= ? + 8 \quad 8+ ? =17 \quad ? +8=17 \quad 17-8= ?$$

Clue Words in Word Problems

TTW use one of the following word problems each day to review and sum up the lesson. TTW call on a student to come to the board, circle clue words and determine if problem is addition or subtraction. TTW call on another student to come and draw pictures to represent the equation. TTW call on another student to come up and write the numerical equation to show solution.

Heather sold 52 cupcakes at the bake sale. Anna sold 23 less than Heather. How many cupcakes did they sell in all?

Ms. Jones 1st grade class read 73 books. Their goal is to read 100. How many more books do they need to read?

Note: Students may use objects, pictures, or equations to represent their solutions. The Solutions can show a question mark for the unknown number but other symbols can also be used. For example:

$$9 + ? = 17 \text{ can also be written } 9 + \underline{\quad} = 17 \text{ or } 9 + \square = 17$$

Word Problems: Students come to board to draw equations

TTW use one of the following word problems each day to review and sum up the lesson. TTW call on a student to come to the board, circle clue words and determine if problem is addition or subtraction. TTW call on another student to come and draw pictures to represent the equation. TTW call on another student to come up and write the numerical equation to show solution.

Maria's Marbles:

1. Ali had 9 marbles. Maria had 5 marbles. How many more marbles did Ali have than Maria?

Ali had 9 marbles. Maria had 5 marbles. How many fewer marbles did Maria have than Ali?

Possible equations: $5 + \underline{\quad} = 9$ OR $9 - 5 = \underline{\quad}$

2. Ali had 4 more marbles than Maria. Maria had 5 marbles. How many marbles did Ali have?

Maria had 4 fewer marbles than Ali. Maria had 5 marbles. How many marbles did Ali have?

Possible equations: $5 + 4 = \underline{\quad}$ OR $\underline{\quad} - 4 = 5$

3. Ali had 4 more marbles than Maria. Ali had 9 marbles. How many marbles did Maria have?

Maria had 4 fewer marbles than Ali. Ali had 9 marbles. How many marbles did Maria have?
Possible equations: $__ + 4 = 9$ OR $9 - 4 = __$

Note: The solutions show equations with a question mark representing the unknown value, but other symbols are often used. For example, $4 + ? = 9$ might also be written $4 + __ = 9$ or $4 + \square = 9$.

Make a Graph

TTW will use one of the following questions to make a simple pictograph, bar graph or graph with tally marks to sum up the lesson each day.

- What's your favorite season: winter, spring, summer or fall?
- What kind of movie would you rather watch? Comedy or mystery?
- Would you rather eat candy, fruit or chips for a snack?
- What would you choose to drink if your choices were coke, tea, lemon-aid, cool-aid or water?

Extend if time allows to discuss data collected.

Bar Graph Exit Tickets

Teacher will use the following for exit tickets. Cut each sheet in $\frac{1}{2}$.

<http://www.education.com/download/worksheet/66532/practice-test-bar-graphs-pictograms.pdf>

Word Problem Exit Tickets

Teacher will use the following for word problem exit tickets. Give each student one word problem square stapled to a $\frac{1}{2}$ sheet of paper. Students draw an equation and picture on a slip of paper to go with it. Exit Tickets: Teacher will use the following for word problem exit tickets. Give each student one word problem square stapled to a $\frac{1}{2}$ sheet of paper. Students draw an equation and picture on a slip of paper to go with it.

Word Problem: A truck was carrying 7 horses. Another truck passed by carrying 4 horses. How many horses were on both trucks?

Lesson Based Closure

TTW review a problem from the activity of the day to sum up the lesson.

