4-group Math™ by Kuske Math™

Master the

Addition Facts for 6

4-group Math™ is a visual and kinesthetic method designed to develop number sense and fact fluency. It uses a unique set of number patterns to make math easy and fun.

For more information visit our website at **4groupmath.com.**

Lynn Kuske, M.Ed.

Level 2, Book 3 of 7

Contents

Introduction to 4-group Math

Mission statement: Creating a new generation of kids who love math.

To be successful in mathematics children must have **rapid** recall and know with **accuracy** and **confidence** their addition and subtraction facts.

Subitizing

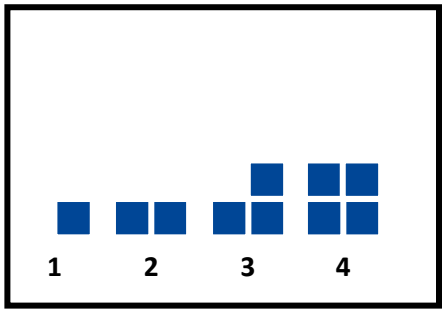
The science behind 4-group Math is called *subitizing* (pronounced *sue-bi-tie-zing*): the brain's **rapid**, **accurate** and **confident** judgment of the quantity of a set of objects without counting.

Young children can *subitize* a set of four objects when those objects are arranged in a square pattern. 

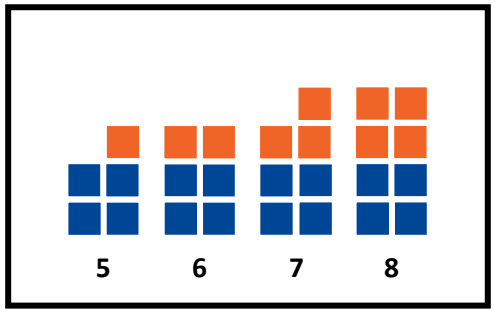
4-group Math, a visual and tactile model, uses this innate ability as an anchor to conceptualize the quantity of numbers.

The 4-group Number Patterns

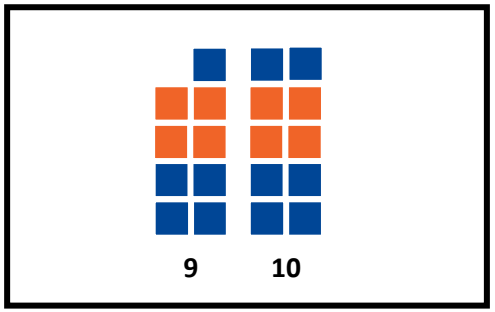
The 4-group Number Patterns 1-4 are easy to see and *subitize*.



1, 2, 3, & 4 are attached to another 4-pattern to create 5, 6, 7 and 8.



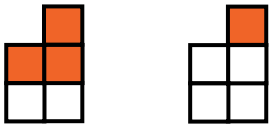
The 1- and 2- patterns are attached to the 8-pattern to create 9 and 10.



Addition and Subtraction

The 4-group Number Patterns are unique in that they are summative. They fit together like a puzzle to form the 4-group Number Pattern for their sum. For example: a 3-pattern and a 2-pattern combine to make the 5-pattern while the 4-pattern and 1-pattern combine to make the same 5-pattern. (FIGURE 1)

FIGURE 1

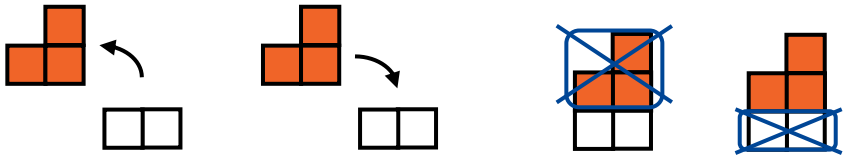


2+3=5
3+2=5

4+1=5
1+4=5

The 4-group Number Patterns are unique in that subtraction is modeled as the exact opposite of addition. (FIGURE 2)

FIGURE 2



subtraction

addition

5-3=2

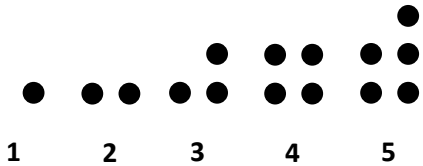
5-2=3

4-group Math Counting Order

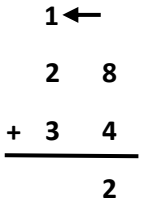
4-group Math uses a unique counting order that starts at the bottom and counts up from right to left. We have found that children who count in this manner, make fewer mistakes in their counting.

We build the number patterns starting at the bottom and going up: right, left; right, left.

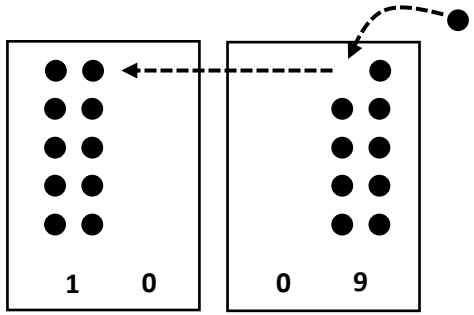
Children can stop their counting at any time and see the 4-group Number Pattern for the quantity.



When we add we regroup to the *left*.



We build right to left because numbers get bigger as the digits *move to the left*. For example, when 9 becomes a 10, the group moves left into the tens place.



