DAY 6

MATERIALS

Stopwatch
Treasure Map
Coins
Treasure chest
Math Fact Flash Cards
Timer
Flash Card Graph
Colored pencil

Attendance Log
Checking Your Work poster
RUN! poster
Total poster
Sorting Cards
Sorting Mat
Day 6 Student Worksheet
Day 6 Pirate Problems

ACTIVITY 1: FLASH CARDS

Let's start with flash cards.

Use script as needed (see Activity Guide: Math Fact Flash Cards in Activity Guide section).

ACTIVITY 2: WORD PROBLEM WARM-UP
(BEGINS ON DAY 7)

ACTIVITY 3: LESSON

Over the last few days, we've learned different ways to solve addition and subtraction problems. If you don't know the answer to a math problem right away in your head, you can use your fingers and your head to count up (wiggle fingers and point to head).

RUN!

1. Read the problem.
2. Underline the question.
3. Name the problem type.

Today, we'll work on math word problems. To find the answer, we'll use counting up on our fingers, or we'll just do the math on the paper. Let's get started with Pirate Math. Arrrrgh!

Every time you read a word problem use: RUN! The letters R-U-N, as in RUN through the problem, help us remember how to run through the problem. Look at this poster. (Show RUN! poster.) Let's read these together. (Point.) R stands for “Read the problem.” When you see a word problem, the first thing you do is read the problem. If you have trouble reading the problem, raise your hand and we'll read it together. So, when you RUN through a problem, what's the first thing you do? (Student.) That's great!
Look at the U.  (Point.)  U stands for “Underline the question.” After reading the word problem, underline the question. This helps you remember what answer you need to figure out.  What's the U stand for?  (Student.)  Very good.

Now to the N.  (Point.)  The N in RUN! stands for “Name the problem type.” After you underline the question, you name the type of problem. The question might tell a story about one of three things.  “What’s the total?”  (point to “Total”)  “What’s the difference?”  (point to “Difference”)  or “What’s the change?”  (point to “Change”).  I'll explain these problem types later.

When you RUN through the problem, read through the problem carefully and find the information you need to solve the problem. You circle the important information so it will be easy to find when you need it to answer the question. This big circle (point) around RUN! helps you remember to circle the important information.

Today, we're going to talk about Total problems. Total means the entire amount. In a Total problem, two or more parts are put together, or combined, to make a total. For example, when you buy groceries at the grocery store, the total is the amount of money you spend altogether on groceries.

Look at this story.  (Problem A.)  “Mrs. Baxter spent $1 on milk and $2 on a loaf of bread at the grocery store. She spent $3 at the grocery store altogether.” In this story, the two parts put together are the $1 (circle the $1) for milk and the $2 (circle the $2) for bread. The total is the $3 (circle the $3) she spent in all. You add the prices together to get the total. $1 (hold up 1 finger) plus $2 (hold up 2 more fingers) equals $3.

Look at this next story.  (Problem B.)  “Diana has 4 crayons. Staci has 5 crayons. The girls have 9 crayons in all.” This story is a Total story because Diana's crayons (circle 4) and Staci's crayons (circle 5) are put together to make a total amount of crayons (circle 9). Look here.  (Show crayons to student.)  You have 4 crayons.  (Give student 4 crayons.)  I have 5 crayons.  (Give yourself 5 crayons.)

Now, I want to find the total. That means I want to find the total number of crayons. To find the total, we add all the crayons together. So, put your 4 crayons and my 5 crayons together on the table.  (Place all the crayons on table.)  To find the total, let's start with the larger number of crayons, 5, and count up to add yours: 6, 7, 8, 9.  (Count with student.)  The total number is 9 crayons.

These Total stories are already solved. Each story tells us how many there are in the 2 parts and how many in the total. All of the important information is given. When we solve Total word problems, though, some of the information is missing and we have to figure out what number is missing.

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Now, let's look at word problems that are missing some information. (Problem C.) “David has 7 hats. Molly has 3 hats. How many hats do they have altogether?”

