



A Mathematical Safari Adventure!

# Inchimals

The word "Inchimals" is written in a playful, rounded font. Each letter is replaced by a different animal: 'I' is a ladybug, 'n' is a zebra, 'c' is a tiger, 'h' is a giraffe, 'm' is a snake, 'a' is a frog, 'l' is a lion, and 's' is a snake. The background of the letters is a yellow gradient.

Exploring the Wild and Playful Side of Numbers!



Puzzles by Evelyn B. Christensen



## Meet Your New Animal Friends - Inchimals!

What can you learn from a rabbit that's *exactly* four inches tall? If you are a child, plenty!

Concepts of color, counting, number value, numeral recognition, measurement, scale, fine motor skills, language and imagination come naturally through play with Inchimals. Beautifully crafted and thoughtfully designed, Inchimals are more than toys, they are manipulatives that present mathematics in the non-threatening, familiar context of block play.

### Inchimals for Discovery of Measurement

As their name implies, Inchimals are especially valuable in teaching children concepts of standard measurement in inches. Each Inchimal relates to a corresponding length:

Ladybug = 1 inch

Frog = 2 inches

Mouse = 3 inches

Rabbit = 4 inches

Penguin = 5 inches

Tiger = 6 inches

Bear = 7 inches

Snake = 8 inches

Ape = 9 inches

Ostrich = 10 inches

Elephant = 11 inches

Giraffe = 12 inches / 1 foot

Each Inchimal also features a set of dots which corresponds to the number it represents.

- For example, Snake = 8 dots



### Great ways to reinforce concepts of measurement

- Ask your child to choose a specific Inchimal. How many things can they find of that length?
- Encourage your child to find the approximate width or length of a specific object (for example, a book, a floor tile, or a granola bar) by using the Inchimal that best matches the size of the object.
- Challenge your child to find the total length of a table or even one of their own legs by laying the Inchimals end to end and counting the inches.
- Foster advanced problem solving skills by asking a child to measure two objects (for example, pencils, shoes, or plants) and find how much longer or taller one is than the other.



## Using Inchimals and the Safari Puzzle Book

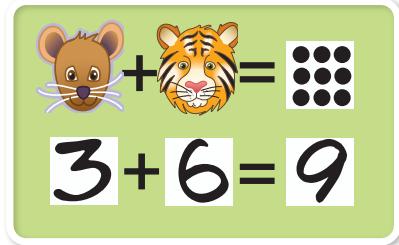
We suggest the child lines up the Inchimals flat on the table. The blocks should be sequenced 1-12 so that the printed numerals are visible facing the child. The puzzles in this book are printed on write-on/wipe-off pages. Using the included dry erase marker, solve the math puzzles on each page.

*Example 1*

### Discovering Addition with Inchimals

If the puzzle is Mouse + Tiger: See Example 1

1. Have the child find the mouse block and remove it from the set.
2. Next, have the child count the inch segments and then locate the number on the block. In this case, the number is 3.
3. Ask the child to write the number 3 in the blank square under the picture of the mouse on the page.
4. Repeat this process with the tiger block, recording the number 6 under the picture of the tiger.
5. Next, stack the blocks on top of each other (either vertically or horizontally) and count the total number of inch segments on both blocks. This step allows an opportunity to discuss the concept of addition.
6. Now find the block that matches the combined length of the mouse and tiger. In this case, it is the ape block. Place it next to the mouse and tiger.
7. Have the child locate the number on the ape block (the number 9) and write it in the final blank square on the bottom row.
8. As a final step, count the number of dots on the ape block (9 dots) and draw the dots in the blank square on the top row. Children may also draw the face of the animal, write the first letter of the animal's name ("A" for ape) or simply write the number 9 to show their solution.
9. Reinforce the concept of addition by pointing to the Inchimal blocks saying,  
"When we put two amounts together we get a new amount.  $3 + 6$  more = 9 in all."  
You may choose to guide your child in writing the completed addition fact on paper.  $3 + 6 = 9$  or  $\begin{array}{r} 3 \\ + 6 \\ \hline 9 \end{array}$