Activity 1 – Building *Partners* Directions

OBJECTIVE: Build and recite the *partners* of 6: 6+0, 0+6; 5+1, 1+5; 4+2, 2+4; 3+3

MATERIALS: 4-group Number Blocks: one 1-block, one 2-block, two 3-blocks, one 4-block, one 5-block, and one 6-block
Worksheet for 6

GROUP: Independent, 1 on 1, or small group

DIRECTIONS: Build the block combinations to show the *partners* for six.
Use two colors of blocks for each set of partners, except 6+0, 0+6. (FIGURE 1)
Then, cover up the equations and Point and Say each equation to a friend. One example is shown. (FIGURE 2)
Remember to switch the *partners*. (FIGURE 3)
Begin with the language, "__ *and* __ *make* __," eventually switch to, "__ *plus* __ *equals* __."
When you complete this activity, put a sticker in the Sticker space.

FIGURE 1

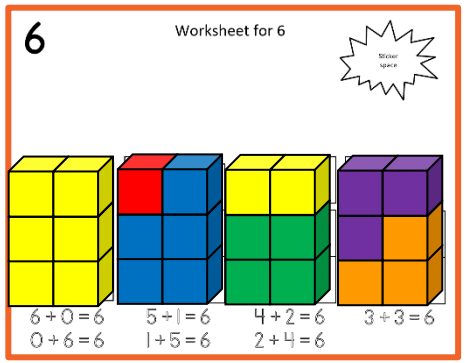


FIGURE 2

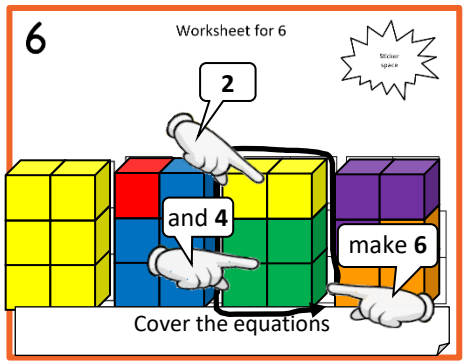
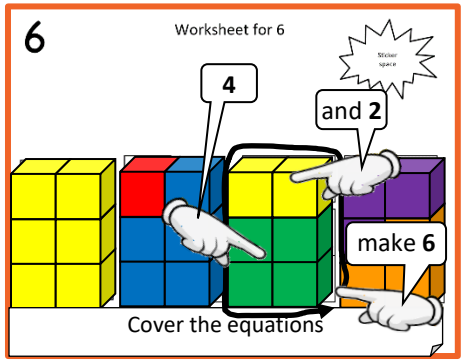


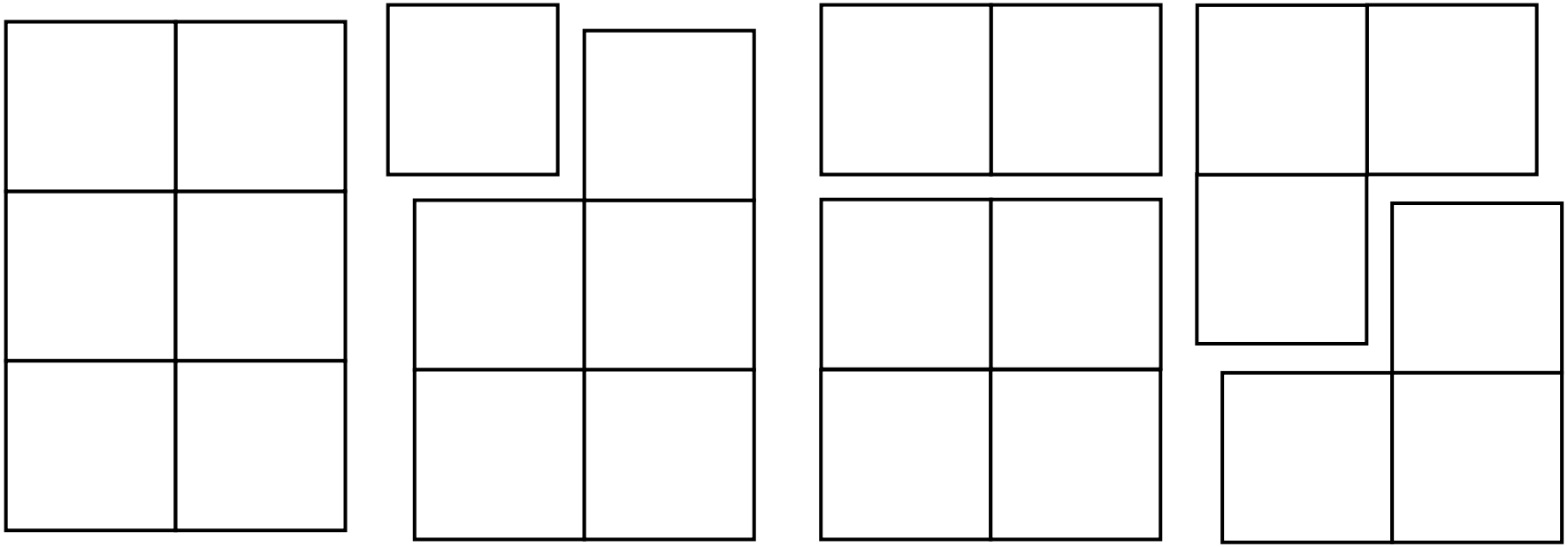
FIGURE 3



6

Worksheet for 6

Sticker space



$6 + 0 = 6$

$0 + 6 = 6$

$5 + 1 = 6$

$1 + 5 = 6$

$4 + 2 = 6$

$2 + 4 = 6$

$3 + 3 = 6$

Activity 2 – Coloring *Partners* Directions

OBJECTIVE: Color and recite the *partners* of 6: 6+0, 0+6; 5+1, 1+5; 4+2, 2+4; 3+3

MATERIALS: Two colors of crayons, markers, stamps, or dot art
Pencil
Worksheet for 6

GROUP: Independent, 1 on 1, or small group

DIRECTIONS: Color to show the *partners* of six.
Use two colors for each set of *partners*, except 6+0, 0+6. (FIGURE 1)
In pencil, write over each equation after you finish its picture. (FIGURE 2)
Then, cover up the equations and Point and Say each equation to a friend. Remember to switch the *partners*. (FIGURE 3)
When you complete this activity, put a sticker in the Sticker space.

