



MISSISSIPPI

# EXEMPLAR

Units & Lessons

MATHEMATICS

**Grade 1**

Grant funded by:



## Lesson 6: Disappearing Pirate Ship

**Focus Standard(s):** 1.OA.1, 1.OA.2

**Standards for Mathematical Practice:** SMP.3, SMP.5, SMP.8

**Estimated Time:** 70 minutes

**Resources and Materials:**

- Counters
- Rekenreks
- Handout 3.2: Number Bonds Template
- Handout 3.3: Ten Frames Template
- Handout 6.1: Pirate Ship Counters
- Handout 6.2: Pirate Story Cards
- Handout 6.3: Homework
- Subtract Like a Pirate: <https://www.youtube.com/watch?v=QkPa9V2wtZs>

**Lesson Target(s):**

- Students will subtract numbers within 20.

**Guiding Question(s):**


- How is subtraction like addition?

### Vocabulary

**Academic Vocabulary:** Refer to the word wall frequently.

- Addition

**Instructional Strategies for Academic Vocabulary:**

<ul style="list-style-type: none"> <li>• Compare</li> <li>• Difference</li> <li>• Minus</li> <li>• Reasonable</li> <li>• Subtraction</li> <li>• Sum</li> <li>• Total</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Introduce words with student-friendly definitions and pictures</li> <li><input type="checkbox"/> Model how to use the words in discussion</li> <li><input type="checkbox"/> Discuss the meaning of word in a mathematical context</li> <li><input type="checkbox"/> Create pictures/symbols to represent words</li> <li><input type="checkbox"/> Write/discuss using the words</li> <li><input type="checkbox"/> Act out the words or attach movements to the words</li> </ul>
Symbol	Type of Text and Interpretation of Symbol
	Instructional support and/or extension suggestions for students who are EL, have disabilities, or perform well below the grade level and/or for students who perform well above grade level
✓	Assessment (Pre-assessment, Formative, Self, or Summative)
Instructional Plan	
<p><b>Understanding Lesson Purpose and Student Outcomes:</b> Students will solve word problems involving subtraction within 20. Procedural fluency will be built by using manipulatives to solve basic addition and subtraction problems.</p> <p><b>Anticipatory Set/Introduction to the Lesson: Subtract with a Pirate</b></p> <ul style="list-style-type: none"> <li>• Show the video <a href="#">When you Subtract with a Pirate</a>. Encourage students to sing along. Tell students to work at their work station using their individual white boards. Pause the video for students to write the equations shown on the video. Have students calculate the differences, all of which are within 10.</li> </ul>	

**Note:** This should be tried without manipulatives. (All the examples are within 10, so students should be able to do them.)

After the video is over, ask the following:

- What does it mean to subtract? (take away)
- When we subtract, what do we call the answer? (difference)
- When we subtract, do we end up with more than or less than we began with? (less than)

### **Activity 1: Vocabulary**

Review vocabulary terms with a Cloze activity. Write 2-3 sentences and leave blank spaces for students to fill in with appropriate math vocabulary from the word wall. Alternatively, call out a word from the math wall and have students write a sentence that expresses a relationship or connection between the term and another math term, concept, situation, or real-world application. These are both good warm up activities for the start of a lesson.

### **Activity 2: Subtraction within 20**

Distribute number bonds and ten frames from Lesson 3. Distribute Rekenreks. Print, cut out, and distribute **Handout 6.1: Pirate Ship Counters**.

**Note:** Each student will need 20 counters.

Model subtraction within 20 using Pirate Ship counters, 2 ten frames and Rekenreks for the equation  $14 - 6 = \underline{\quad}$

Pirate Ship counters:

- Count out 14 Pirate Ship Counters.
- Remove 6 Pirate Ship Counters.
- Count how many Pirate Ships are left: 8

Ten frames:

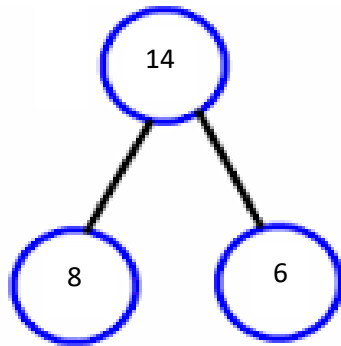
- Fill one ten frame with counters.
- Put 4 counters on a second ten frame.
- Remove 6 counters (4 from one and 2 from the other)
- Count how many counters are left. (8)

Rekenreks:

- Slide all 10 beads to the left on the top bar.
- Slide 4 beads to the left on the bottom bar counting on from 10 to 14.
- Slide 6 beads to the right. (4 on bottom, 2 on top)
- Count the number of beads on the left. (8)

Write the equation  $14 - 6 = 8$ .

