

Work Place 1A Instructions



WORK PLACE

15-Tac-Toe

Each pair of students will need

- ★ Work Place 1A Instructions (Work Place Student Book, page 3)
- ★ 15-Tac-Toe Record Sheet, pages 1–3 (Work Place Student Book, pages 4–6)

Instructions for 15-Tac-Toe

1 This game is played like tic-tac-toe, but instead of using X's and O's, you use the digits 1 through 9 to try to get a row that adds up to 15. Use whatever method you like to decide who will go first (flip a coin, roll a die, use Rock, Paper, Scissors). That person is Player 1.

2 Player 1 can only use the numbers 1, 3, 5, 7, and 9. Player 1 can use each number only once. On Player 1's first turn, he or she writes one of those numbers in any of the spaces on the tic-tac-toe grid and crosses it out on his or her list of numbers.

3 Player 2 can only use the numbers 2, 4, 6, and 8. Player 2 can use each number only once. On Player 2's first turn, he or she writes one of those numbers on the grid and crosses it out.

4 Players take turns until one player makes a straight row—vertical, horizontal, or diagonal—in which the numbers add up to 15. That player wins the game. (If no row adds to 15 when the grid is filled, the game is a tie.)

5 After each game, switch who goes first and who goes second.

Work Place Student Book
 NAME _____ DATE _____

1A 15-Tac-Toe Record Sheet page 1 of 3

Use the grids below to record 4 games. Then answer the question at the bottom of this page. There is room for more games on the next two pages.

	Grid	Player 1's Numbers	Player 2's Numbers
Game 1		1 3 7 9	2 4 6 8
Game 2		1 3 5 7 9	2 4 6 8
Game 3		1 3 5 7 9	2 4 6 8
Game 4		1 3 5 7 9	2 4 6 8

What advice would you give someone about how to win this game (things to do and things *not* to do)?

Work Place 1B Instructions



WORK PLACE

Roll 5

Each pair of students will need

- ★ Work Place 1B Instructions (Work Place Student Book, page 7)
- ★ Roll 5 Record Sheet (Work Place Student Book, pages 8–10)
- ★ 5 dice (1 numbered 0–5, 2 numbered 1–6, 2 numbered 4–9)
- ★ calculators
- ★ scratch paper

Instructions for Roll 5

1 Use any method you want to decide which player will go first.

2 Roll any two dice and then multiply the two numbers on the dice. The product is your target number. Record it on your side of the record sheet.

3 Then roll all 5 dice and write those numbers on your side of the sheet.

4 Add, subtract, multiply, or divide any combination of the 5 numbers you just rolled to get to your target number. (You don't have to use all 5 of the numbers you rolled, but use as many as you can because you score a point for each.) If you can't find any way

to get to your target number with the 5 numbers you rolled, roll two of the dice again and multiply the numbers to get a different target number.

5 With your partner, double-check your equation to make sure it works. Be sure to use parentheses to show how you combined the numbers to get to your target.

6 Count how many numbers you used. You get a point for each number. Record the points in the space provided.

Work Place Student Book		NAME _____	DATE _____	
1B Roll 5 Record Sheet page 1 of 3				
Player 1 _____		Player 2 _____		
Round 1	Target Number	15	Target Number	□
	5 Numbers Rolled	2 4 7 3 3	5 Numbers Rolled	□ □ □ □ □
	My Equation	$(7 + 3 + 3 + 4) - 2 = 15$	My Equation	_____
	Points scored this round	5	Points scored this round	_____
Round 2	Target Number	□	Target Number	□
	5 Numbers Rolled	□ □ □ □ □	5 Numbers Rolled	□ □ □ □ □
	My Equation	_____	My Equation	_____
	Points scored this round	_____	Points scored this round	_____

7 Take turns until you have each gone 4 times. Then add up your points. The player with the most points wins.

Work Place 2A Instructions



WORK PLACE

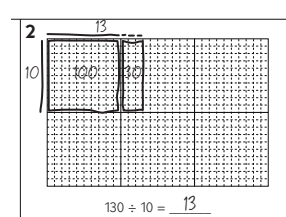
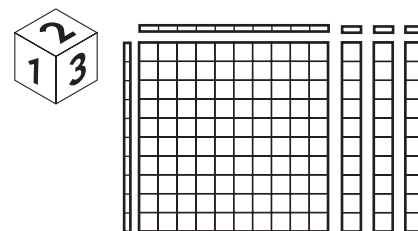
Quotients Win

Each pair of students will need

- ★ Work Place 2A Instructions (Work Place Student Book, page 11)
- ★ 2A Quotients Win Record Sheets (Work Place Student Book, pages 12–17)
- ★ 2 dice numbered 1–6
- ★ 1 set of base ten area and linear pieces
- ★ 1 red and 1 blue colored pencil or fine-tip felt marker

Instructions for Quotients Win

- 1** Each player gets 1 die. Roll them at the same time. If you both get the same number, roll again until you have different numbers.
- 2** Each player solves the problem that has the same number as the number they rolled. Players solve their problems at the same time.
- 3** Make a labeled sketch of the problem on the record sheet and fill in the answer. Be sure to use your colored pencil or marker to sketch the dimensions and a regular pencil for the rest of the work. You can build a model with your base ten pieces first, but you don't have to.



