

Table of Contents

1. Introduction and Table of Activities	5
2. Student Learning Overview	6
3. Introduction to BossÉCubes	6
4. Additional Concepts Illustrated with BossÉCubes	7
5. Examples of Performing Operations	9-16
6. Additional Extensions and Investigations	17
7. What's My Value?	18
• <i>What's My Value I:</i> Ones & Tens	19
• <i>What's My Value II:</i> Ones, Tens, & Hundreds	20
• <i>What's My Value III:</i> Ones, Tens, Hundreds, & Thousands	21
• <i>What's My Value IV:</i> Negative Ones, Tens, & Hundreds	22
• <i>What's My Value V:</i> Negative Ones, Tens, Hundreds, & Thousands	23
8. Whale Watching: Ones, Tens, Hundreds, & Thousands.....	24-27
9. Mystery Number	28
• <i>Mystery Number I:</i> Ones & Tens	29
• <i>Mystery Number II:</i> Ones, Tens, & Hundreds	30
• <i>Mystery Number III:</i> Ones, Tens, Hundreds, & Thousands	31
• <i>Mystery Number IV:</i> Negative Ones & Tens	32
• <i>Mystery Number V:</i> Negative Ones, Tens, & Hundreds	33
• <i>Mystery Number VI:</i> Negative Ones, Tens, Hundreds, & Thousands	34
10. Introduction to Integer Addition	35-36
11. Matho	37-40
12. Grab Bag	41-42
13. Grab Bag Positive and Negative Numbers	43-46
14. Detective Dan	47-54
Four levels of playing cards; from ones and tens, up to the thousands place, positive and negative	
15. Sums Up	55-56
16. Sums Up Positive and Negative	57
17. Introduction to Subtracting Integers	58-60
18. Missing Candy Corn	61
• <i>Missing Candy Corn I:</i> Subtracting Single Digits from Double Digits	62
• <i>Missing Candy Corn II:</i> Subtracting Double Digits from Double Digits	63
19. Subtraction Games for Single- and Double-Digit Positive and Negative Integers	64-65
• <i>Subtraction Game I:</i> Heads or Tails	66
• <i>Subtraction Game II:</i> Hidden Letter Challenge	67
• <i>Subtraction Game III:</i> Code Cracker	68

20. Subtraction Code	69
• Subtraction Code I: Single Digits	70
• Subtraction Code II: Single and Double Digits without Regrouping	71
• Subtraction Code III: Single and Double Digits with Regrouping	72
21. 100th Day Race	73
22. Introduction to Multiplying Positive Numbers	74-75
23. Circus Act	76-78
• Circus Act I: Single and Double Digits, Positive and Negative	79
• Circus Act II: Single and Double Digits	80
• Circus Act III: Single Digits	81
• Circus Act IV: Single Digits, Positive and Negative	82
24. Candy Store	83-85
25. Domino Dash	86-87
26. Where's My Number?	88-89
• Where's My Number I: Single-Digit Multiplication	90-91
• Where's My Number II: Positive and Negative Multiplication	92-93
27. Let's Divide I and II: Division of Positive and Negative Numbers	94-96
• Let's Divide: Division of Positive Numbers	97
28. Mountain Climb	98-103
29. Place Value Mats	
• Ones & Tens Mat	104
• Ones, Tens, & Hundreds Mat	105
• Ones, Tens, Hundreds, & Thousands Mat	106
• Decimals Mat	107
30. Answer Keys	108-114

Whale Watching

NCTM Standards:

Use multiple models to develop initial understandings of place value and the base-ten number system.

Grade Levels: 1-3

Overview:

This activity utilizes students' problem-solving strategies while reinforcing the importance of place value to the thousands place.

Skills:

Problem-solving, place value to the hundreds or thousands place.

Materials:

Blue **BossÉCubes**, one die, one Whale Watching Log for each pair of players; a set of Whale Cards, and Place Value Mat for each student.

