



LESSON 10

Ocean Addition and Subtraction

What You Need

- Recording Sheets
- Scenario Cards
- 2 small paper clips

What You Do

- 1 Shuffle the **Scenario Cards** and place them in a pile facedown.
- 2 Take turns. On your turn, select a **Scenario Card** and read it aloud. Use paper clips as markers on the **Recording Sheet** number line to show the locations described in the scenario. Other group members check the placement of the markers.
- 3 Work together to answer the question and show your work in the appropriate row of the table on the **Recording Sheet**.
- 4 Then the markers are removed, and the turn is over.
- 5 Continue until all the **Scenario Cards** have been used.

KEEP IN MIND . . .

The paper clip markers can help you understand the problem. Use the markers to model the problem. Then use your model to help you write an expression.



Check Understanding

A goldfish is $4\frac{1}{2}$ inches below the surface of the water. It swims up $2\frac{1}{4}$ inches.

What is the final depth of the goldfish? Show your work.



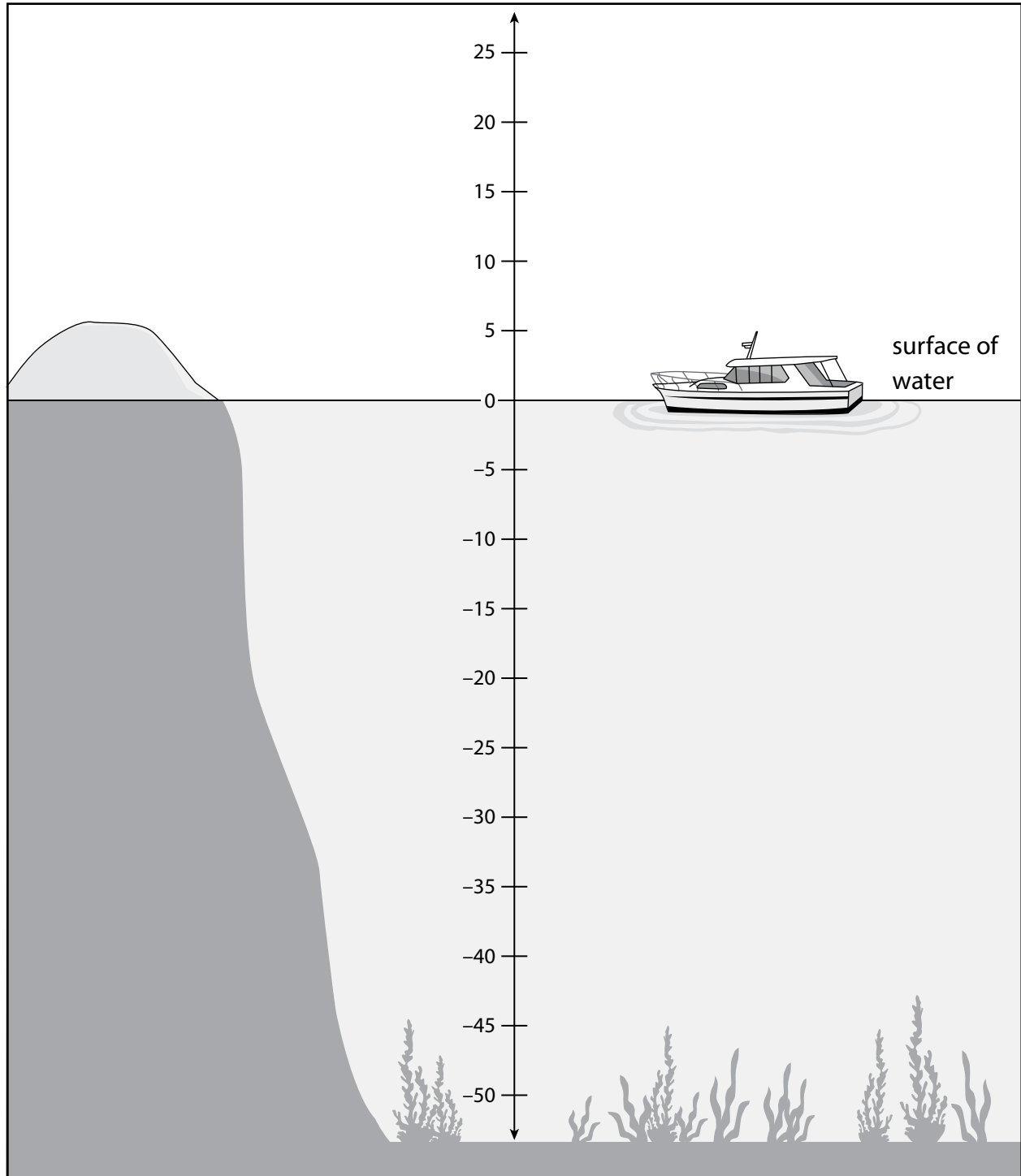
Go Further

Place two paper clip markers on the **Recording Sheet** number line. Then write a scenario that could be modeled by your markers. Trade scenarios with a partner, answer the question you receive, and then check each other's work.



