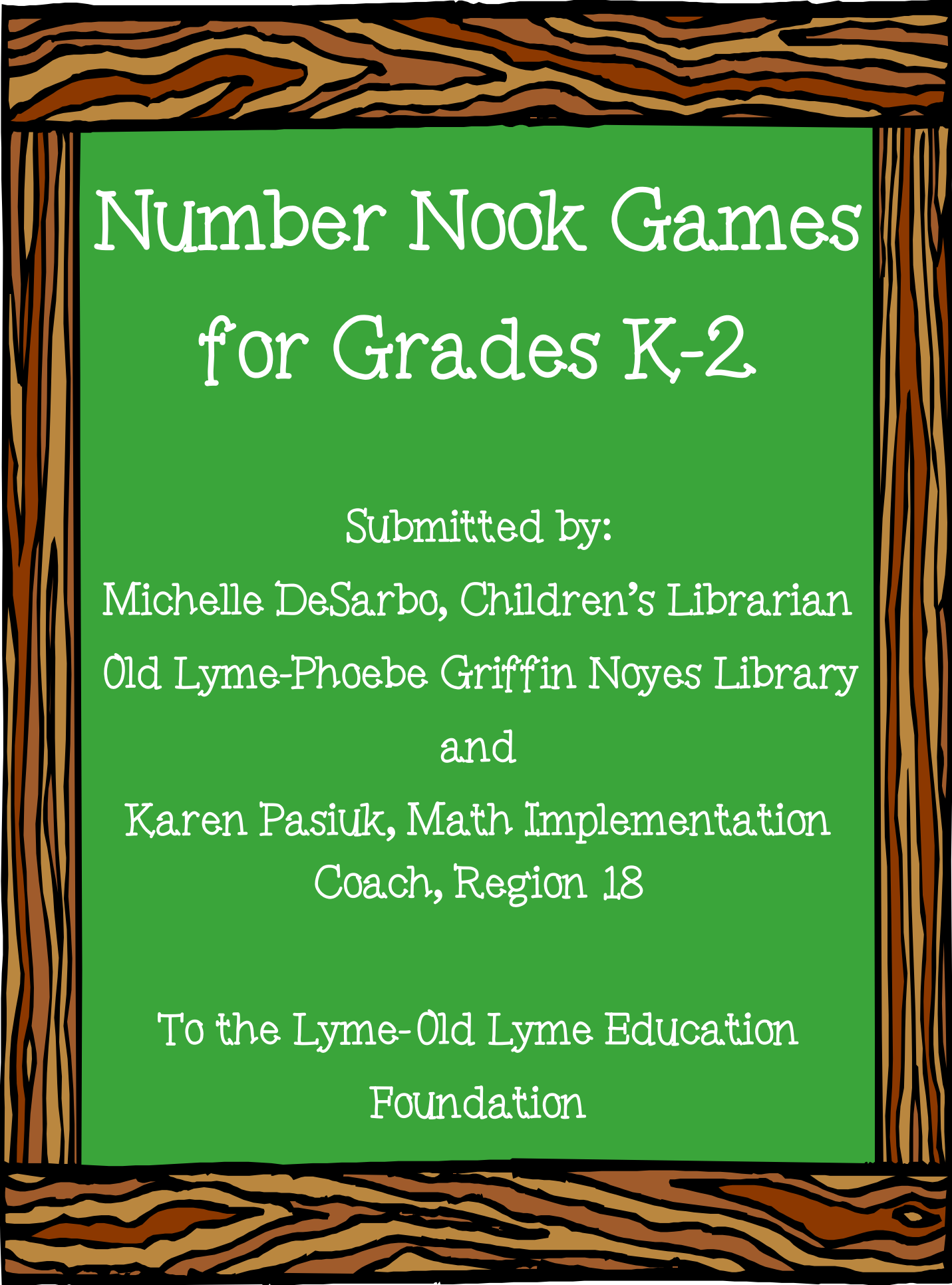


The entire page is framed by a decorative border that mimics the texture of wood grain. The top and bottom borders are wider and feature a more complex, wavy pattern of brown and tan lines. The side borders are narrower and consist of more vertical, linear wood-grain patterns. The central area of the page is a solid green rectangle where the text is located.