## Discovering Subtraction with Inchimals

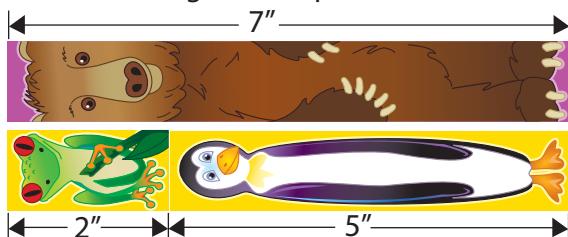
If the puzzle is Bear - Frog: See Example 2

1. Have the child find the bear block and remove it from the set.
2. Next, have the child count the inch segments and then locate the number on the block. In this case the number is 7.
3. Ask the child to write the number 7 in the blank square under the picture of the bear on the page. Lay the bear block animal side up.
4. Repeat this process with the frog block, recording the number 2 under the picture of the frog.
5. Place the frog block animal side up under the bear and count the inch segments that are not covered by the frog. This step allows an opportunity to discuss the concept of subtraction.
6. Now have the child find the block that fits into the space next to the frog to equal the length of the bear. In this case, it is the penguin. Now place the penguin next to the frog and under the bear to complete the line. See Diagram A
7. Have the child count the inch segments on the penguin and then locate the number on the block (in this case, the number 5) and write it in the final blank square on the bottom row.
8. As a final step, count the number of dots on the penguin block (5 dots) and draw the dots in the blank square on the top row. Children may also draw the face of the animal, write the first letter of the animal's name ("P" for penguin) or simply write the number 5 to show their solution.
9. You may choose to guide your child in writing the completed subtraction fact on paper.  $7 - 2 = 5$  or  $\frac{7}{-2} \underline{\hspace{1cm}}$

Example 2

$$\begin{array}{ccc} \text{bear} & - & \text{frog} \\ 7 & - & 2 = 5 \end{array}$$

Diagram A  
top view





## Inchimals Puzzle Book Contents:

\*Note: Color tabs indicate puzzle type.

**Puzzles 1-25:** Addition of two numbers using only blocks 1-10.

**Puzzles 26-50:** Subtraction using only blocks 1-10.

**Puzzles 51-58:** Addition of three numbers with sums being one of the blocks.

**Puzzles 59-66:** Finding equivalent sums using only blocks 1-10.

**Puzzles 67-76:** Find equivalent sums by counting to determine the sum. The second sum is always ostrich plus a number in the ones' place. This helps children see that in teen numerals the first digit stands for the tens' place and the second digit for the ones' place.

**Puzzles 77-84:** Addition and subtraction using only blocks 1-10.

**Puzzles 85-94:** Addition of three numbers with child counting to determine the sum (>12).

**Puzzles 95-100:** Finding multiple ways to create a given number.



## More Addition and Subtraction Discoveries

- Use multiple Inchimal blocks together to arrive at a sum or difference.

$$\text{Frog} + \text{Ladybug} + \text{Rabbit} + \text{Tiger} = ?$$
$$\text{Giraffe} - \text{Penguin} - \text{Frog} - \text{Mouse} = ?$$

- Discover what Inchimal combinations can equal the same animal. For example, ostrich (10).

$$\text{Mouse} + \text{Bear} = ?$$

(3 + 7)

$$\text{Rabbit} + \text{Tiger} = ?$$

(4 + 6)

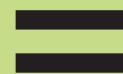
$$\text{Frog} + \text{Snake} = ?$$

(2 + 8)