40 Ways to Leave a Lesson-

<https://docs.google.com/file/d/0B-0npvI9xzTBMGs1SUUzeEN3RU0/edit>
www.mathworksheetisland.com

SMALL GROUP/CENTER ACTIVITIES:

<https://www.pinterest.com/explore/math-key-words/>

<https://www.pinterest.com/czinter/fact-familiesturn-around-facts/>

<https://www.pinterest.com/paigeharmon67/math-stations-for-first-grade/>

<http://www.smartfirstgraders.com/addition-games.html>

<https://www.pinterest.com/whamilton/math/>

http://www.softschools.com/grades/1st_grade/math

<http://www.firstgradegarden.com/2011/09/math-stations-set-1.html>

<http://www.thecurriculumcorner.com/thecurriculumcorner123/2014/03/25/domino-math-addition-subtraction/>

<http://mrsjohnsonsfirstgrade.blogspot.com/2011/05/math-center-games.html>

<https://daretodifferentiate.wikispaces.com/Learning+Centers>

<http://www.mathworksheets4kids.com/bar-graph.html>

<https://www.pinterest.com/paigeharmon67/math-stations-for-first-grade/>

<http://www.smartfirstgraders.com/addition-games.html>

<https://www.pinterest.com/anneboers/1-md-4-graphs/>

<https://www.pinterest.com/1stklinger/1-md-4/>

SUMMATIVE ASSESSMENT RESOURCES:

<https://hcpss.instructure.com/courses/9414/pages/1-dot-oa-dot-a-1-assessment-tasks>

<https://hcpss.instructure.com/courses/9414/pages/1-dot-oa-dot-c-5-assessment-tasks>

<https://hcpss.instructure.com/courses/9414/pages/1-dot-md-dot-c-4-assessment-tasks>

http://www.crickweb.co.uk/ks2numeracy-properties-and-ordering.html#number_pairs

<http://www.math-salamanders.com/1st-grade-math.html>

<http://illuminations.nctm.org/Activity.aspx?id=3566>

http://www.internet4classrooms.com/grade_level_help/test_taking_assistance_first_1st_grade.htm

FORMATIVE ASSESSMENTS:

http://www.ehow.com/about_5419008_types-formative-assessment.html

<http://www.edutopia.org/resource/checking-understanding-download>

<http://wvde.state.wv.us/teach21/ExamplesofFormativeAssessment.html>

ADDITIONAL ONLINE RESOURCES (Bellwork):

Worksheets-

www.mathworksheetisland.com

<http://www.k5learning.com/free-math-worksheets/first-grade-1>

<http://mathworksheetwizard.com/firstgrade-math.html>

<http://www.mathworksheets4kids.com/activities/1st-grade.php>

<http://www.tlsbooks.com/firstgradeworksheets.htm>

Printable Resources-

Free printable number cards:

<http://www.activityvillage.co.uk/number-flash-cards-1-30>

Free printable ten frames:

<http://www.mathwire.com/templates/tenframemat.pdf>

Free printable dominoes:

<http://www.dltk-cards.com/dominos/>

Free printable spinners:

<http://cte.sfasu.edu/wp-content/uploads/2012/09/Templates-for-Spinners.pdf>

Free printable hundreds charts:

<https://www.superteacherworksheets.com/hundreds-chart.html>

Word Problem Bank

<http://www.mathplayground.com/wpdatabase/wpindex.html>

Virtual manipulatives can be found here:

<https://grade1commoncoremath.wikispaces.hcpss.org/file/view/Directions%20for%20Virtual%20Manipulatives%201.NBT.2.pdf/519489918/Directions%20for%20Virtual%20Manipulatives%201.NBT.2.pdf>

Practice for Math Fact Fluency Activities:

<http://www.interventioncentral.org/teacher-resources/math-work-sheet-generator>

http://www.abcya.com/math_facts_game.htm

<http://www.playkidsgames.com/games/mathfact/mathFact.htm>

<http://www.factmonster.com/math/flashcards.html>

<http://www.fun4thebrain.com/addition.html>

http://www.mathplayground.com/index_addition_subtraction.html

<http://www.math-drills.com/addition.shtml>

<http://mrshillsallstars.weebly.com/addition-without-regrouping.html>

<https://www.pinterest.com/janwray/double-digit-addition-subtraction/>

<http://www.theteachersguide.com/twodigitadditionworksheets.htm>

DIFFERENTIATING RESOURCES:

http://www.internet4classrooms.com/common_core

<http://www.k-5mathteachingresources.com>