I rolled a 2, so I have to do problem 2 on the game sheet. That's $130 \div 10$. First I'll lay out a linear strip to show 10 and then start fitting in base ten pieces until I get to 130. My rectangle turned out to be 13 along the other side, so that's the answer. Now I have to make a sketch.

4 Roll and solve the problems until you have each solved 3 problems. If you roll the number of a problem that has already been solved, roll again until you get the number of a problem that has not been solved yet. (You have to use the first number that has not been solved.) When you are done, check each other's work.

5 At the end of the game, add your quotients and record your score at the bottom of the sheet. The player with the higher score wins.

Work Place 2B Instructions



WORK PLACE

Division Showdown

Each pair of students will need

- ★ Work Place 2B Instructions (Work Place Student Book, pages 19 and 20)
- ★ 2B Division Showdown Spinner (Work Place Student Book, page 21)
- ★ 2B Division Showdown Game Sheets (Work Place Student Book, pages 23–28)
- ★ transparent spinner overlay
- ★ 1 red and 1 blue colored pencil or fine-tip felt marker

Instructions for Division Showdown

1 Carefully tear page 21, the Division Showdown Spinner, out of one partner's Work Place Student Book. Lay the spinner flat between you and decide whether you're going to use the regular spinner or the challenge spinner.

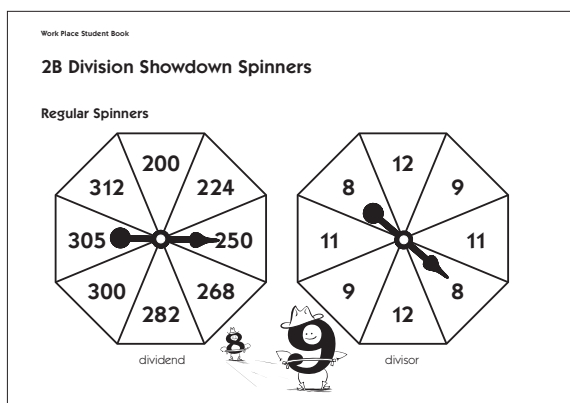
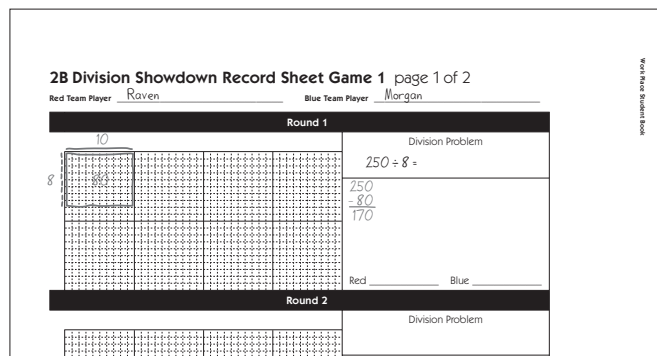
2 Set the spinner overlay on top of *one* of the spinners you chose. Take turns spinning that spinner once. The person who gets the higher number gets to choose which color to play: red or blue. He or she also gets to start first.

3 Spin both spinners and record a division problem using the two numbers.

4 Mark and label the known dimension on the grid.

5 Loop and label 10 times the divisor. (If your divisor is 8, for instance, loop and label 8×10 on the grid, and mark it by drawing the dimension across the top.)

Okay, I'm first. Let's see. I got 250 and 8 for us, so now I have to write $250 \div 8$ and do all the rest of the steps. It's your turn now, Morgan.



(Continued on back.)

Work Place 2B Instructions (cont.)

6 Take turns looping and labeling 10 times the divisor using your own color each time. Also record your work in the figuring box to the right of the grid. Take turns subtracting 10 times the divisor until you can't do that anymore.

7 When you don't have enough left to subtract 10 times the divisor anymore, the player whose turn it is gets to subtract as many groups of the divisor as he or she wants.

8 The player who makes the last move has to loop and label the last groups. Subtract the last amount in the figuring box. If there is a remainder, show it with x's on the grid. Finally, write the answer to the division problem.

9 The player who makes the last move scores the remainder. If there is no remainder, he or she scores 1 point for being the last to make a move. Before the winner of the round can take the points, the other player gets to add up the pieces, including the remainder, on the grid to double-check that they add up to the dividend. If they don't, both players have to find the mistake and fix it.