FIGURE 1

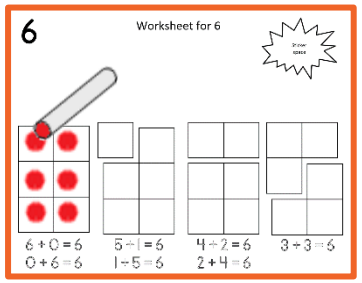


FIGURE 2

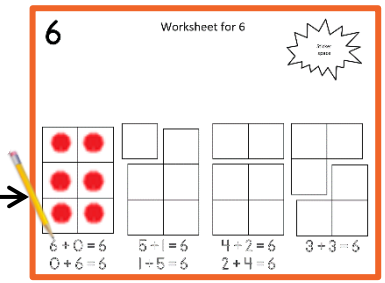


FIGURE 1

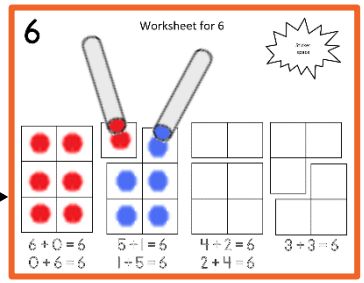


FIGURE 2

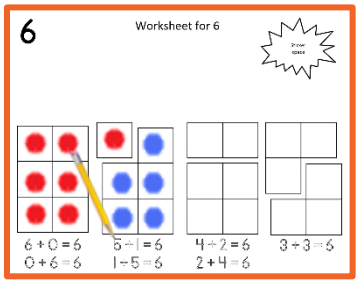


FIGURE 1

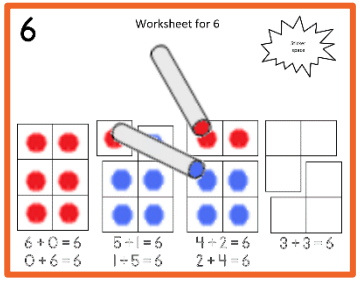


FIGURE 2

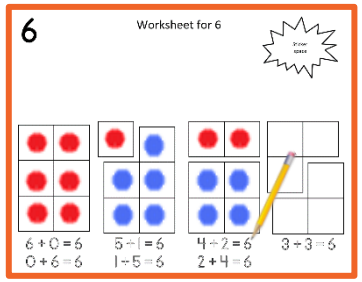
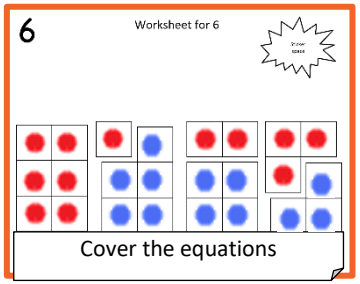


FIGURE 3

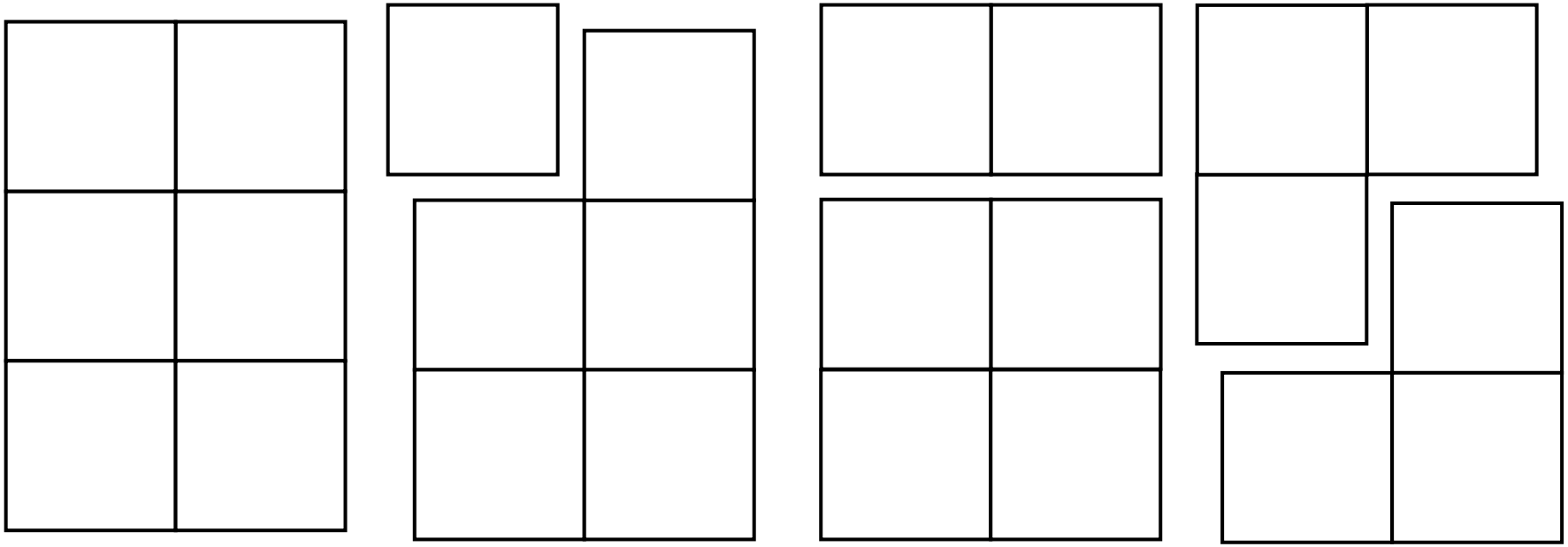


Point and Say:
Six and zero make six.
Zero and six make six.
Five and one make six.
One and five make six.
Four and two make six.
Two and four make six.
Three and three make six.