Solution to Problem C

Problem Type: Total, single-digit, basic
Relevant Info: \( P1 = 7; P2 = 3; T = X \)
Number Sentence: \( 7 + 3 = X \)
Answer: \( X = 10 \) hats

(Problem D.) This problem says, “Jason has 3 dogs and 1 bird. How many animals does Jason have?”

Solution to Problem D

Problem Type: Total, single-digit, basic
Relevant Info: \( P \)
Number Sentence: \( 3 + 1 = X \)
Answer: \( X = 4 \) animals

Each of these word problems tells a story about two things added together, or combined. We call these problems “Total” problems. When there’s a missing number in the story, it’s a word problem we have to solve. (Point to RUN! poster.)

To solve a word problem with a missing number, you look at two posters. The first poster is the RUN! poster. We already talked about this RUN! poster (point to RUN! poster). It helps you remember to run through the problem by reading the problem, underlining the question, and naming the problem type. Once you name the problem type, you go to the poster for that problem type: “Total,” “Difference,” or “Change.” Right now, we’ll only work on the “Total” problem type, so let’s use the “Total” poster.

Look at this problem. (Problem C.) Start out with “RUN!” R. (Point.) Read the problem. Let’s read this problem together. “David has 7 hats. Molly has 3 hats. How many hats do they have altogether?” (Read with student.)

U. (Point.) Underline the question. The best way to find the question is to look for the question mark. (Draw question mark.) The sentence ending with the question mark tells you the question you need to answer. What’s the question?

If correct: Very nice. The question is, “How many hats do they have altogether?” Let’s underline the question. (Underline question.)

If incorrect: Let me read it one more time. “David has 7 hats. Molly has 3 hats. How many hats do they have altogether?” (Emphasize question.) The question in this problem is, “How many hats do they have altogether?” The sentence that ends with the question mark tells us the question. Let’s underline the question. (Underline question.)

N. (Point.) Name the problem type. Right now, we’re only working on “Total” problems, so the problem type for this problem is “Total.” Remember, Total problems always put two or more things together to make a total. To help us remember this is a Total problem, write a T for Total next to the problem. (Demonstrate.)
Let’s read the problem carefully and look for the information we need. Let’s first decide what kind of thing is being totaled in this story. When we talk about “totaled,” that’s the same as “combined.” Listen carefully to the story again. “David has 7 hats. Molly has 3 hats. How many hats do they have altogether?” What’s being totaled, or combined, in this story? (Student.) That’s right. The number of hats is being totaled. Let’s circle the word hats to help us remember that hats are totaled. (Circle.) This will become the label for our answer. Do you see hats anywhere else in the story? Circle all of the hats you find.

Now, let’s find the numbers we need to solve this problem that go with hats. The first sentence says, “David has 7 hats.” In this sentence, the number 7 tells us about hats so we probably need this number. Let’s circle 7. (Circle.) Right now, we’re not sure whether the 7 is part 1, part 2, or the total.

Let’s keep reading. “Molly has 3 hats.” The 3 tells us about hats, so we probably need this number. Let’s also circle the number 3. (Circle.) We’re not sure whether the 3 is part 1, part 2, or the total.

Let’s finish reading the question carefully. “How many hats do they have altogether?” There isn’t a number in this sentence to circle, but the word altogether is important. Let’s circle it. (Circle.) This question is telling us to find the total. So, the missing information in this problem is the total.

So, let’s think about this problem and what we’ve circled. We have hats (point), which tells us what the problem is about. We have the numbers 7 and 3 (point). We also have altogether in the question (point). Because the word altogether is in the question, we know the total is the missing information. So, part 1 is 7. Part 2 is 3. We have to find the total.

Once you name the problem type, go to that problem type poster. We named the problem type as Total, so let’s go to the Total poster.

When you solve a Total problem, you follow five steps. (Point to Total poster.) Let’s look at the five steps. Step 1. (Point to Step 1.) “How many for part 1?” In a Total problem, the question asks you to put two parts together into a total. So, first you find how many in part 1. We already talked about part 1, or P1. P1 is 7. Write “P1” next to the number 7 you circled. (Demonstrate.) We already circled the word hats next to the 7 so we remember that we’re talking about hats. (Point.)