10 Play 3 more rounds and then find the sum of your points from all 4 rounds to see who wins the game.

2B Division Showdown Record Sheet Game 1 page 1 of 2

Red Team Player Raven Blue Team Player Morgan

Round 1	
	<p>Division Problem</p> $250 \div 8 =$ $\begin{array}{r} 250 \\ -80 \\ \hline 170 \\ -80 \\ \hline 90 \\ -80 \\ \hline 10 \end{array}$ <p>Blue <u>2</u></p>
Round 2	
	<p>Division Problem</p>

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Work Place 3A Instructions


WORK PLACE

Area Bingo

Each pair of students will need

- ★ Work Place 3A Instructions (Work Place Student Book, page 29)
- ★ 3A Bingo Boards (Work Place Student Book, page 31)
- ★ 3A Area Bingo Cards (Work Place Student Book, pages 33–37)
- ★ 3A Area Bingo Graph Paper (Work Place Student Book, pages 39–41)
- ★ rulers
- ★ game markers

Instructions for Area Bingo

- 1** Choose one of the four bingo boards on page 31. Be sure you pick a different board than your partner.
- 2** Take the first Area Bingo Card from the top of the pile. Now you and your partner will both graph and connect the points on the Area Bingo Graph Paper in your own books. Then help each other figure out the area of the polygon.
- 3** If the value of the area appears on your bingo board, put a marker on it. Your partner should also cover the value of the area if it appears on his

or her board. Then put the Area Bingo Card you just used face down on the bottom of the pile.

- 4** Repeat steps 2 and 3 until one player gets 4 markers in a row horizontally, vertically, or diagonally. You should be able to draw about 10 different figures on a sheet of graph paper, but turn to a new sheet if you need to. (There are 3 pages of graph paper in your Work Place Student Book.)

Work Place 3B Instructions



WORK PLACE

Polygon Riddles

Each student or pair of students will need

- ★ Work Place 3B Instructions (Work Place Student Book, page 42)
- ★ 3B Polygon Riddles Record Sheet (Work Place Student Book, pages 43 and 44)
- ★ access to the class set of polygon riddles written by classmates
- ★ set of Paper Polygons (Blacklines 3.4 and 3.5, used in Sessions 13 and 14)

Instructions for Polygon Riddles

- 1** Decide whether you want to work alone or with a partner.
- 2** Choose one of your classmates' Polygon Riddles. Do not take it out of the envelope yet.
- 3** Spread out your Paper Polygons so you can see all of them.
- 4** Slide the riddle out of its envelope one clue at a time. Use the clues to help eliminate all but the mystery shape.
- 5** When you believe you've found the mystery shape, check to make sure that all the clues fit, and then compare your answer to the one at the bottom of the riddle sheet. If your answer

doesn't match the one given, go back through the clues to find out where you may have made an error.

6 Write the answer on your record sheet beside the number that matches the one on the riddle's envelope.

7 Get another riddle from the class collection and repeat the steps above. Solve as many riddles as you have time for.

<p style="text-align: center;">My Polygon Riddle by Gabe</p> <p style="margin-left: 20px;">1. My polygon has reflective symmetry. 2. My polygon is not equilateral.</p>
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Work Place 4A Instructions



WORK PLACE

Estimate & Check

Each pair of students will need

- ★ Work Place 4A Instructions (Work Place Student Book, page 45)
- ★ 4A Estimate & Check Cards (Work Place Student Book, pages 47–51)
- ★ 4A Estimate & Check Record Sheet (Work Place Student Book, pages 53 and 54)
- ★ calculators
- ★ 1 die marked 1–6
- ★ scissors

Instructions for Estimate & Check

- 1** Have one player carefully tear the three sheets of cards out of his or her Work Place Student Book. Work together to cut out the cards. Then mix them up and place them in a stack between you, face down.
- 2** Roll the die to decide who will go first. You and your partner will both be working on the same record sheet in one of your Work Place Student Books.
- 3** Player 1 takes the first card from the top of the stack and writes the division problem in the first box on his or her part of the record sheet. The player chooses the best estimate from

the six numbers at the top of the sheet and explains his or her thinking to the other player.

Work Place Student Book
NAME Raven
4A Estimate & Check Record Sheet
4A Estimate & Check Card

6 9 12 15 18 22

Player 1 Raven

Division Problem	Estimate	Answer	Difference
$65 \div 10$	6		

I got $65 \div 10$. I think the best estimate is 6 because 10×6 is 60, and 10×9 is 90. 6×10 is the closest to 65.

- 4** Player 2 takes the next card from the top of the stack and follows the instructions in step 3.
- 5** Both players use a calculator to find the exact answers to their problems.
- 6** Write the answers on the record sheet, along with the differences between your estimates and the answers. Then put your cards at the bottom of the stack.
- 7** Repeat steps 3–6 until each player has taken 5 turns. Then add up all the differences between your estimates and the actual answers. The player with the lowest score wins.