6

Worksheet for 6

Sticker space



$6 + 0 = 6$

$0 + 6 = 6$

$5 + 1 = 6$

$1 + 5 = 6$

$4 + 2 = 6$

$2 + 4 = 6$

$3 + 3 = 6$

Activity 3 – Go Fish for *Partners* Directions

OBJECTIVE: Make 6 with two cards, then recite the *partners* of 6: 6+0, 0+6; 5+1, 1+5; 4+2, 2+4; 3+3

MATERIALS: One deck of 4-group Math Playing Cards; use only the cards 0-6. One Activity 3 – Fishing Pond, or a clear play space

GROUP: 2-3 players

DIRECTIONS: Spread out the cards face down on the fishing pond or clear play space. Each player takes three cards to form a hand.
Player One asks for a card that makes 6 when added to a card in her hand.

For example, if she has a 4, she would ask for a 2; if she has a 6, she would ask for a 0.

If anyone has the requested card, they give it to Player One. If more than one player has the requested card, either Player gives their card to Player One.

Player One then lays down the two cards face-up in front of her to form the 6-pattern. (Figure 1)

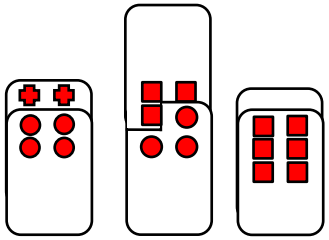


Figure 1 (three examples)

If the other players do not have the requested card, they say, "No. Go fish!"

Player One draws a card from the fishing pond. If Player One draws any card that makes six with any card in her hand, she may immediately lay down the two cards face-up to form the 6-pattern.

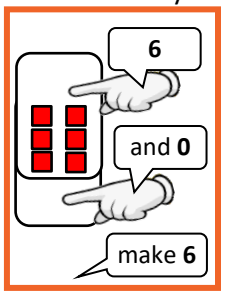
It is then the next player's turn.

If a player runs out of cards in her hand, she draws three more cards from the fishing pond.

Play until the fishing pond is empty. When finished playing, touch each card as you Point and Say each equation to your friends, remembering to switch the *partners* for each pair of cards.

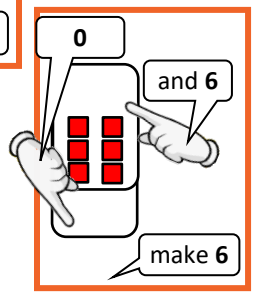
When you complete this activity, put a sticker in the Sticker space.

Point and Say:



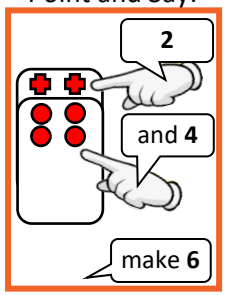
Six and zero make six.

Switch the *partners.*



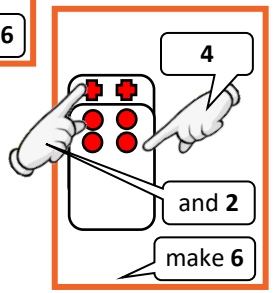
Point and Say:
Zero and six make six.

Point and Say:



Two and four make six.

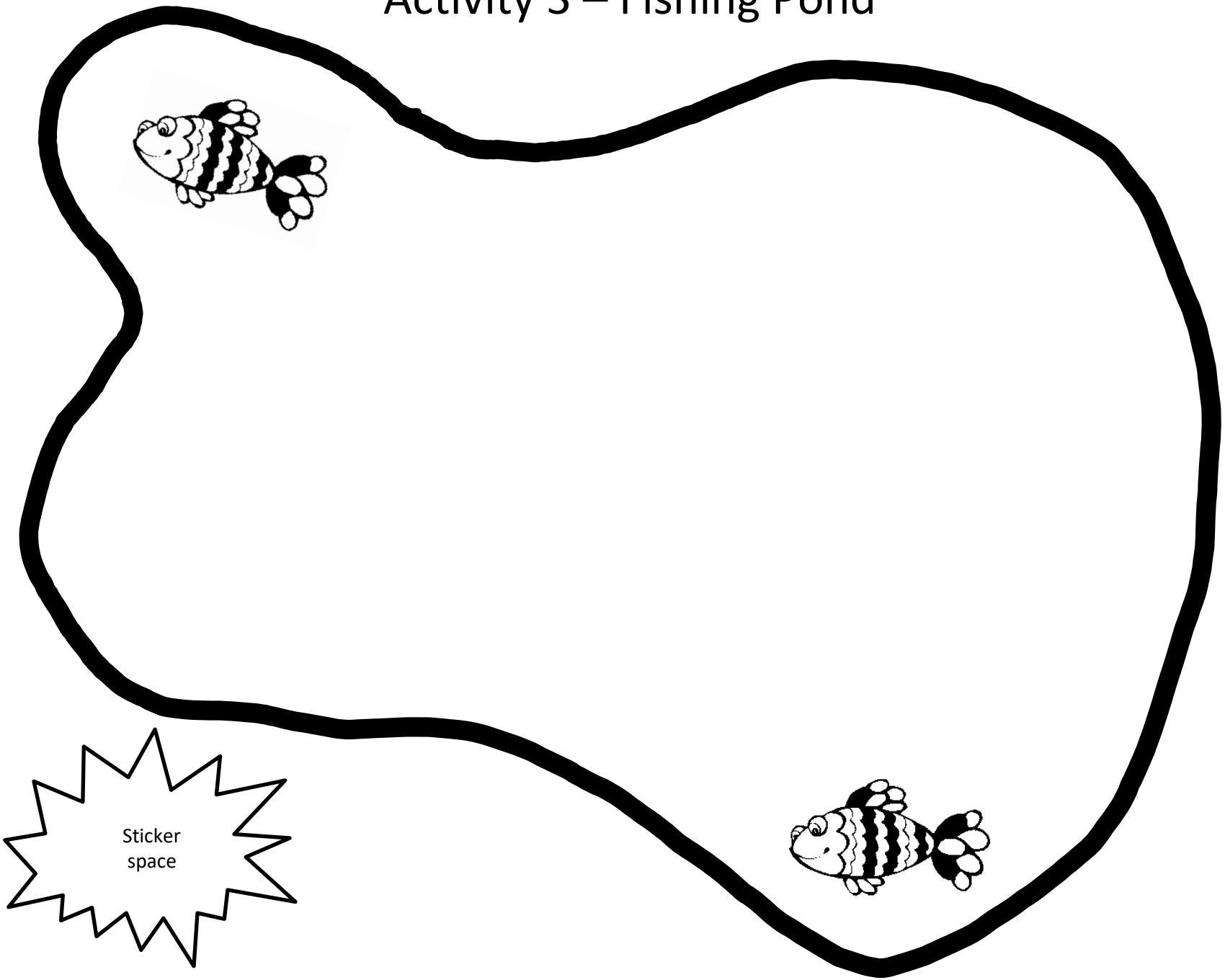
Switch the *partners*.