## Other Ideas for Play

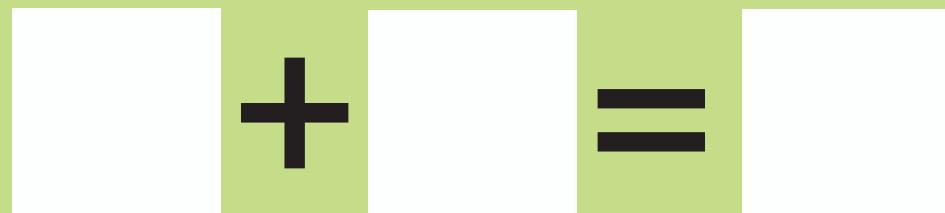
- Point out the numbers printed on each Inchimal and discuss how each is formed. (For the number 5, you might say, "We walk across the diving board, jump in, and swim around.")
- Sequence Inchimal lengths from the shortest to longest.
- Introduce vocabulary related to measurement (for example, shorter, taller, longer, height, length, estimation, distance, perimeter).
- Discuss the animals pictured on the Inchimal blocks and their relative heights and lengths.
- Stand the Inchimals side by side or stack them neatly to promote fine motor control.
- Use Inchimals as puppets to invite dramatic play, dialogue and creative thinking.
- Explore the animal kingdom! Classify Inchimals by mammals, birds, amphibians and insects.
- Create habitats for the Inchimal blocks.

### How Many Inchimals Tall Are You?

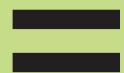
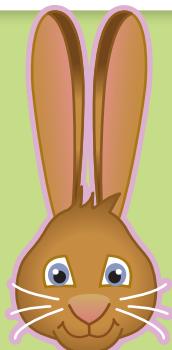


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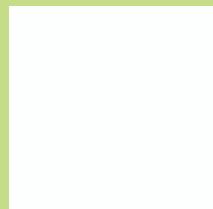
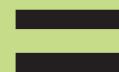
$$\text{Ladybug} + \text{Penguin} = \boxed{\phantom{00}}$$

$$\boxed{\phantom{00}} + \boxed{\phantom{00}} = \boxed{\phantom{00}}$$

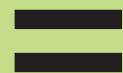
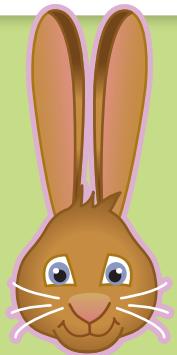
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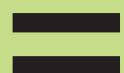
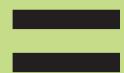
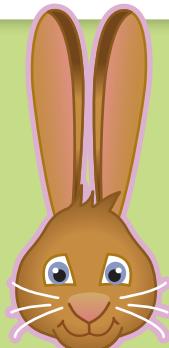


$$\text{Mouse} + \text{Penguin} = \boxed{\hspace{2cm}}$$

$$\boxed{\hspace{1cm}} + \boxed{\hspace{1cm}} = \boxed{\hspace{2cm}}$$

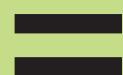
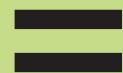
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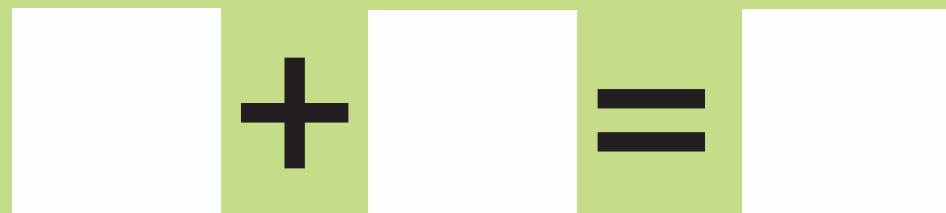
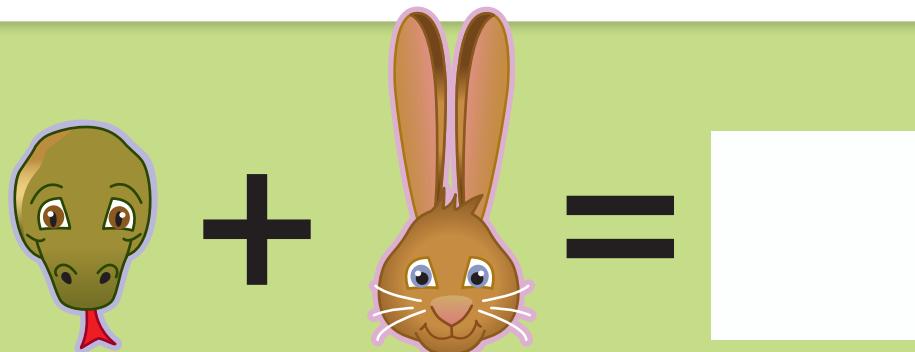