Work Place 4B Instructions



WORK PLACE

Lowest Remainder Wins

Each pair of students will need

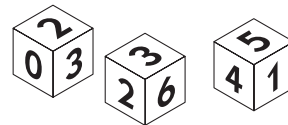
- ★ Work Place 4B Instructions (Work Place Student Book, pages 55 and 56)
- ★ 4B Lowest Remainder Wins Spinner (Work Place Student Book, page 57)
- ★ 4B Lowest Remainder Wins Record Sheet (Work Place Student Book, pages 59-62)
- ★ transparent spinner overlay
- ★ dice (one numbered 0–5 and two numbered 1–6)

Instructions for Lowest Remainder Wins

1 Have one player carefully tear page 57, the spinner sheet, out of his or her Work Place Student Book. Lay the sheet flat between you and set the spinner overlay on top of the spinner. (If you want to use the challenge spinner, see the instructions on the next page.)

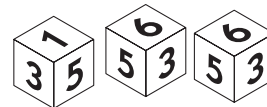
2 Spin the spinner to get the first divisor for both players. Start a multiplication menu for that divisor in the Round 1 box on your record sheet. Fill in the menu for 10, 20, and 5. You can add more combinations to the menu if you need them while you are playing.

3 Each player rolls either 2 or 3 dice. Roll 2 dice to get a 2-digit dividend or 3 dice to get a 3-digit dividend. Arrange the digits any way you like to make a dividend. Try to make a number that won't leave a remainder when you divide it by your divisor. If you can't do that, try to make a number that will leave a very small remainder.



Work Place Student Book
NAME Javier PLAYER NUMBER 1 DATE 3/23
4B Lowest Remainder Wins Record Sheet page 1 of 4

$2 \overline{)352}$	x Menu for <u>2</u> $10 \times 2 = 20$ $20 \times 2 = 40$ $5 \times 2 = 10$	x Menu for ____
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Work Place Student Book
NAME Morgan PLAYER NUMBER 2 DATE 3/23
4B Lowest Remainder Wins Record Sheet page 1 of 4

$2 \overline{)166}$	x Menu for <u>2</u> $10 \times 2 = 20$ $20 \times 2 = 40$ $5 \times 2 = 10$	x Menu for ____
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Work Place 4B Instructions (cont.)

4 Record your division problem on your own record sheet and do the division. Add any useful combinations to your multiplication menu to help as you go along.

5 When both players have finished their division problems, explain your work to each other. When you both agree that the other's work is correct, enter your score on the scorecard at the bottom of your record sheet. You get 0 points if you had no remainder, otherwise you get the number of points that matches your remainder. (For example, if you got a remainder of 3, you score 3 points.)

6 Play two more rounds and then add up your total scores. The player with the lowest score wins.

**CHALLENGE****Challenge Versions of Lowest Remainder Wins**

Here are some things you can do to make the game more challenging. Pick one or more of these ideas. You don't have to use all of them unless you want to.

- Use the challenge spinner instead of the regular spinner.
- Use 2 dice marked 4–9 and one die marked 1–6.

- Use 4 dice if you want to try dividing some 4-digit numbers. (You can use 2, 3, or 4 dice and it's okay to switch the number of dice you're using each time you play a new round of the game.)

Work Place 4C Instructions



WORK PLACE

Measure & Convert

Each pair of students will need

- ★ Work Place 4C Instructions (Work Place Student Book, page 63)
- ★ 4C Measure & Convert Record Sheet (Work Place Student Book, pages 64 and 65)
- ★ cloth measuring tape marked in inches

Instructions for Measure & Convert

- 1** Select 3 items on the record sheet.
- 2** Measure each item and convert the measurement from inches to feet and inches. Do not use a calculator.
- 3** Use numbers, words, and/or pictures to show how you made each conversion.

Work Place 4D Instructions



WORK PLACE

Go for Zero

Each pair of students will need

- ★ Work Place 4D Instructions (Work Place Student Book, page 66)
- ★ 4D Go for Zero Record Sheets (Work Place Student Books, pages 67–69)
- ★ 1 die marked 1–6
- ★ 1 more/less die
- ★ calculator

Instructions for Go for Zero

1 Take turns rolling the 1–6 die. The player who gets the higher number is player 1.

2 Player 1 enters into the calculator any 3-digit number less than or equal to 900 and then gives the calculator to player 2.

3 Player 2 uses the calculator to get to zero by adding, subtracting, multiplying, or dividing by *single-digit numbers other than zero*. Player 2 can make up to 5 calculations (but no more than 5) to get to zero. As player 2 works on the calculator, he or she records each move on the record sheet.