Point and Say:
Four and two make six.

(Two examples are shown.)

Activity 3 – Fishing Pond



Activity 4 – Build & Color *Partners* Directions

OBJECTIVE: Build, color and recite the *partners* of 6: 6+0, 0+6; 5+1, 1+5; 4+2, 2+4; 3+3

MATERIALS: Two colors of a small manipulative; cubes, buttons, candies, crackers
Two crayons or markers to match the manipulatives' colors. Pencil
Worksheet for 6

GROUP: Independent, 1 on 1, or small group

DIRECTIONS: Build with the manipulatives to show the *partners* of six. Use two colors for each set of *partners*, except 6+0, 0+6. (FIGURE 1)
Then, push the items off each square as you record your work with the same color crayon. (FIGURE 2)
In pencil, write over each equation after you finish its picture. (FIGURE 3)
Then, cover up all the equations and Point and Say each equation to a friend. Remember to switch the *partners*. (FIGURE 4)
When you complete this activity, put a sticker in the Sticker space.

FIGURE 1

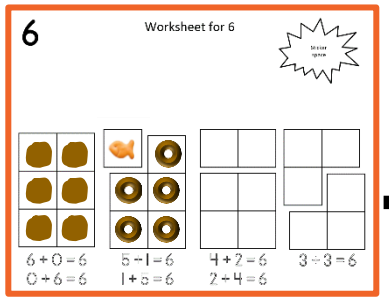


FIGURE 2

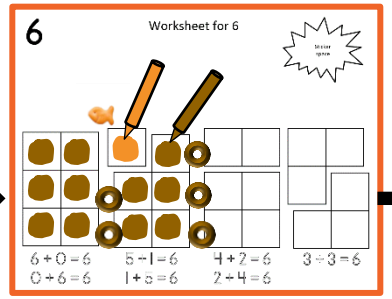
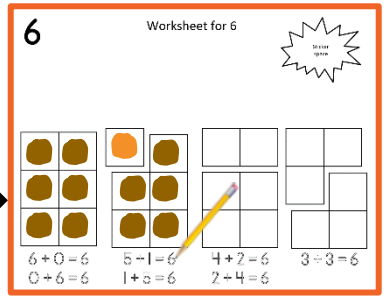
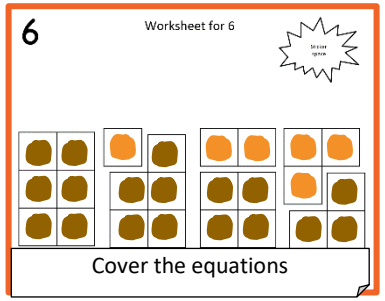


FIGURE 3



(One example is shown.)