Step 2. (Point to Step 2.) Step 2 asks, “How many for part 2?” We already talked about part 2, or P2. P2 is 3. Write “P2” next to the number 3 you circled. (Demonstrate.) We already circled the word hats next to the 3 so we remember that we’re talking about hats. (Point.)
So, for the total, we are putting together two parts: David’s 7 hats with Molly’s 3 hats. Part 1, or P1, is 7. Part 2, or P2, is 3. (Point.)

Look at Step 3. (Point to Step 3.) “What is the total?” Does this problem tell us the total number of hats David and Molly have altogether? (Student.) That’s right. The total, or T, is the missing information that we need to figure out. Write a T next to the word hats in the question, to remind us that we need to find the total number of hats.

(Point to Step 4.) Step 4 says, “Write the number sentence.” For a Total problem, we always write the number sentence like this: P1 plus P2 equals T. (Point to Poster and to boxes on paper.) P1 is 7 and P2 is 3. We know what P1 and P2 are, but we don’t know what T is. T is our missing information. Mark missing information in a special pirate way. Take the highlighter and make a big X over the missing information. (Demonstrate.) Do you need a plus sign or minus sign? (Student.) You always use a plus sign for Total problems, because you are adding two or more things together. So, P1 plus P2 equals T (point), or 7 plus 3 equals X (write).

Now, it’s time to be pirates! (Point to Step 5.) Step 5 says, “Find X.” Let’s find X using fingers. Put the bigger number, 7, in your head. (Student.) Count up the smaller number, 3, on your fingers. The answer is the last number you say. (Student.) What’s 7 plus 3? (Student.) Great! So, X equals 10. Write 10 on the paper. I also need to add a label. A good label for this answer is hats. So, David and Molly have 10 hats altogether. 10 is the total number of hats.

Let’s see if that makes sense. “David has 7 hats. Molly has 3 hats. How many hats do they have altogether?” Does it make sense that David and Molly have 10 hats? (Student.) Why or why not? (Student.) Yes. In a Total problem, the answer is always more than the numbers in the 2 parts you are combining or totaling. 10, your total, is more than 7 and 3. Let’s check to see if we’ve answered the question, “How many hats do they have altogether?” Did we answer the question? (Student.)

Look at this next problem. (Problem D.) Let’s follow the two posters to solve this problem. Start out with “RUN!” R. (Point.) Read the problem. Let’s read this problem together. “Jason has 3 dogs and 1 bird. How many animals does Jason have?” (Read with student.)

U. (Point.) Underline the question. Remember, the best way to find the question is to look for the question mark. (Draw question mark.) The sentence ending with the question mark tells you the question you need to answer. What’s the question in this problem? (Students.) If correct: Very nice. The question is, “How many animals does Jason have?” Let’s underline the question. (Underline the question.)

If incorrect: Let me read it one more time. “Jason has 3 dogs and 1 bird. How many animals does Jason have?” (Emphasize question.) The question in this problem is, “How many animals does Jason have?” The sentence that ends with the question mark tells you the question. Let’s underline the question. (Underline the question.)
N. (Point.) Name the problem type. In this problem, you have to find the total number of animals that Jason has, so it's a Total problem. To remember this is a Total problem, write a T next to the problem. (Student.)

Remember, to solve a Total problem you read the problem carefully to find the important information. The big circle around RUN! reminds you to circle the important information. What's totaled in this story? (Student.) Animals are totaled in this story. Let's circle the word animals. That will help us label our answer. Do you see any other animals in the story to circle? (Student.) Good! Circle dogs and bird to remember that they're totaled. (Student.)

Let's find the numbers we need to solve the problem that go with dogs and bird. The first sentence says, "Jason has 3 dogs and 1 bird." What information in this sentence should you circle? (Student.) 3 tells about dogs, so we probably need that number to answer the question. 1 tells about a bird, so we probably need that number to answer the question. Go ahead and circle 3 and 1. (Student.)

Let's read the next sentence. "How many animals does Jason have?" What information in this sentence should you circle? (Student.) There isn't a number to circle, but we circled the word animals so we know to find the total number of animals.