4 Take turns until each player has taken 3 turns. Then count up the total number of calculations you made and roll the more/less die to determine the winner. If the die lands on “more,” the player who made more calculations wins. If the die lands on “less,” the player who made fewer calculations wins.

Work Place Student Book			
NAME _____		DATE _____	
4D Go for Zero Game 1 Record Sheet			
Player 1 _____		Player 2 _____	
Round 1			
Starting Number (Chosen by Player 1) 334		Starting Number (Chosen by Player 2)	
Calculation 1	$334 \div 2 = 167$	Calculation 1	
Calculation 2	$167 - 7 = 160$	Calculation 2	
Calculation 3	$160 \div 8 = 20$	Calculation 3	
Calculation 4	$20 \div 4 = 5$	Calculation 4	
Calculation 5	$5 - 5 = 0$	Calculation 5	
Round 2			
Starting Number (Chosen by Player 1)		Starting Number (Chosen by Player 2)	
Calculation 1		Calculation 1	
Calculation 2		Calculation 2	
Calculation 3		Calculation 3	
Calculation 4		Calculation 4	
Calculation 5		Calculation 5	
Round 3			
Starting Number (Chosen by Player 1)		Starting Number (Chosen by Player 2)	
Calculation 1		Calculation 1	
Calculation 2		Calculation 2	
Calculation 3		Calculation 3	
Calculation 4		Calculation 4	
Calculation 5		Calculation 5	
Total number of calculations made by player 1 _____			
Total number of calculations made by player 2 _____			
The winner of this game is _____			

Work Place 4E Instructions



WORK PLACE

Dozens of Eggs

Each pair of students will need

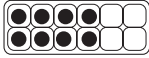
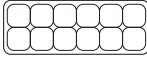
- ★ Work Place 4E Instructions (Work Place Student Book, pages 70 and 71)
- ★ 4E Fractions Cards (Work Place Student Books, pages 73–77)
- ★ 4E Dozens of Eggs Record Sheet (Work Place Student Book, pages 79 and 80)
- ★ 12 tile
- ★ 1 egg carton
- ★ 6 ten-inch pieces of string or yarn
- ★ colored pencils
- ★ scissors

Instructions for Dozens of Eggs

- 1** Begin by cutting out one player's Fractions Cards and placing them in a pile face down. Take turns drawing a card. The player with the larger fraction goes first. (Build your fractions on your egg cartons if you can't tell which is larger.)
- 2** Return the cards to the deck. Then draw the next card from the top of the deck.
- 3** Say the fraction out loud for your partner to hear and then use the string

and tile to build a model of the fraction in the egg carton.

- 4** If your partner agrees that you showed the fraction correctly in the egg carton, draw circles to represent that number of eggs in one of the diagrams on your record sheet and write the fraction beside the diagram. Draw only the eggs. You do not need to draw the strings.

Work Place Student Book	
NAME <u>Raven</u>	DATE <u>Feb. 5</u>
4E Dozens of Eggs Record Sheet page 1 of 2	
Game 1  $\frac{2}{6}$	Game 2 

After your partner agrees that you drew the correct number of eggs and wrote the correct fraction, empty the real egg carton, return your card to the deck, and mix up the cards.

- 5** Take turns with your partner until one person has filled in all four cartons on his or her record sheet. Every time you record a new group of eggs in a carton, use a different color pencil or crayon.
- 6** Every time you take a new turn, you must put all of the eggs in a single

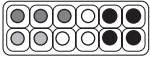
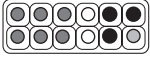
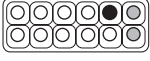
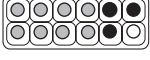
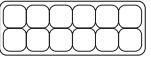
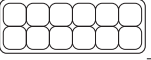
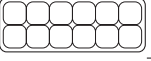
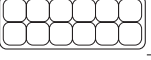
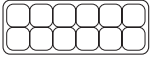
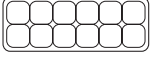
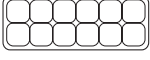
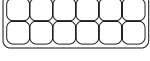
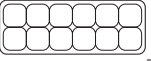
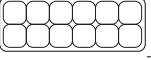
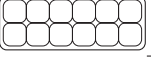
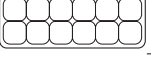
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Work Place 4E Instructions (cont.)

carton. Sometimes this means you will put the eggs in a new carton without filling the carton before it. Towards the end of the game, you'll need to skip that turn if you can't fit the eggs into any of your cartons.

7 Each time you fill an egg carton, write plus signs (+) between all the fractions next to that diagram and write = 1 at the end of the row of fractions.

