Date \_\_\_\_\_

# **CBA Place Value**

#### Student Sheet 1

**1.** How many circles are there? \_\_\_\_\_



2. How many squares are there? \_\_\_\_\_



### Student Sheet 2

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

#### **Hundred Chart**

#### **Student Sheet 3**

1. There are 37 squares under the circle. How many squares are there altogether? Can you count by tens?



2. There are 46 squares under the circle. How many squares are there altogether? Can you count by tens?



#### Student Sheet 4

1. There are 42 squares under the circle. How many squares are there altogether? Can you count by tens and ones?



2. There are 37 squares under the circle. How many squares are there altogether? Can you count by tens and ones?



Date.

#### **CBA Place Value**

#### **Student Sheet 5**

Solve the problems. How can counting by tens help?

# 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40

SET 1

- If I'm at house 3 and I go forward 10 houses, what house will I be at?
- If I'm at house 13 and I go forward 10 houses, what house will I be at?
- If I'm at house 23 and I go forward 10 houses, what house will I be at?
- If I'm at house 33 and I go forward 10 houses, what house will I be at?
- If I'm at house 43 and I go forward 10 houses, what house will I be at?
- If I'm at house 53 and I go forward 10 houses, what house will I be at?
- If I'm at house 83 and I go forward 10 houses, what house will I be at?

SET 2

- If I'm at house 17 and I go forward 10 houses, what house will I be at?
- If I'm at house 17 and I go forward 20 houses, what house will I be at?
- If I'm at house 17 and I go forward 30 houses, what house will I be at?
- If I'm at house 17 and I go forward 40 houses, what house will I be at?
- If I'm at house 17 and I go forward 70 houses, what house will I be at?

SET 3

- If I'm at house 43 and I go forward 25 houses, what house will I be at?
- If I'm at house 38 and I go forward 47 houses, what house will I be at?

#### Student Sheet 6

Solve the problems mentally, without counting.

**1.** 7 + 600 \_ 40 = \_\_\_\_\_

**2.** (40 and 12) – (20 and 8) = \_\_\_\_\_

**3.** 30 + 7 = \_\_\_\_\_

4. 20 + 3 = \_\_\_\_\_

5.36 - 6 = \_\_\_\_\_

**6.** 200 + 80 + 3 = \_\_\_\_\_

7.4 + 500 + 80 + 3000 = \_\_\_\_\_

8.1+600+30+9=\_\_\_\_

**9.** 3 + 700 + 40 + 8 = \_\_\_\_\_

**10.** 200 + 80 + 30 + 6 = \_\_\_\_

**11.** (60 and 9) – 20 and 3) = \_\_\_\_\_

**12.** 5 + 200 + 40 + 600 + 30 + 3 = \_\_\_\_

**13.** 110 + 220 + 8 = \_\_\_\_\_

#### **Student Sheet 7**

**1.** 40 + 6 = \_\_\_\_\_ tens and \_\_\_\_\_ ones.

**2.** 8 tens and 5 ones = \_\_\_\_\_ tens and 15 ones.

3. A number has 14 ones and 3 tens. What is the number?

**4.** (6 tens and 7 ones) + (3 tens and 2 ones) = \_\_\_\_\_ ones.

**5.** (5 tens + 6 ones) + (4 tens + 3 ones) = \_\_\_\_\_ ones.

**6.** (2 hundreds and 4 tens and 3 ones) + (7 hundreds and 2 tens and 4 ones) = \_\_\_\_\_ ones.

**7.** (4 hundreds + 5 tens + 3 ones) + (2 hundreds + 2 tens + 4 ones) = \_\_\_\_\_ ones.

### **Student Sheet 8**

**1.** Think about the problem  $25 \times 34 =$  \_\_\_\_\_.

Write the letters of the rectangles that show each multiplication below.

 $20 \times 30 = 600$   $20 \times 4 = 80$   $5 \times 30 = 150$   $5 \times 4 = 20$ 



Which products from above should be added to find the answer to  $25 \times 34$ ?

600 80 150 20



2. Use graph paper to show and solve the following problems.

46 × 34 = \_\_\_\_\_ 25 × 57 = \_\_\_\_\_

- 23 / 37 = \_\_\_\_\_
- 46 × 57 = \_\_\_\_\_

### **Student Sheet 9**

Use the Place-Value Chart for Whole Numbers to do the following problems. For each problem, write the name of the number, then give the values of digits in different places.

Place-Value Chart for Whole Numbers									
Periods		MILLIONS			ONES				
Value within Period	hundreds	tens	ones	hundreds	tens	ones	hundreds	tens	ones
Place Value	hundred millions	ten millions	one millions	hundred thousands	ten thousands	one thousands	hundreds	tens	ones
Place-Value Number	100,000,000	10,000,000	1,000,000	100,000	10,000	1,000	100	10	1
Number									
Number									
Number									
Number									
Value of 2:       Value of 3:         Number: 52,357,889       Name:									
Value of 2: <u>.</u> <i>Number: 60</i> Name:	0,789	Value of 3	:						
Value of 6: <i>Number: 42</i> Name:	3,578,900	Value of 8	:						
Value of 2:	Value of 2:			: from <i>Cognition-Bo</i>	nsed Assessment ar	nd Teaching of Place	e Value: Buildina o.	n	

Students' Reasoning. Portsmouth, NH: Heinemann.

## Student Sheet 10

Use the Place-Value Chart for Numbers Less Than 1 to do the following problems. Write the name of the number, then give the values of digits in different places.