Make a number bond for the 3 numbers.



Ask, "If  $14 - 6 = 8$ , what other subtraction equation can we write about the 3 numbers?" ( $14 - 8 = 6$ ). Tell students to use Pirate Ship Counters, ten frames and Rekenreks to show  $14 - 8 = 6$ .

Ask, "Does our number bond look any different for  $14 - 6 = 8$  than  $14 - 8 = 6$ ? (No)

“What would our number bond look like for  $8 + 6$ ?” (The same as for  $14 - 6 = 8$ )

“Do you see a connection between these subtracting and adding equations? (You can make addition and subtraction equations using the same 3 numbers (SMP.8).)

Repeat with  $15 - 4$ ,  $13 - 9$ , and  $18 - 7$ . Look for students’ ability to use Pirate Ship Counters, ten frames, and Rekenreks accurately when making number bonds.

Show students the following problem on the board or on chart paper: Captain Blackbeard has 7 pirate ships. Captain Hook has 16 pirate ships. How many more ships does Captain Hook have than Captain Blackbeard? Have students identify what the question is in the story, what the numbers represent, and how to find the answer to the question. Instruct students to write an equation, use the manipulatives to solve it, and write a number bond.

### **Activity 3: Partner Work**

Assign students to partner pairs. Print and cut out **Handout 6.2: Pirate Story Cards** and give one card to each pair. Tell students they will work with their partner to solve the problem. Tell students to write the question, show their work, make a number bond and write an equation. Allow students to choose manipulatives to model their work (SMP.5). Tell students compare their work with their partner’s work and find differences and, if they do not have the same answer, each partner must justify their answer (SMP.3).

Ask for volunteers to present their problem to the class and show their work. As students are presenting, other students can critique the work and question the reasoning. (SMP.3)

### **Reflection and Closing:**

- Students will solve the following problem, draw a number bond, and write an equation: Peg Leg the parrot has 11 colorful tail feathers. 4 of them are orange and the rest are yellow. How many tail feathers are yellow? Draw a picture to show your work, draw a number bond, and write an equation.

**For students who are EL, have disabilities, or perform well below grade level:**

- Students use orange and yellow counters to model the story.

**Extensions for students with high interest or working above grade level:**

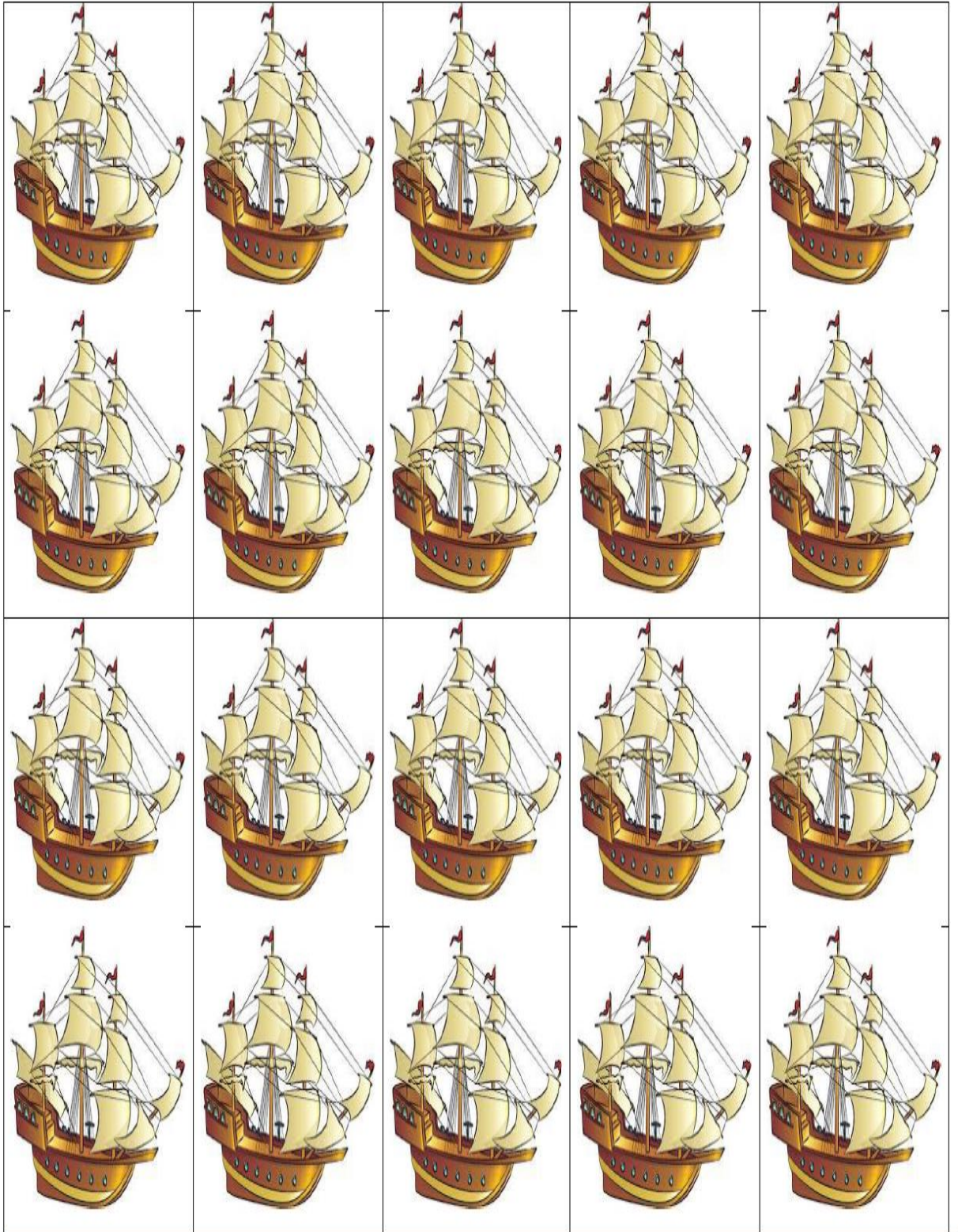
- Write a pirate story for  $20 - 7 = \underline{\quad}$  and solve.