$$\text{mouse} + \text{monkey} = \boxed{\phantom{000}}$$

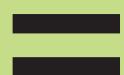
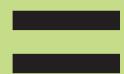
$$\boxed{\phantom{00}} + \boxed{\phantom{00}} = \boxed{\phantom{00}}$$

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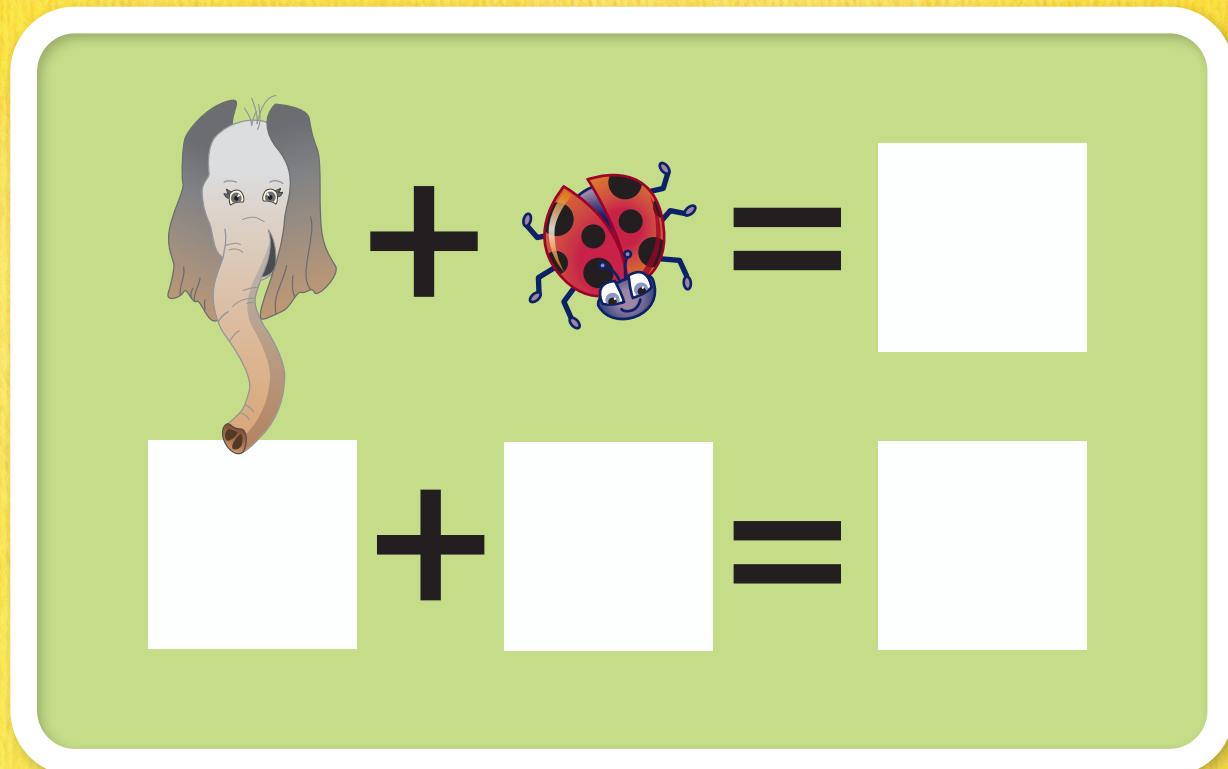


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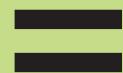


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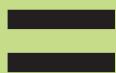