Number Nook Games for Grades K-2

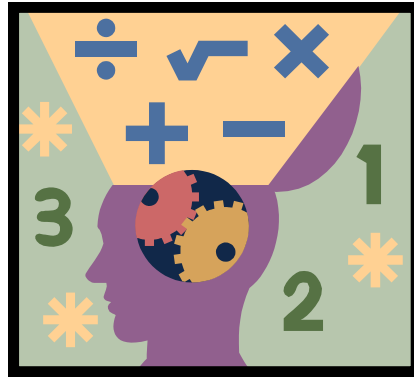
Submitted by:

Michelle DeSarbo, Children's Librarian
Old Lyme-Phoebe Griffin Noyes Library
and

Karen Pasiuk, Math Implementation
Coach, Region 18

To the Lyme-Old Lyme Education
Foundation

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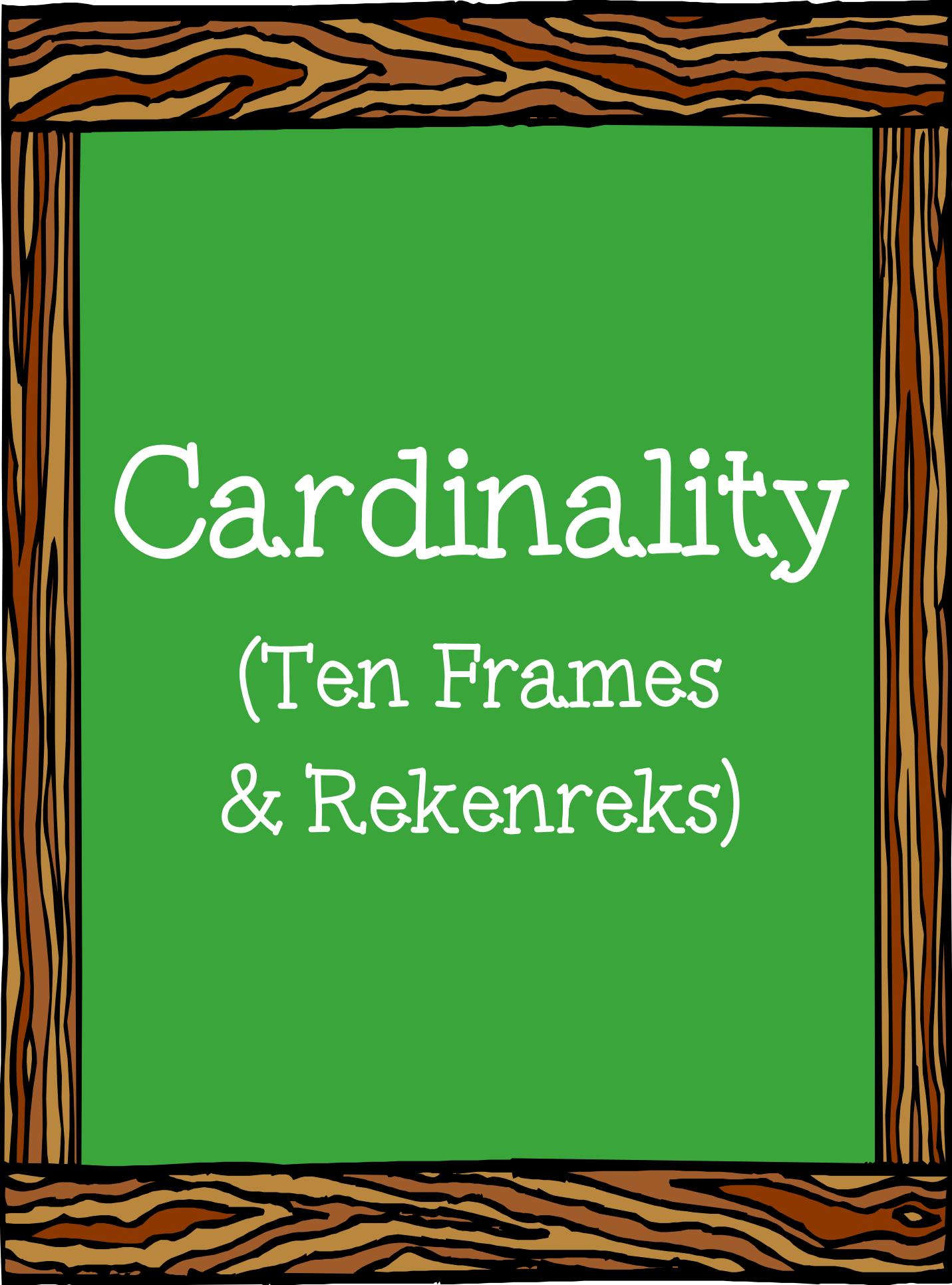
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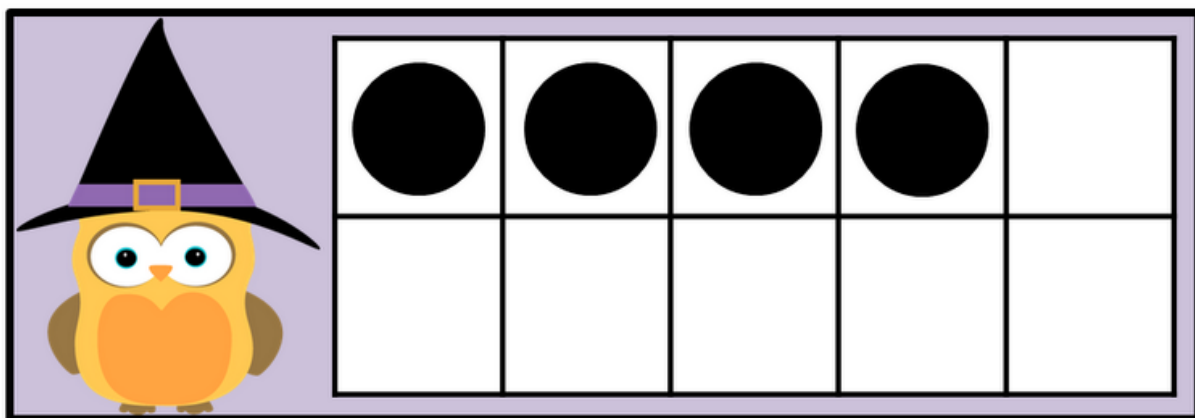
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Cardinality

(Ten Frames
& Rekenreks)

“Ten Frame Flash” & “I Wish I Had Ten”



Ten Frame Flash:

Flash ten frame cards to the child, and see how fast he can tell how many dots are shown (In the example shown above, the answer would be 4). This activity is a lot of fun if you encourage speed! (Source: <http://www.region10ct.org/math/region10mathsitefaq/What%20is%20a%20Ten%20Frame.pdf>)

I Wish I Had Ten:

Flash a ten frame showing nine dots or less and say, “I wish I had 10”. Children respond with the part that is needed to make ten (in the example shown above, the answer would be 6). The “wish I had” number can change each time to make things more challenging! (Source: <http://www.k-5mathteachingresources.com/ten-frames.html>)

“I Wish I Had Twelve” & “Ten Frame Toss”

I Wish I Had Twelve:

Flash the ten frame. Children respond with how many more counting chips are needed to make twelve. Students need to know that 12 is ten and two more, and be familiar with “I Wish I Had 10” (bonds of 10). Students should use ten in doing this. To go from 7 to 12, they should realize they need three more to get to 10, then two more to twelve. 3 and 2 is 5.