FIGURE 4

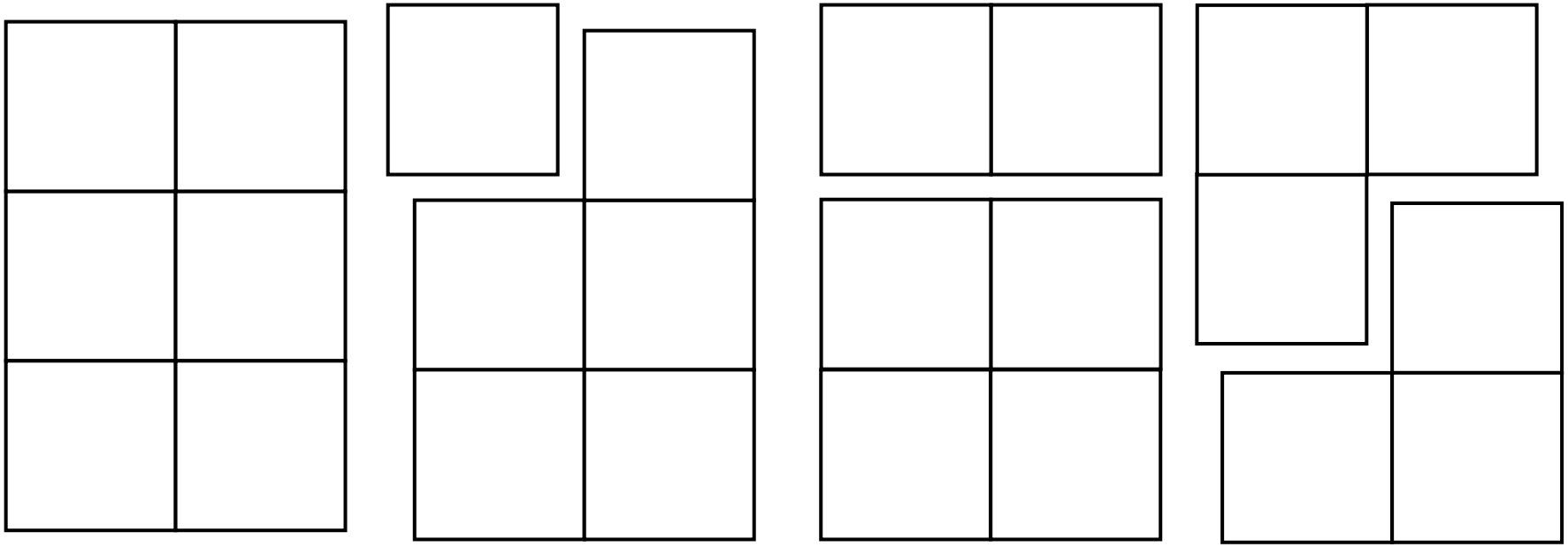


Point and Say:
Six and zero make six.
Zero and six make six.
Five and one make six.
One and five make six.
Four and two make six.
Two and four make six.
Three and three make six.

6

Worksheet for 6

Sticker space



$6 + 0 = 6$

$0 + 6 = 6$

$5 + 1 = 6$

$1 + 5 = 6$

$4 + 2 = 6$

$2 + 4 = 6$

$3 + 3 = 6$

Activity 5 – *Partner* Flip Cards Directions

Sticker space

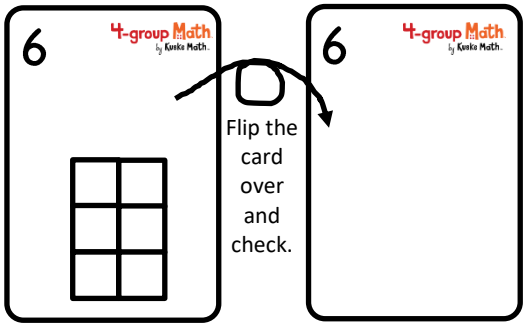
OBJECTIVE: Say the missing *partner* to make 6

MATERIALS: Activity 5 – *Partner* Flip Cards for 6

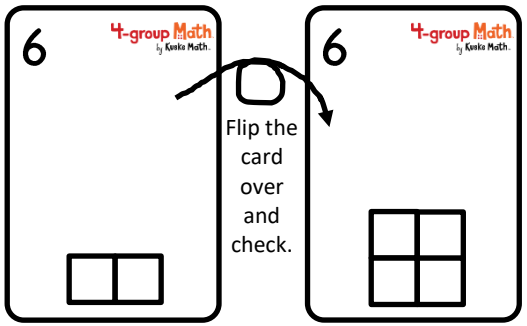
GROUP: Independent, 1 on 1, or small group

DIRECTIONS: Cut out the four cards on the following page. Lay the cards on the table in any order with either side facing up.
Look at one card. Say the number that is missing to make 6.
Flip the card over and check your answer. Continue for all the cards.
Beginning with the sides now facing up, repeat the process.
Continue until you give the correct answers for each card.
When you complete this activity, put a sticker in the Sticker space**.**

Look and Say:
Six and <u>zero</u> make six.



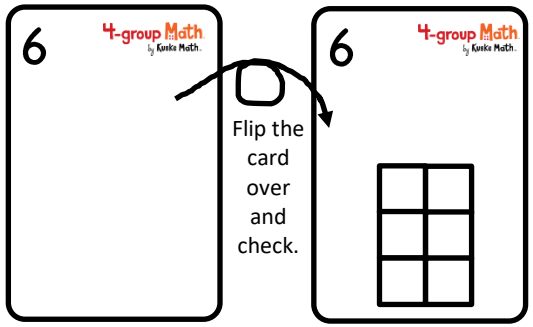
Look and Say:
Two and <u>four</u> make six.



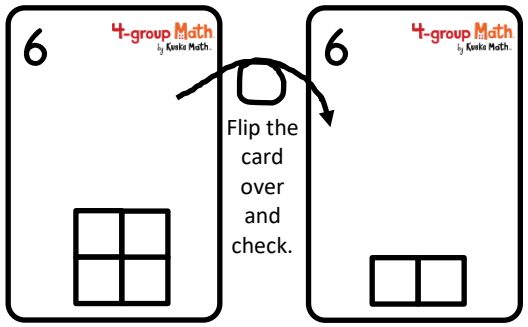
(Two examples are shown.)