## Homework

Distribute **Handout 6.3: Homework** and tell students to solve the two problems drawing a picture, creating a number bond, and writing an equation.

# Handout 6.1: Pirate Ship Counters

LESSON #6 PIRATE SHIPS





### Handout 6.2: Pirate Story Cards

<p>Captain Bly has 20 crew members. Of his crew, 12 have beards. How many of Captain Bly's crew members do not have beards?</p>	<p>Captain Hook has 13 cannons on his ship. Captain Roger has 7 cannons on his ship. How many fewer cannons does Captain Roger have than Captain Hook?</p>	<p>Pete the Pirate has 8 dirty socks. Bethany the Pirate has 11 dirty socks. How many more dirty socks does Bethany the Pirate have than Pete the Pirate?</p>
<p>The pirate ship, the Jolly Roger, has 3 fewer anchors than the pirate ship, Blow Me Down. The Blow Me Down has 18 anchors. How many anchors does the Jolly Roger have?</p>	<p>There are 19 ships on the sea. 5 of them are pirate ships. How many of the ships are not pirate ships?</p>	<p>There were 15 pirates on Captain Hook's ship. Captain Hook made 7 pirates walk the plank. How many pirates are left on the ship?</p>
<p>Captain Bly found a treasure chest of gold and silver coins. There were 16 gold coins in the treasure chest. How many silver coins were in the treasure chest?</p>	<p>Peg Leg, the ship's cook, fixed a plate of cookies. There were 14 cookies on the plate. Captain Hook ate 9 of the cookies. How many cookies were left?</p>	<p>Pete the Pirate buried 17 treasure chests on the island. Polly the Pirate buried 12 treasure chests on the island. How many fewer treasure chests did Polly bury than Pete buried?</p>
<p>Pinky the whale had 17 barnacles stuck to her back. Pirate Elmo washed 6 of them off. How many barnacles does Pinky have now?</p>	<p>Big Tooth the shark, swam close to the pirate ship. He ate 13 fish while he was swimming. Five of the fish were salmon and the rest were cat fish. How many were cat fish?</p>	<p>Penny Pirate captured 20 scallywags, and made some of them walk the plank because they could not talk like a pirate. Seven scallywags did not walk the plank. How many scallywags walked the plank?</p>

### Handout 6.3: Homework

Name \_\_\_\_\_ Date \_\_\_\_\_

Solve. Draw a picture to show your work. Draw a number bond and write an equation.

1. Jen has 8 apples. Pat has 19 apples. How many more apples does Pat have than Jen?

2. Chico had 20 problems to solve. Joyce has 11 problems to solve. How many fewer problems does Joyce have to solve than Chico?

For training or questions regarding this unit,  
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