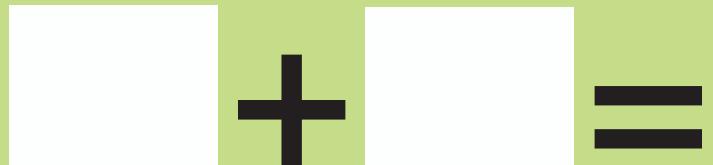
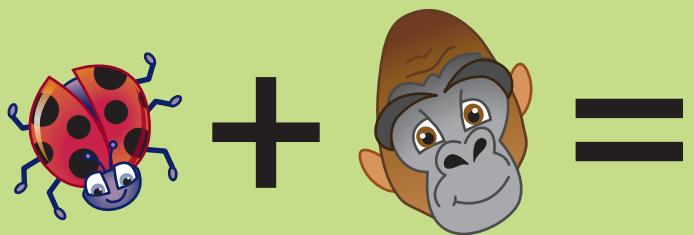
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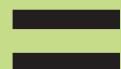
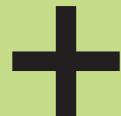
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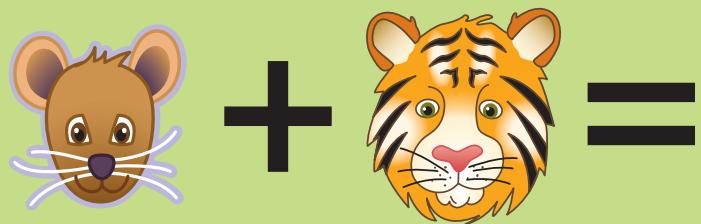


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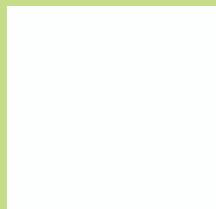
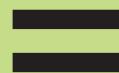
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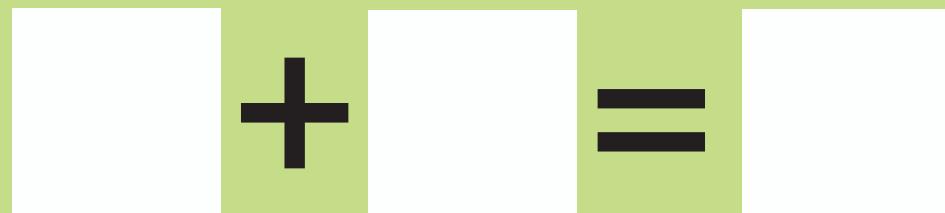
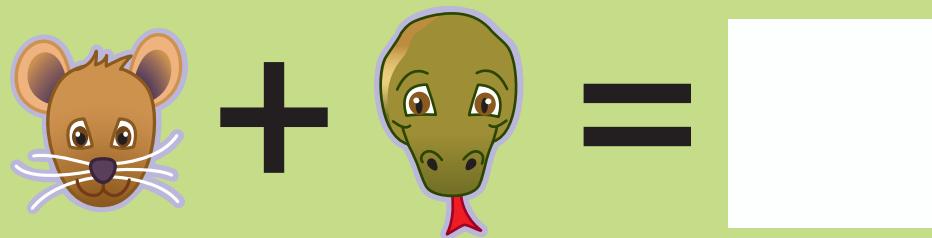




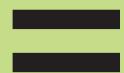
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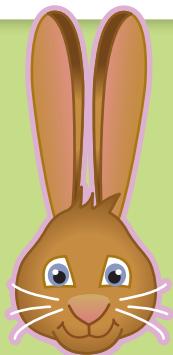
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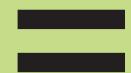
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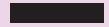
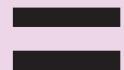
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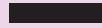
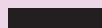
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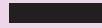
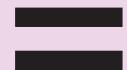
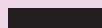


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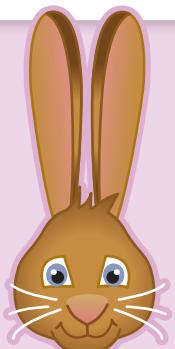
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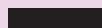
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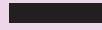
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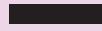
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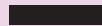
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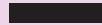