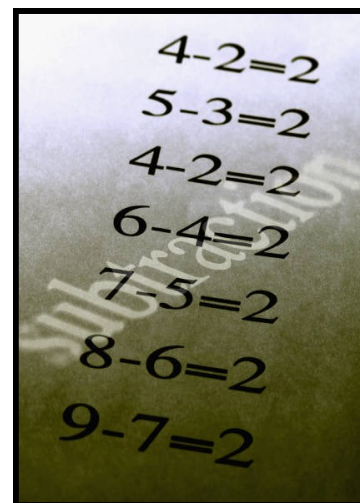
(Source: <http://teachmath.openschoolnetwork.ca/wp-content/uploads/2010/05/TenFrameActivities.pdf>)

Ten Frame Toss:

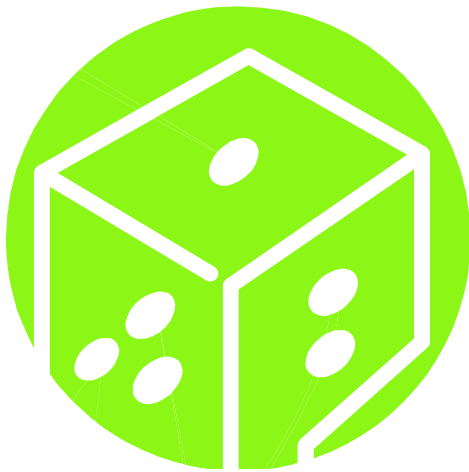
This is a fun game to practice decomposing the number ten. To play, students shake and spill a cup of ten two-color counters onto the table. They place them in the ten frame and fill in a recording sheet using bingo markers (or crayons).

Finally, they write the equation.

(Source: <http://mrsriccaskindergarten.blogspot.com/2012/01/ten-frame-toss-freebie.html>)



“Roll and Build”



Roll and Build:

Students roll a dice and build that number on their ten frame. This is a good way for children to compare the traditional dot patterns with ten-frame patterns. They can describe their number to a partner based on the anchors of 5 and 10 (e.g., the number is six. It's one more than five. It's four away from ten, etc.)

(Source: <http://teachmath.openschoolnetwork.ca/wp-content/uploads/2010/05/TenFrameActivities.pdf>)

“Greater Than or Less Than?”

Grab a scale and some unifix cubes to experiment with numbers! This is great for comparing numbers and helping practice number sense.



1.) Place three unifix cubes on one side of the scale and seven on the other side.

2.) Which side is heavier and which side is lighter? Why?

3.) Does the heavier side have the greater number of cubes?