Work Place Student Book
 NAME Raven DATE Feb. 5
4E Dozens of Eggs Record Sheet page 1 of 2

<p>Game 1</p>  $\frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} = 1$  $\frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} = 1$  $\frac{1}{3} + \frac{1}{3} + \frac{1}{3} + \frac{1}{3} + \frac{1}{3} + \frac{1}{3} = 1$  $\frac{1}{3} + \frac{1}{3} + \frac{1}{3} + \frac{1}{3} + \frac{1}{3} + \frac{1}{3} = 1$	<p>Game 2</p>  _____  _____  _____  _____
<p>Game 3</p>  _____  _____  _____  _____	<p>Game 4</p>  _____  _____  _____  _____

Work Place 4F Instructions



WORK PLACE

Measuring to Fractions of an Inch

Each pair of students will need

- ★ Work Place 4F Instructions (Work Place Student Book, page 81)
- ★ 4F Measuring Record Sheet (Work Place Student Book, page 82)
- ★ 12-inch ruler

Instructions for Measuring to Fractions of an Inch

- 1** Find a partner to work with. You will double-check each other's results, but you will work on your own record sheet.
- 2** On your record sheet, circle the fraction that shows how precise you want your measurement to be. You don't have to pick the same fraction as your partner.
- 3** Find 8 to 10 items in the room that are less than 12 inches long.
- 4** Measure the length of each item to the nearest fraction of an inch that you chose. Be sure you line up one end of each item at the 0 marking on your ruler.
- 5** Have your partner check each measurement and, if he agrees that it is correct, record the item and its length on the record sheet.

Work Place 4G Instructions



WORK PLACE

Target Practice

Each pair of students will need

- ★ Work Place 4G Instructions (Work Place Student Book, pages 83 and 84)
- ★ 4G Target Practice Spinner (Work Place Student Book, page 85)
- ★ 4G Target Practice Record Sheet (Work Place Student Book, pages 87 and 88)
- ★ single spinner overlay
- ★ fraction kits, egg carton materials, and/or grid paper

Instructions for Target Practice

1 Find a partner to work with. You'll work cooperatively, but you'll each use your own record sheets.

2 Have one player carefully tear out the spinner on page 85 in his or her Work Place Student Book. Lay the page flat between you and decide which spinner you want to use.

3 Each player spins the spinner twice and remembers those numbers. If you don't spin at least 3 different numbers between the two of you, spin again. Record the numbers you spin in order from smallest to largest on your record sheets.

4 Use the numbers you rolled to make fractions whose values come closest to the target numbers: $\frac{1}{2}$, 1, $1\frac{1}{2}$, and 2. You can use any materials (egg cartons, fraction kits, sketches on grid paper, etc.) that will help you decide which fractions come closest to the targets. (You don't have to use all 4 of the numbers you spun and you can use the same numbers more than once, *but* you can't use the same number twice in one fraction, so $\frac{4}{4}$ or $\frac{6}{6}$ won't work for 1.) With your partner, double-check to make sure you formed the fractions that come the closest to the targets.

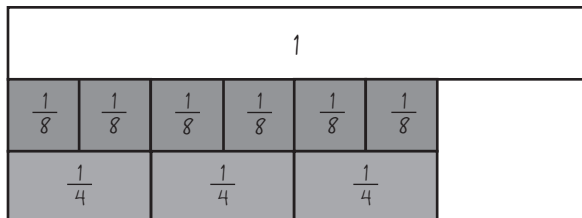
Work Place Student Book				
NAME _____			DATE _____	
4G Target Practice Record Sheet page 1 of 2				
Numbers Spun	Targets			
	$\frac{1}{2}$	1	$1\frac{1}{2}$	2
3, 4, 6, 8	$\frac{3}{6}$	$\frac{6}{8}$	$\frac{6}{4}$	$\frac{8}{4}$

Yolanda We know that $\frac{3}{6}$ is the same as $\frac{1}{2}$. When it came to making $1\frac{1}{2}$ and 2, we used the fourths in our fraction kits to see that $\frac{6}{4}$ and $\frac{8}{4}$ worked out just right.

(Continued on back.)

Work Place 4G Instructions (cont.)

Gerard *The only fraction that doesn't match the target is $\frac{6}{8}$ for 1, but that's the closest we can get. We could have used $\frac{3}{4}$ because it's worth the same amount, but we can't get any closer.*



4 Repeat steps 1–3 until you have completed all 10 rows on the record sheet.

5 When you have completed all 10 rows, go back and put a star by each fraction that is exactly equal to its target.

Work Place 6A Instructions



WORK PLACE

Spin, Add & Compare Fractions

Each pair of students will need

- ★ Work Place 6A Instructions (Work Place Student Book, pages 89 and 90)
- ★ 6A Fractions Spinner (Work Place Student Book, page 91)
- ★ 6A Spin, Add & Compare Fractions Record Sheet (Work Place Student Book, pages 93–95)
- ★ transparent spinner overlay
- ★ fraction kit
- ★ Equivalent Fractions on a Clock (Home Connections, pages 179 and 180)

Instructions for Spin, Add & Compare Fractions

1 Have one player carefully tear page 91, the spinner sheet, out of his or her Work Place Student Book. Lay the sheet flat between you and set the spinner overlay on top of the first spinner. Have both players spin the spinner. The player who gets the larger fraction is player 1. (If you want to use the challenge spinners, see the instructions on the next page.)