So, let's think about what we've circled. Here's what we have. We have dogs and bird (point), which tells us what the problem is about. We also have 3 and 1 (point). We also have animals (point), which tells us that we need to find the total number of animals. Part 1 is 3. Part 2 is 1. The total is the missing information.

Let's go to the Total poster. Step 1. (Point to Step 1.) "How many for part 1?" We talked about part 1 already. P1 is 3. Write P1 next to the number 3 that you circled. (Student.) We already circled the word dogs to help us remember what P1 talks about. (Student.)

Step 2 (point to Step 2) asks, "How many for part 2?" We talked about part 2 already. P2 is 1. Write P2 next to the number 1 that you circled. (Student.) We already circled the word bird to help us remember what P2 talks about. (Student.)

So, in this Total problem, we are putting together two parts: Jason's 3 dogs and 1 bird. P1 is 3. P2 is 1. (Point.)

Look at Step 3. (Point to Step 3.) "What is the total?" Does this problem tell us the total number of animals that Jason has? (Student.) That's right. The total, or T, is the missing information that we need to figure out. Write a T next to the word animals in the question, to remind us that we need to find the total number of animals.

(Point to Step 4.) Step 4 says, "Write the number sentence." So, write the number sentence. Remember, P1 plus P2 equals T (point). Write the number sentence now.

If correct: Good job! The number sentence for this problem is 3 plus 1 equals X. Nice work!
Let's work on the number sentence together. You know that P1 is 3 (point), so write 3 in the first box. (Student.) You know that P2 is 1, so write 1 in the second box. (Student.) Total, or T, is the missing information. Mark missing information in a special pirate way. Take the highlighter and make a big X over the missing information. (Demonstrate.)

Now, be a pirate. (Point to Step 5.) Step 5 says, “Find X.” Find X using your fingers. (Student.)

If correct: Awesome! You put the bigger number, 3, in your head, and counted up 1 more finger for a total of 4 fingers!

If incorrect: Let's find X together. Put the bigger number in your head. (Student.) Count up 1 more. (Student.) What's the answer? (Student.) Great!

So, X equals 4. Write 4 on your paper. You should also add a label. A good label for this answer is “animals.” Remember, the question asked, “How many animals does Jason have?” If X equals 4, then Jason has 4 animals total. (Student.)

Let's see if that makes sense. Jason has 3 dogs and 1 bird. How many animals does Jason have? Does it make sense that Jason has 4 animals in all? (Student.) Why or why not? (Student.) Did we answer the question, “How many animals does Jason have?” (Student.)

Activity 4: Sorting Cards

Today we'll start a new activity that you'll do at the end of Pirate Math every day. This activity is called sorting.

Here's how sorting works. These are the sorting cards. (Show cards.) There is a word problem on each sorting card. I will read each card to you as you follow along. Your job is to decide what type of problem it is. Is it a Total, Difference, or Change problem?

Once you decide what type of problem it is, you put the card in a box on this sorting mat. (Display sorting mat.) Look at the mat. One box says, “Total.” (Point to “Total.”) One box says, “Difference.” (Point to “Difference.”) One box says, “Change.” (Point to “Change.”) The last box has a question mark. (Point to question mark.) The question mark box means you can't figure out the problem type.

Since we're only working on Total problems right now, you'll only use the Total box (point to total box) and the question mark box (point to question mark box).

Let's practice. Look at this problem. (Hold up card and read problem.) Is this a Total problem? (Student.)

If Total problem: Good. Since this is a Total problem, put this card in the Total box.
If other problem:  **Good. This is not a Total problem. The problem does not tell a story about two or more things combined together. We don’t know what kind of problem it is, so let’s put it in the question mark box.**

**Look at this card.** (Hold up card and read problem.) **What kind of problem is it?** (Student.)

If Total problem:  **Good. Since this is a Total problem, put this card in the Total box.**

If other problem:  **Good. This is not a Total problem. The problem does not tell a story about two or more things combined together. We don’t know what kind of problem it is, so let’s put it in the question mark box.**

(Remove cards from mat and place them into card pile.) **Now, it’s your turn to try this on your own. You’ll have 2 minutes to listen to as many problems as you can and place them in the correct boxes. Do you have any questions?  Good. Begin.** (Set timer for 2 minutes.)