Directions:

1. Decide whether students will work with place value to the hundreds or thousands place. Prepare Log Sheets and Whale Cards as needed.
2. Review modeling place value to the hundreds place using **BossÉCubes** with students.
3. Divide class into pairs of students.
4. Distribute a Whale Watching Log, **BossÉCubes**, and one die to each pair of students. Provide each student with a Place Value Mat.
5. Demonstrate how to roll the dice to obtain three numbers if students are working with place value to the hundreds, or four numbers if students are working with place value to the thousands. Also demonstrate how to use **BossÉCubes** and a Place Value Mat to model place value and keep track of each place used (whale watched). For example, if you roll a 2 and watched a gray whale, you will place two ten longs in the tens column of the Place Value Mat. Record each number before the next roll of the die.
6. Players take turns rolling the die. The player who gets the largest number goes first.
7. On each turn, a player rolls once. The player will decide which whale they will watch on that turn. The player will write the number rolled in the blank on the Whale Watching Log that corresponds with the place value of the whale watched. For example, in the first roll, player 1 rolls a 2. The player decides to watch a killer whale. A killer whale represents the hundreds place. So player 1 writes a 2 in the hundreds place in the Player 1 column, Round 1 row on the Whale Watching Log.
8. Then it's player 2's turn. Player 2 rolls the die, decides which whale to watch, and writes the number in the corresponding blank.
9. Player 1 then rolls again to find a second number for Round 1.
10. Play continues until all blanks are filled in for each round. Once a particular whale has been watched in a round by each player, that animal cannot be used again.

11. When each player has watched all three/four whales (all columns are filled by both players), they determine whose number is largest. The winner of each round is the player who has written the largest 3-digit number.
12. Both players will clear their Place Value Mats to prepare for the next round of play.
13. Repeat steps 7-12 with player 2 going first in the second round.

Assessment:

Observe students as they are developing a strategy in deciding where to place their numbers. If students are placing higher numbers in the hundreds place, they probably have a good understanding of place value to the hundreds.

Extension:

Have students work together to model the difference between their numbers for each round using **BossÉCubes**, and have them record the difference for each round.

Writing Integration:

Students can write in their journals about the strategy used during the game, and reflect on what they might do differently to achieve higher numbers in each round the next time the game is played.

Whale Watching Log

Name: _____

Name: _____

Player 1

Round 1 _____

Round 2 _____

Round 3 _____

Round 4 _____

Round 5 _____

Total _____

Player 2

Round 1 _____

Round 2 _____

Round 3 _____

Round 4 _____

Round 5 _____

Total _____

Whale Watching Log

Name: _____

Name: _____

Player 1

Round 1 _____

Round 2 _____

Round 3 _____

Round 4 _____

Round 5 _____

Total _____

Player 2

Round 1 _____

Round 2 _____

Round 3 _____

Round 4 _____

Round 5 _____

Total _____

Whale Watching Log

Name: _____

Name: _____

Player 1

Round 1 _____

Round 2 _____

Round 3 _____

Round 4 _____

Round 5 _____

Total _____

Player 2

Round 1 _____





Round 2 _____





Round 3 _____





Round 4 _____





Round 5 _____





Total _____

Thousands Place	Hundreds Place	Tens Place	Ones Place
			
Blue Whale Card	Killer Whale Card	Gray Whale Card	Humpback Whale Card

Thousands Place	Hundreds Place	Tens Place	Ones Place
			
Blue Whale Card	Killer Whale Card	Gray Whale Card	Humpback Whale Card

Thousands Place	Hundreds Place	Tens Place	Ones Place
			
Blue Whale Card	Killer Whale Card	Gray Whale Card	Humpback Whale Card

Thousands Place	Hundreds Place	Tens Place	Ones Place
			
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Thousands Place	Hundreds Place	Tens Place	Ones Place
			
Blue Whale Card	Killer Whale Card	Gray Whale Card	Humpback Whale Card