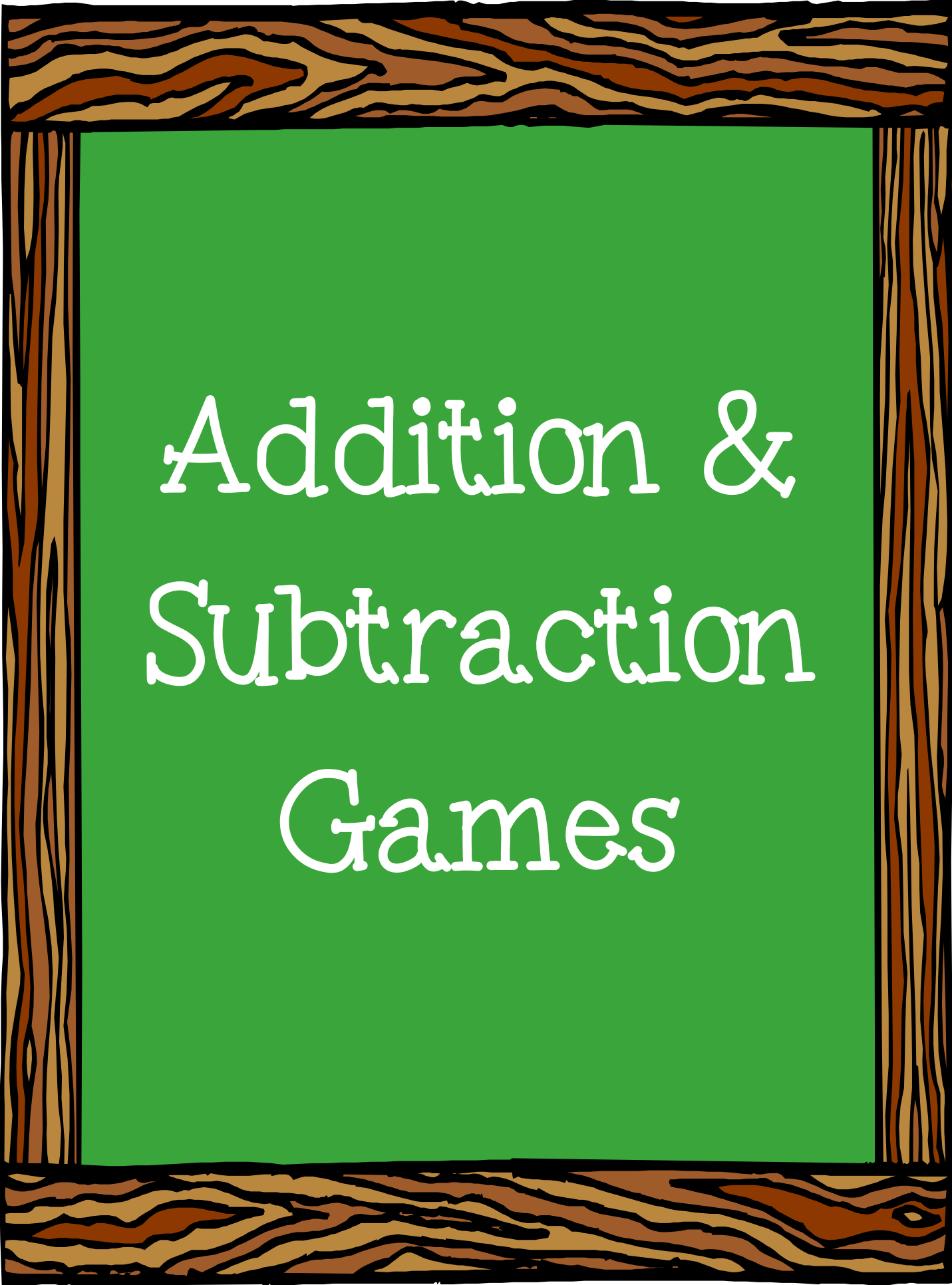
4.) Try writing your discovery on paper using the less than ($<$) and greater than ($>$) signs! (For example, “ $5 < 10$ ”.)

The Tallest Tower



We're testing your tower-building skills! This time, you'll need unifix cubes, a piece of paper, and a pencil.

- 1.) Use the unifix cubes to make a tower. How many cubes did you use?
- 2.) Make another tower. How many cubes did you use this time?
- 3.) Is your second tower taller, shorter, or equal to the first one?
- 4.) Count the number of cubes you used to build each tower. Can you use the $<$, $>$, or $=$ signs to write down which tower is bigger and which one is smaller? (e.g. "10 > 7").



Addition & Subtraction Games

“Go Fish!”



1. Pick a number as a group. Sort through the deck to remove all cards that are higher than the number you have chosen. For example, if the goal is to learn addition facts for the number seven, the game will be played with ones (aces) through sevens.
2. Deal out five cards to each player and place the remaining cards in a draw pile.
3. Have each player look through his or her hand of cards to find any pairs that add up to the number you've chosen and place them face up in your discard pile. For example, if learning addition facts for the number seven, appropriate pairs would be $6+1$, $5+2$, or $4+3$. The 7 card would also be laid aside as a correct solution that doesn't require a pair.