Place-Value Chart for Numbers Less Than 1								
Place Value	ones		tenths	hundredths	thousandths	ten- thousandths	hundred- thousandths	millionths
Place-Value Number	1		.1 = 1/10	.01 = 1/100	.001 = 1/1000	.0001 = 1/10000	.00001 = 1/100000	.000001 = 1/1000000
Number								
Number								
Number								
Number								
Name: Value of 3: _ <i>Number</i> : .52 Name:	357			Value of 7:				
Value of 2: _ <i>Number: .00</i> Name:	23			Value of 7:				
Value of 2:          Number: .100006          Name:								
Value of 1: _	Value of 1:					essment and Teaching of Pla	rce Value: Ruilding on	

students' Reasoning. Portsmouth, NH: Heinemann.

#### Student Sheet 11

Predict an answer, then check it on a calculator by entering a number with 3 in the given place and multiplying by 10.

SET 1

- 1. A number has 3 in its *tens* place. When the number is multiplied by 10, what place is the 3 in? Prediction \_\_\_\_\_\_ Check \_\_\_\_\_
- 2. A number has 3 in its *bundreds* place. When the number is multiplied by 10, what place is the 3 in? Prediction \_\_\_\_\_\_ Check \_\_\_\_\_
- **3.** A number has 3 in its *ones* place. When the number is multiplied by 10, what place is the 3 in? Prediction \_\_\_\_\_\_ Check \_\_\_\_\_
- **4.** A number has 3 in its *ten-thousands* place. When the number is multiplied by 10, what place is the 3 in? Prediction \_\_\_\_\_ Check \_\_\_\_\_

Predict an answer, then check it on a calculator by entering a number with 6 in the given place and dividing by 10.

SET 2

- 1. A number has 6 in its *tens* place. When the number is divided by 10, what place is the 6 in? Prediction \_\_\_\_\_\_ Check \_\_\_\_\_
- 2. A number has 6 in its *bundreds* place. When the number is divided by 10, what place is the 6 in? Prediction \_\_\_\_\_ Check \_\_\_\_\_
- **3.** A number has 6 in its *thousands* place. When the number is divided by 10, what place is the 6 in? Prediction \_\_\_\_\_ Check \_\_\_\_\_
- **4.** A number has 6 in its *ten-thousands* place. When the number is divided by 10, what place is the 6 in? Prediction \_\_\_\_\_\_ Check \_\_\_\_\_

#### SET 3

Predict an answer, then check it on a calculator.

- 1. A number has 3 in its *tens* place. When the number is multiplied by 100, what place is the 3 in? Prediction \_\_\_\_\_\_ Check \_\_\_\_\_
- 2. A number has 6 in its *ten-thousands* place. When the number is divided by 100, what place is the 6 in? Prediction \_\_\_\_\_\_ Check \_\_\_\_\_

#### Student Sheet 12

Predict an answer then check it on a calculator by entering a number with 3 in the given place then multiplying by 10.

SET 1

- 1. A number has 3 in its *tenths* place. When the number is multiplied by 10, what place is the 3 in? Prediction \_\_\_\_\_\_ Check \_\_\_\_\_
- 2. A number has 3 in its *hundredths* place. When the number is multiplied by 10, what place is the 3 in? Prediction \_\_\_\_\_\_ Check \_\_\_\_\_
- **3.** A number has 3 in its *ten-thousandths* place. When the number is multiplied by 10, what place is the 3 in? Prediction \_\_\_\_\_ Check \_\_\_\_\_

Predict an answer, then check it on a calculator by entering a number with 6 in the given place and dividing by 10.

SET 2

- A number has 6 in its *tenths* place. When the number is divided by 10, what place is the 6 in? Prediction \_\_\_\_\_\_ Check \_\_\_\_\_
- 2. A number has 6 in its *hundredths* place. When the number is divided by 10, what place is the 6 in? Prediction \_\_\_\_\_\_ Check \_\_\_\_\_
- **3.** A number has 6 in its *thousandths* place. When the number is divided by 10, what place is the 6 in? Prediction \_\_\_\_\_\_ Check \_\_\_\_\_

Predict an answer, then check it on a calculator.

SET 3

- A number has 3 in its *hundredths* place. When the number is multiplied by 100, what place is the 3 in? Prediction \_\_\_\_\_\_ Check \_\_\_\_\_
- 2. A number has 3 in its *thousandths* place. When the number is multiplied by 100, what place is the 3 in? Prediction \_\_\_\_\_\_ Check \_\_\_\_\_
- 3. A number has 6 in its *ten-thousandths* place. When the number is divided by 100, what place is the 6 in? Prediction \_\_\_\_\_\_ Check \_\_\_\_\_

### **Student Sheet Answers**

Although answers are provided for CBA student sheets, when assessing students' work on the sheets, it is essential to determine the CBA levels of reasoning students use.

<b>11.</b> 46														
<b>12.</b> 878														
<b>13.</b> 338														
STUDENT SHEET 7														
<b>1.</b> 4; 6														
<b>2.</b> 7														
3. 44														
<b>4.</b> 99														
5. 99														
<b>6.</b> 967														
<b>7.</b> 677														
STUDENT SHEET 8														
<ol> <li>A; D; B; C.</li> <li>All products should be added because they represent the four partial products of the multiplication.</li> <li>46 × 34 = 1564 25 × 57 = 1425 46 × 57 = 2622</li> </ol>														
					STUDENT SHEET 9 For 52,357: Name: fifty-two thousand, three hundred fifty-seven Value of 2: 2000 Value of 3: 300									
										For 52,357,889:				
										<i>Name:</i> fifty-two million, three hundred fifty-seven thousand, eight hundred eighty-nine <i>Value of 2:</i> 2,000,000				