(Hold up cards for 2 minutes. Read each card for student as he follows along. Allow student to place the cards in a box after you read them. When timer beeps, say:)  **Great! You did a nice job with the sorting, especially since it’s the first day! Let’s see how many are correct.** (Go through Total pile and count the number of correct cards. Put incorrect cards aside. Go through question mark pile and count the number of correct cards. Put incorrect cards aside.)

If there are incorrect cards, say:  **Let’s look at this card. The problem says,** (read problem).  **Is this a Total problem?** (Student.)

If Total problem:  **Yes, it is a Total problem. Look at the question.** (Read question).  **What does the question ask? How do you know it’s a Total problem?** (Student.)  **This card goes in the Total box.**

If other problem:  **This is not a Total problem because it doesn’t tell you a story about two or more numbers combined together. This card goes in the question mark box.**

Continue reviewing up to 3 incorrect cards.

**Wow! You got __ cards correct! Bravo!**

**ACTIVITY 5: PIRATE PROBLEMS**

Use script as needed (see Activity Guide: Pirate Problems in Activity Guide section).

Let’s count up the number of coins you earned today and mark them on your treasure map. (Student.)  **Remember, once you fill in the footsteps to the ‘X’ in the middle of the map, you’ll choose a prize out of the treasure box!**
A. Mrs. Baxter spent $1 on milk and $2 on a loaf of bread at the grocery store. She spent $3 at the grocery store altogether.

B. Diana has 4 crayons. Staci has 5 crayons. The girls have 9 crayons in all.
C. David has 7 hats. Molly has 3 hats. How many hats do they have altogether?

Write the number sentence: $\phantom{\text{P1}} + \phantom{\text{P2}} = \phantom{T}$

$X = \phantom{\text{P1}} + \phantom{\text{P2}} = \phantom{T}$

D. Jason has 3 dogs and 1 bird. How many animals does Jason have?

Write the number sentence: $\phantom{\text{P1}} + \phantom{\text{P2}} = \phantom{T}$

$X = \phantom{\text{P1}} + \phantom{\text{P2}} = \phantom{T}$
1 + 6 = X  
7 + X = 12  
X + 2 = 7  

X = ___  
X = ___  
X = ___  

5 + X = 8  
7 + 4 = X  
3 + 9 = X  

X = ___  
X = ___  
X = ___  

X + 7 = 11  
X + 6 = 15  
6 + X = 11  

X = ___  
X = ___  
X = ___  

NAME: ____________________  PIRATE PROBLEMS - DAY 6
How many monkeys and snakes are at the zoo?

PIRATE PROBLEMS - DAY 6

How many monkeys and snakes are at the zoo?
Dean invited 31 boys and girls to his party. He invited 20 girls. How many boys did Dean invite?

There are 25 boys and girls in Ms. Wilson's class. There are 17 boys.

How many girls are in the class?

Dan found 65¢. How much money did Dan and Rachel find? Rachel found 10¢.
Wilma walks 10 blocks to school and 4 blocks to the park. How many more blocks does she walk to school than to the park?

Donna ate 12 more jelly beans than Darius. Darius ate 6 jelly beans.

July?

Many games did Beth play in June than in July. She played 11 games in June. How many games did Beth play in 5 more soccer games in July than in June?
First, how much money did they have at
wamey gum and have 38¢ left. How
Then they spent 85¢ on bubble
Dan and Rachael had some money.

Home?
How many boys and girls went
16 students still in the classroom.
Then some students went home. Then some
Wilson's class. Then some
There were 25 boys and girls in

Walked?
Now how many blocks has Wilson
walked 4 more blocks to the park.
Wllma walked 7 blocks. Then, she

Start with?
much money did Doug have to
more. Now Doug has $1.5. How
wallet. Then Lyn gave him $8
Doug had some money in his