“Go Fish!” (continued)



4. The person to the left of the dealer may now ask any other player for a card that will help create the sum required. If the person asked has the card in his hand, he must give it up to the player that made the request. A player can keep asking for cards until no further matches are able to be made, at which point he is told to “Go Fish” from the draw pile and the next player takes a turn trying to make a match.

5. If a player runs out of cards he can choose five more cards from the draw pile to stay in the game.

6. Continue playing until all the cards in the deck have been matched into pairs. The player with the highest number of pairs at the end of the game is the winner.

(Source: http://www.granby.k12.ct.us/uploaded/faculty/wyzika/Dice_and_Card_Games_to_Practice_Math_Facts.pdf)

“Learning Addition Facts by Playing Memory”

1. Pick a number. Sort through the deck to remove all cards that are higher than the number you've chosen. For example, if the goal is to learn addition facts for the number six, the game will be played with ones (aces) through sixes.
2. Shuffle the deck and turn all the cards face down in a grid pattern.
3. Taking turns, have each player flip two cards to look for a matching pair. For example, if learning addition facts for the number six, appropriate pairs would be $5+1$, $4+2$ or $3+3$. The 6 card would also be laid aside as a correct solution that doesn't require a pair.
4. Continue playing until all the cards in the deck have been matched into pairs. The player with the highest number of pairs at the end of the game is the winner.



(Source: http://www.granby.k12.ct.us/uploaded/faculty/wyzika/Dice_and_Card_Games_to_Practice_Math_Facts.pdf)

“Ten-Twenty-Thirty”

1. Shuffle the deck. Create a row of seven cards, face up. Place two cards on top of each of the seven so you have seven piles of three cards each. Arrange the cards so you can see the face value of every card and place the rest of the deck aside, to be used later.
3. The object of the game is to remove a pile when the sum of all its cards is 10, 20, or 30. All face cards equal 10. For example, if a pile has an ace, 9, and jack in it, it could be removed because its sum is 20 ($1 + 9 + 10$). Go ahead and remove all of the piles that equal 10 to start.
4. Deal a fourth card on top of every pile that remains. Remove any stacks possible.
5. Continue adding cards and removing stacks until your deck is depleted or the stacks have all been removed.
6. If you remove all the stacks first, you have won! If your deck is emptied first, try again.



Variations:

1. Remove two sets of cards at once if their combined sum is a multiple of 10.
2. Look for different sums, like 9, 19, and 29. Or multiples of 6.

(Source: http://www.granby.k12.ct.us/uploaded/faculty/wyzika/Dice_and_Card_Games_to_Practice_Math_Facts.pdf)

“Toss Up: Addition to 100”



This one is fun and easy to play. Don't be afraid to ask for paper and pencils if you need them!

1. Take turns drawing 3 cards from the pack and tossing them into the air.
2. Players earn points equal to the value of every card that lands face up. (Keep in mind that aces = 1, jacks = 11, queens = 12, and kings = 13.)
3. The first player to reach 100 wins!

(Source: http://www.granby.k12.ct.us/uploaded/faculty/wyzika/Dice_and_Card_Games_to_Practice_Math_Facts.pdf)

“I’m the Greatest”

Develop and practice addition and place value skills with this fun game! The object of the game is to win points by forming the largest sum.



1. Remove tens and face cards from the deck. If you have jokers, add them into the deck if they're not there already. Jokers will equal zero.
2. Shuffle the cards. Give each player six cards.
3. Players must make a 3-digit plus 3-digit addition problem using the numbers on their six cards. Players should experiment and double check their work to ensure they have the largest sum possible.
4. The player with the greatest sum wins the round and one point. The first player to earn ten points wins the game!

Variation: For younger players, deal two or four cards and form 1 or 2 digit sums.