Beginning with the sides now facing up, repeat the process:

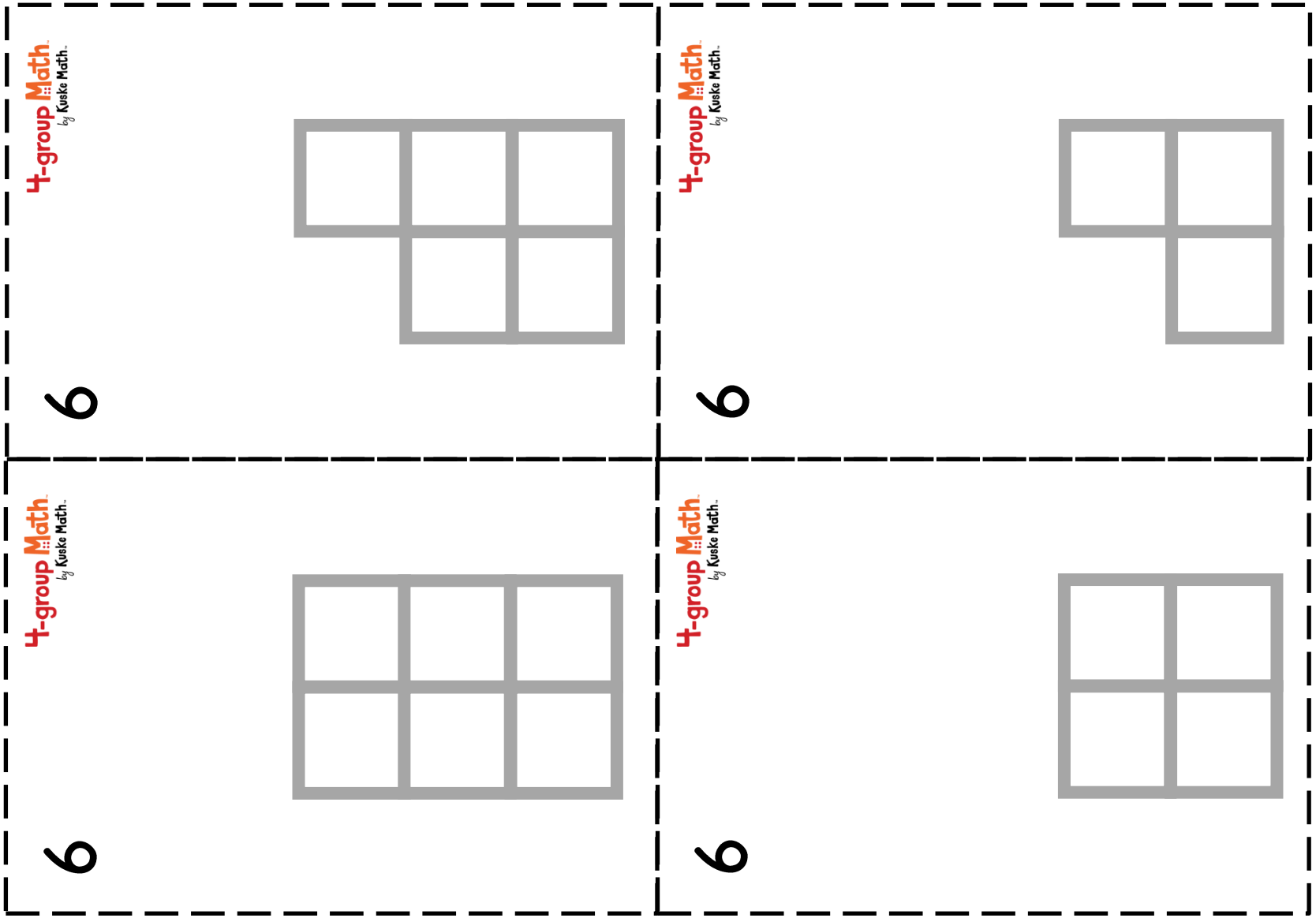
Look and Say:
Zero and <u>six</u> make six.



Look and Say:
Four and <u>two</u> make six.



Activity 5 –*Partner* Flip Cards for 6



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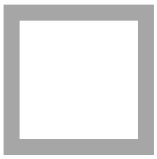

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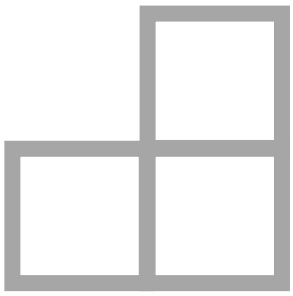

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Activity 6 – Assessment Directions

OBJECTIVE: Write and recite from memory the *partner* equations to make 6, including the switched *partners*

MATERIALS: Activity 6 – Assessment Sheet or a blank piece of paper
Pencil

GROUP: One child with teacher or another adult

DIRECTIONS: On the Assessment Sheet or a blank piece of paper, write from memory all the *partner* equations to make six, including the switched *partners*. It is okay for an adult to record for you if you tell them what to write. (FIGURE 1)
Find an adult to "test" you.
The adult asks you to recite all the equations, in any order. (FIGURE 2)
Then, the adult says one addend and you complete the equation by supplying the missing addend. (FIGURE 3)
Continue until all equations are said, including the switched *partners*.
If you pass, put a sticker in the Sticker space.
If you do not pass, practice a little more by repeating two activities from Activities 1-5.