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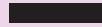
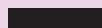
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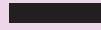
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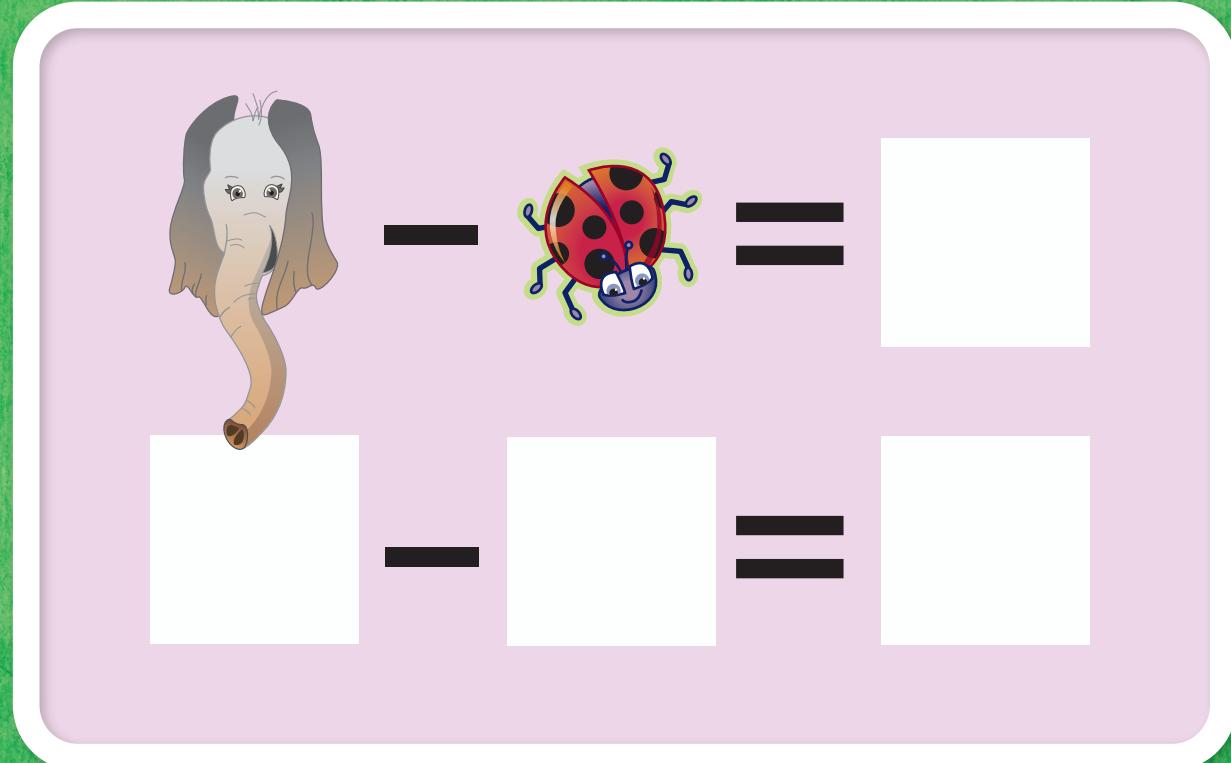
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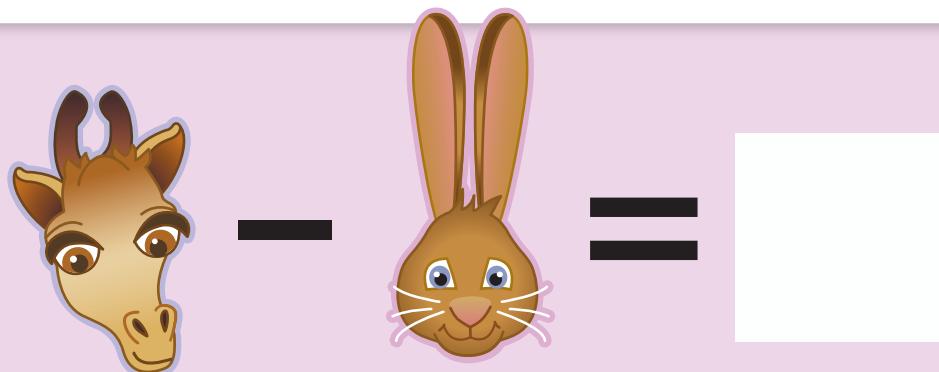
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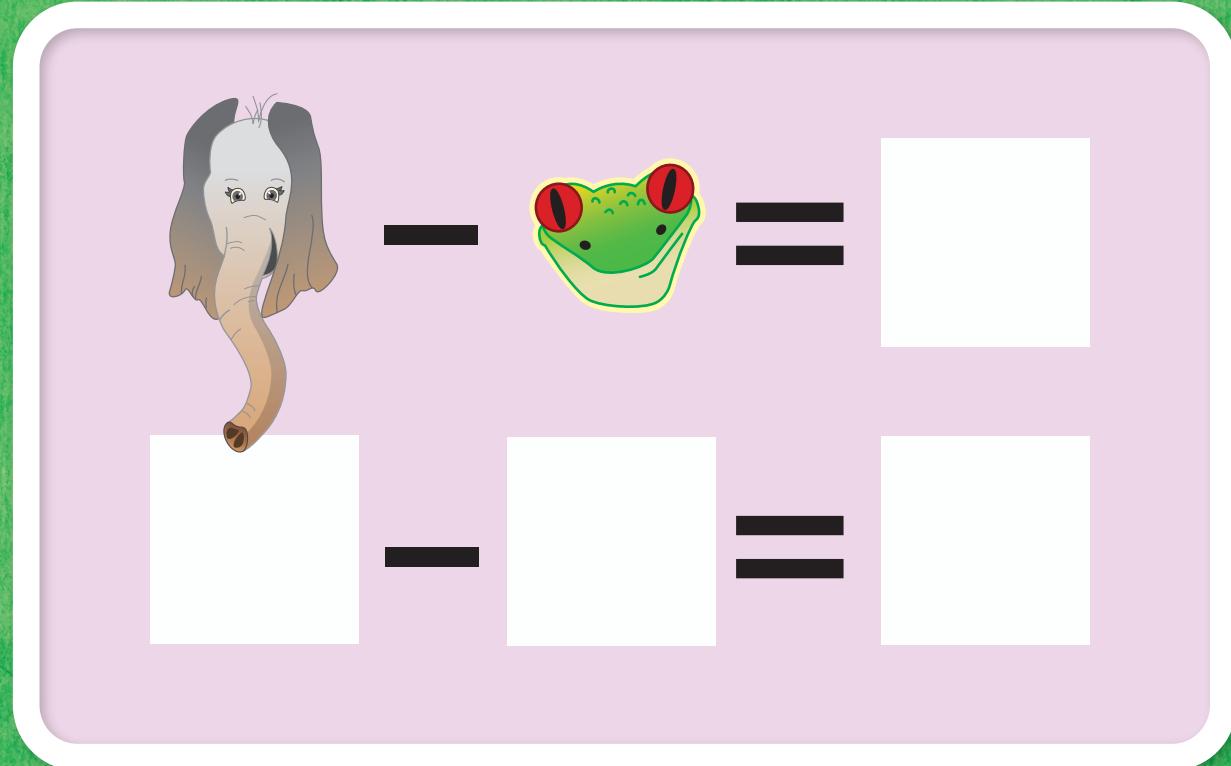
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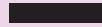
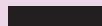
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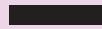
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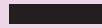
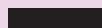


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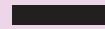
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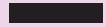
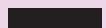
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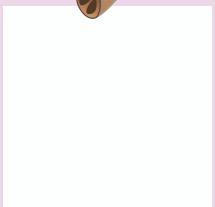
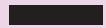
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