2 Player 1 spins both spinners once. Both players record the fractions in player 1's "Spin" box on their own record sheets. Then player 2 does the same, and both players record the fractions in player 2's "Spin" box.

3 Rename the fractions you spun so they both have the same denominator. Then write them in the "Add" box and add them. Do the same thing for the other player's fractions. You can work together on the two problems or do them on your own and then compare results.

4 If either player gets a sum that is an *improper fraction* (a fraction where the numerator is larger than the denominator), both rewrite it as a *mixed number* (a whole number and a fraction) in the "Rename" box.

5 When both players have found the answers to the problems and agreed that their answers are correct, write a comparison statement in the "Compare" box. Use one of these signs: =, < (less than), or > (greater than).

(Continued on back.)

Work Place 6A Instructions (cont.)

Work Place Student Book
 NAME Rian PLAYER NUMBER 2 DATE _____

6A Spin, Add & Compare Fractions Record Sheet page 1 of 3

Round 1			
	Player 1	Player 2	Compare
Spin	$\frac{1}{2}$ and $\frac{2}{3}$	$\frac{1}{6}$ and $\frac{3}{4}$	$1\frac{1}{6} > \frac{11}{12}$
Add	$\frac{3}{6} + \frac{4}{6} = \frac{7}{6}$	$\frac{2}{12} + \frac{9}{12} = \frac{11}{12}$	
Rename	$\frac{7}{6} = 1\frac{1}{6}$		
Points	1	0	

6 The player who got the larger answer scores 1 point. If you both got the same answer (like $\frac{5}{6}$ and $\frac{5}{6}$) or two equivalent fractions (like $\frac{5}{6}$ and $\frac{10}{12}$) you each score a point. The player with the highest number of points after 4 rounds wins the game.



CHALLENGE

Challenge Versions of Spin, Add & Compare Fractions

Use one or both of the ideas below to make the game more challenging.

1 Use the challenge spinners instead of the regular spinners.

2 After both players have found the totals, write a subtraction equation in the “Compare” box to find out *exactly* how much more one total is than the other. The player with the greater total scores the difference each time. Here is an example:

Work Place Student Book
 NAME Hanako PLAYER NUMBER 1 DATE _____

6A Spin, Add & Compare Fractions Record Sheet page 1 of 3

Round 1			
	Player 1	Player 2	Compare
Spin	$\frac{1}{2}$ and $\frac{2}{3}$	$\frac{1}{6}$ and $\frac{3}{4}$	$\frac{11}{12} - \frac{11}{12} = \frac{3}{12}$
Add	$\frac{3}{6} + \frac{4}{6} = \frac{7}{6}$	$\frac{2}{12} + \frac{9}{12} = \frac{11}{12}$	
Rename	$\frac{7}{6} = 1\frac{1}{6} = \frac{14}{12}$		
Points	$\frac{3}{12}$	0	

Work Place 6B Instructions



WORK PLACE

The Number Line Game

Each pair of students will need

- ★ Work Place 6B Instructions (Work Place Student Book, pages 97 and 98)
- ★ 6B Number Line Game Cards (Work Place Student Book, pages 99–103)
- ★ 6B Number Line Game Record Sheet (Work Place Student Book, pages 105–107)
- ★ red and blue pencil for each player

Instructions for the Number Line Game

1 Carefully tear pages 99–103 out of your Work Place Student Book. Cut out the cards and stack them. Have one player fasten the cards to his or her book with a paperclip. Leave the other set of cards out to play the game. Mix the cards and place them in a stack face down between both players.

2 Play Rock, Paper, Scissors to decide who will go first. The winner gets to decide which color to play, red or blue. Then both players need to label their own record sheets to show their colors. Each player will keep track of the whole game on his or her own record sheet.

3 Player 1 takes the first card from the top of the stack. Players work together to figure out the answer. Then

both players write the answer in that player's color over the correct mark along the first number line.

25%

NAME Jon MY COLOR Blue DATE 4/21

6B Number Line Game Record Sheet page 1 of 3

0		5			20
Fractions	$\frac{1}{4}$	$\frac{1}{2}$	$\frac{3}{4}$	$\frac{4}{5}$	$\frac{4}{5}$
Percents (%)	10	20 25	40 50	75	

Points	
Blue	Red

NAME Darius MY COLOR Red DATE 4/21

6B Number Line Game Record Sheet page 1 of 3

0		5			20
Fractions	$\frac{1}{4}$	$\frac{1}{2}$	$\frac{3}{4}$	$\frac{4}{5}$	$\frac{4}{5}$
Percents (%)	10	20 25	40 50	75	

Points	
Blue	Red

4 Player 2 takes the next card from the top of the stack and repeats step 3. If the answer has already been filled, player 2 gets to take another card from the top of the stack. If that mark has already been filled, player 2 loses the turn and player 1 gets to take a card.