FIGURE 1

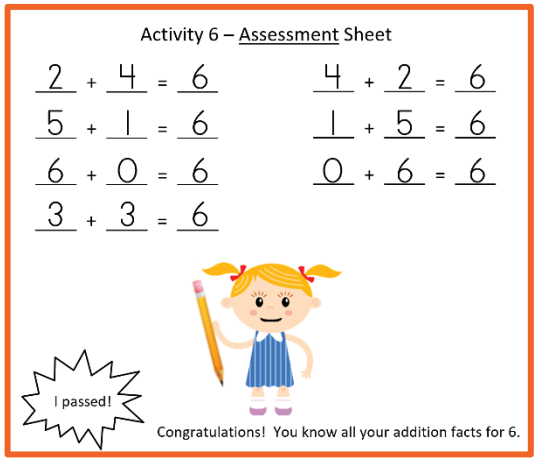


FIGURE 2

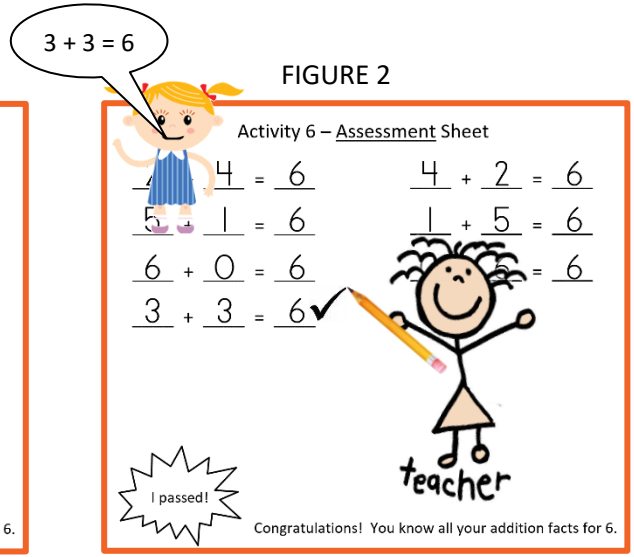
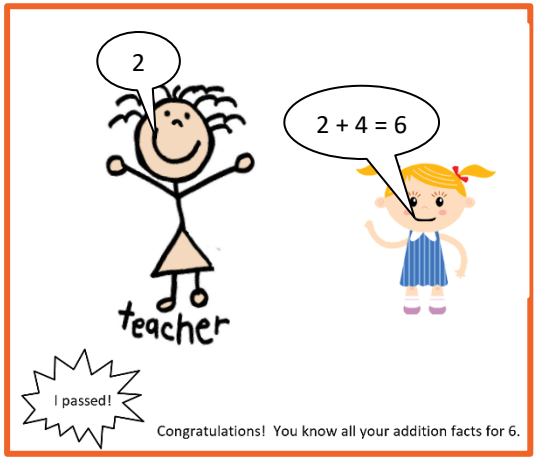


FIGURE 3



EXAMPLE:
The adult says *two*,
Child says, "*Two and four make six.*"

Activity 6 – Assessment Sheet

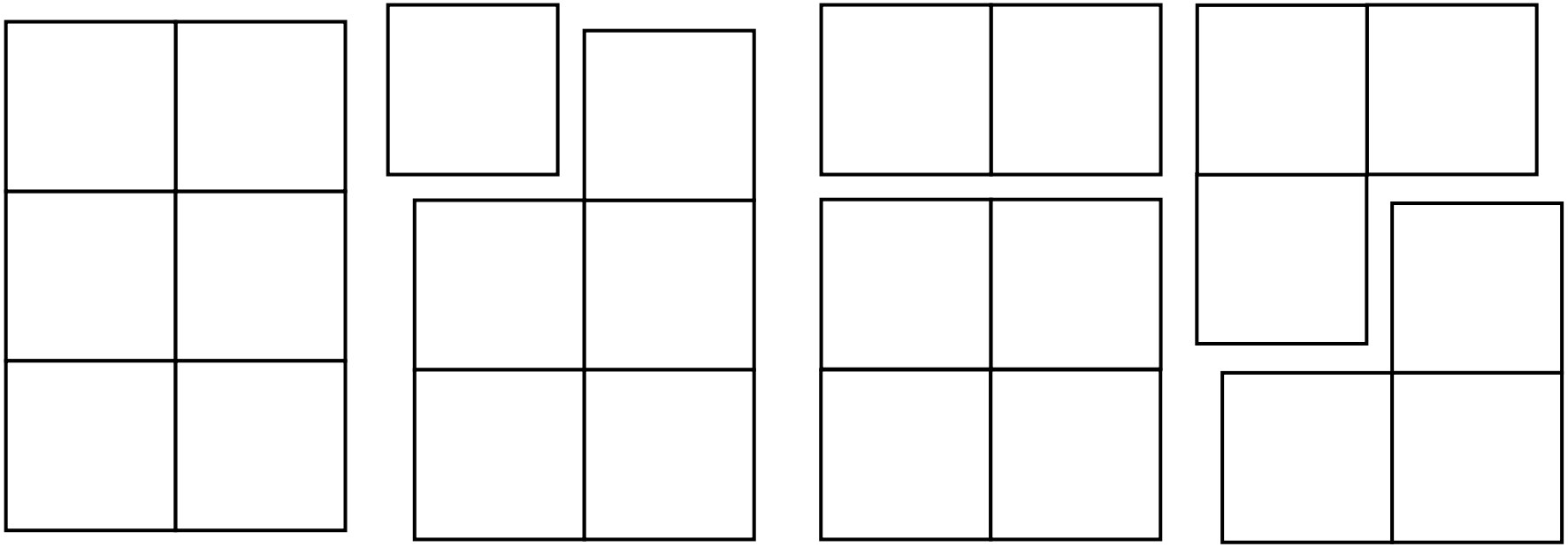
____ + ____ = ____	____ + ____ = ____
____ + ____ = ____	____ + ____ = ____
____ + ____ = ____	____ + ____ = ____
____ + ____ = ____	

Congratulations! You know all your addition facts for 6.

6

Worksheet for 6

Sticker space



$6 + 0 = 6$

$0 + 6 = 6$

$5 + 1 = 6$

$1 + 5 = 6$

$4 + 2 = 6$

$2 + 4 = 6$

$3 + 3 = 6$

Activity 6 – Assessment Sheet

____ + ____ = ____

____ + ____ = ____

____ + ____ = ____

____ + ____ = ____

____ + ____ = ____

____ + ____ = ____

____ + ____ = ____

Congratulations! You know all your addition facts for 6.