Ocean Addition and Subtraction

RECORDING SHEET





Ocean Addition and Subtraction

RECORDING SHEET *continued*

Scenario	Show Your Work
Dolphin	
Flying Fish	
Monique and Jamal	
Octopus	
Pelican	
Seals	
Submarine	
Whale Shark	



Monique stands on a boat deck $4\frac{1}{2}$ feet above the water. Her brother Jamal swims below Monique at $-9\frac{1}{4}$ feet from the surface of the water. How many feet apart are Monique and Jamal?

An octopus is swimming at -5.5 meters relative to sea level. It swims down to -12.7 meters. What number represents the change in the octopus' depth?

Two seals are sitting on a rock $3\frac{3}{4}$ feet above the water. One seal dives into the water and swims down to $21\frac{1}{2}$ feet below the surface. How many feet apart are the two seals?

A whale shark is swimming at -28.3 meters relative to the surface of the water. It dives 9.8 meters deeper. After the dive, what is the whale shark's elevation relative to the surface of the water?

A pelican is flying $12\frac{1}{4}$ feet above the water. It dives down $15\frac{1}{2}$ feet to catch a fish. What is the new position of the pelican relative to the surface of the water?

A dolphin is swimming at 6.4 meters below the surface of the ocean. It goes up 14.7 meters. What is the dolphin's new position?

A flying fish is swimming $1\frac{1}{2}$ feet below sea level. It jumps up $5\frac{1}{4}$ feet. What is the final position of the flying fish?

A submarine's depth is -15.9 meters. It dives down 20.7 meters. What is the final depth of the submarine?



LESSON 12

First Five Equations: Multiplication and Division

What You Need

- Game Cards
- Game Board, 1 per student

What You Do

- 1 Shuffle the **Game Cards** that have numbers and spread them out on the table facedown. Place the cards with multiplication symbols faceup in one pile and the cards with division symbols faceup in another pile.
- 2 Each player selects seven number cards.
- 3 Determine who goes first. On each turn, use your number cards to make as many equations as possible on your **Game Board**, taking a multiplication or division symbol as needed for each equation. The other players check your work. If you cannot make any equations, trade in some or all of your number cards. If you still cannot make an equation, your turn is over.
- 4 When your turn is over, pick up as many number cards as needed so you still have a total of seven cards. Then it is the next player's turn.
- 5 The first player to complete five correct equations is the winner. If time runs out, the player with the most correct equations is the winner.

KEEP IN MIND . . .

For rational numbers:

positive • positive = positive
positive ÷ positive = positive

negative • negative = positive
negative ÷ negative = positive

positive • negative = negative
positive ÷ negative = negative

negative • positive = negative
negative ÷ positive = negative



Check Understanding

What is $15 \div \left(-\frac{5}{2}\right)$? Show how you can use multiplication to check your answer.



Go Further

Choose three number cards. Try to make a multiplication or division equation using your cards. If you cannot make an equation with those three cards, change one of the numbers to make an equation. Then have a partner check your work.




First Five Equations: Multiplication and Division

GAME BOARD

			=	
			=	
			=	
			=	
			=	



					
1	1	1	-1	-1	-1
2	2	2	-2	-2	-2
3	3	3	-3	-3	-3
4	4	4	-4	-4	-4
6	6	6	-6	-6	-6
8	8	8	-8	-8	-8
9	9	9	-9	-9	-9



12	12	12	-12	-12	-12
$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$-\frac{1}{2}$	$-\frac{1}{2}$	$-\frac{1}{2}$
$\frac{2}{3}$	$\frac{2}{3}$	$\frac{2}{3}$	$-\frac{2}{3}$	$-\frac{2}{3}$	$-\frac{2}{3}$
$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$	$-\frac{3}{4}$	$-\frac{3}{4}$	$-\frac{3}{4}$
×	×	×	×	×	×
×	×	×	×	×	×
÷	÷	÷	÷	÷	÷
÷	÷	÷	÷	÷	÷