5 Take turns until the first number line is filled. Then add the points for both players and write the totals in the score box below the first line.

6 Play two more rounds of the game. Then add up the scores for both players and write them in the totals box at

(Continued on back.)

Work Place 6B Instructions (cont.)

the bottom of your record sheet. The player with the higher score wins.

**CHALLENGE****Challenge Versions of the Number Line Game**

Here are two ways to make the game more challenging. Use one or both of these ideas.

1 Play all three number lines on a record sheet at the same time. You'll also have to think about percents and fractions of three different numbers at the same time.

2 Use the third record sheet on page 107 and fill in your own numbers at the end of each line. The numbers on the first two record sheets are all multiples of 2, 4, 5, and 10, so it's not too hard to find the percents and fractions of each one. If you want a medium level challenge, pick numbers that are multiples of 2, 5, and 10, but not 4 (like 150 or 170). If you want a big challenge, pick any 2-digit or 3-digit numbers you want.

Work Place 6C Instructions



WORK PLACE

Roll & Compare Decimals

Each pair of students will need

- ★ Work Place 6C Instructions (Work Place Student Book, pages 108 and 109)
- ★ 6C Roll & Compare Decimals Record Sheet (Work Place Student Book, pages 110–112)
- ★ 1 More or Less die
- ★ 1 die numbered 0–5

1 Label one record sheet with both players' names. You'll both record your work on the same sheet for this game. Then have both players roll the die once. The person who gets the higher number is Player 1 and starts first.

2 Player 1 rolls the More or Less die to determine whether you're playing your first round for more or less. Circle More or Less to show what you are playing for. Then player 1 rolls the die once and writes the number in one of his or her four digit boxes. Remember that you're trying to make a 4-digit number that will be more (or less) than your partner's, so think carefully about where you want to place the number you rolled.

3 Now player 2 rolls the die once and writes the number in one of his or her digit boxes.

4 Take turns until both players have had 4 turns. Then write the name of your number the way you'd read it to someone over the phone and use a greater than or less than sign to show how the two numbers compare. When you're finished, circle the player who got the number that was less if you were playing for less or more if you were playing for more.

Player 1		Player 2		Difference
3	4	2	0	
3	0	1	5	
0				
3 and 430 thousandths		2 and 15 thousandths		

Work Place Student Book
 NAME Morgan and Maria DATE 4/21
6C Roll & Compare Decimals Record Sheet page 1 of 3

 > Greater Than
 < Less Than

5 Play two more rounds. Then both players add their three numbers and record the total at the bottom of the sheet. Write your total the way you would read the number to someone over the phone and use a greater than or less than sign to show how the two numbers compare.

6 Roll the More or Less die to see who wins the entire game. (If it lands on

(Continued on next page.)

Work Place 6C Instructions (cont.)

less, the player with the lower total wins the game, no matter how many rounds he or she may have won before. If it lands on more, the player with the higher total wins the game.) Circle the name of the winner at the top of the record sheet.

**CHALLENGE****Challenge Version of Roll & Compare Decimals**

Follow steps 1–5 above, but when you get to step 6, follow the instructions below to determine the winner.

6 Find the difference between your totals and record the work in the Difference box. Roll the more or less die to see who gets those points.

7 Then find the difference between your two scores for each round. The player who won a round gets the number of points equal to the difference between the scores for that round.

8 Add up the total number of points for each player. The player with the higher score wins.

Work Place 6D Instructions Challenge



WORK PLACE

Sporting Percentages

Each pair of students will need

- ★ Work Place 6D Instructions (Work Place Student Book, page 113)
- ★ 6D Sporting Percentages Cards (Work Place Student Book, pages 115–122)
- ★ calculators
- ★ scratch paper

Instructions for Sporting Percentages

1 Cut out one player's cards and mix them up. Then spread them out between both players face down.

2 Play Rock, Paper, Scissors or figure out another way to decide who goes first.

3 The first player picks a card. She or he can pick a soccer, baseball, basketball, or football card.

4 The second player picks a card that matches the sport the first player picked. For example, if the first player picked a soccer card, the second player would also have to pick a soccer card.

5 Both players read the information on their cards. Before doing any calculations, estimate who has a better percentage. Also try to estimate about what the percentage will be.

6 Use your calculators to determine the exact percentage for each player. Round the percentages to the nearest whole number. The player with the higher percentage gets to keep both cards.

7 Now the second player gets to a pick card first. Then players follow steps 4–6 above.

8 Keep playing until you run out of time or decide to stop. The player with the most cards at the end of the game wins.