(Source: http://www.granby.k12.ct.us/uploaded/faculty/wyzika/Dice_and_Card_Games_to_Practice_Math_Facts.pdf)

“Quick Stop”



1. Place a well-shuffled deck of cards, face down, in the center of the playing area.
2. Each player begins by drawing one card and placing it face up in front of themselves. Players write the value of this card down at the top of their papers. (Aces are worth 1, and face cards are all 10.)
3. When all players are ready, everyone draws a second card. They add the value of these cards to their totals.
4. Keep playing until one player reaches 100.

(Source: http://www.granby.k12.ct.us/uploaded/faculty/wyzika/Dice_and_Card_Games_to_Practice_Math_Facts.pdf)

“Quick Stop”: Variations

1. Play until the deck runs out. The player closest to 100, without going over, wins.
2. Add jokers into the deck. If a player draws a joker, their score drops back to zero.
3. Start with 100 points, and subtract your way to the finish.
4. Need a challenge? Use multiplication to reach 1000. (This is a good adaptation for older siblings, especially if they're fourth graders!)

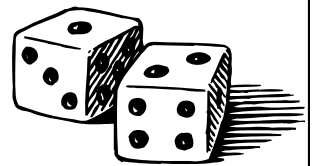


(Source: http://www.granby.k12.ct.us/uploaded/faculty/wyzika/Dice_and_Card_Games_to_Practice_Math_Facts.pdf)

“Build a Tower”

1. Use Lego bricks, pennies, wooden blocks, Popsicle sticks or any basic building material.

2. Have players roll a pair of dice and add the two numbers. The player gets that number in building materials if the dice are added correctly and uses them to build a tower.

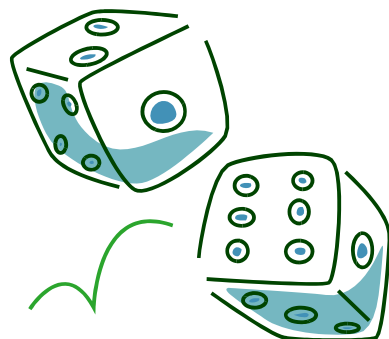


3. Go through 10 or 15 rounds. The player with the tallest or most creative tower at the end wins!

(Source: [http://www.granby.k12.ct.us/uploaded/facultywyzika.Dce_and_Card_Games_to_Practice_Math_Facts.pdf](http://www.granby.k12.ct.us/uploaded/facultywyzika/Dce_and_Card_Games_to_Practice_Math_Facts.pdf))

“Learn Addition and Multiplication Facts (Without Going to Boston)”

Also known as Yankee Grab and Newmarket, Going to Boston is a well-known and easy math game that helps kids learn addition and multiplication skills. Make sure you have three dice for this one!



1. Have each player roll one die. The player with the highest number goes first.
2. Each player in turn rolls all three of the dice. After the first throw, remove the die with the highest number and put it aside.
3. Roll the two remaining dice and again put the highest number aside.
4. Roll the last die and add up the numbers on all three dice to get the first player's score for that round. Record the score on a pad of paper.
5. Continue taking turns moving clockwise around the table until all players have had a turn. The highest score for the round wins.
6. Play a number of rounds and either add up a combined score at the end or tally winning rounds to come up with a game champion!

(Source: http://www.granby.k12.ct.us/uploaded/facultywyzikaDice_and_Card_Games_to_Practice_Math_Facts.pdf)

“Learn Addition and Multiplication Facts (Without Going to Boston): Variations”

Variations:

1. Play with two dice for younger children to learn addition skills.
2. Keep the lowest numbered die rather than the highest for a slightly easier game that teaches addition skills.
3. Increase the number of dice in the game to 4+ to learn more complicated addition skills.
4. Learn multiplication by taking the sum of the first two dice and multiplying it by the third.



(Source: http://www.granby.k12.ct.us/uploaded/facultywyzikaDice_and_Card_Games_to_Practice_Math_Facts.pdf)

“War (With Dice)”

Based on the card game of the same name, this is a fun and easy dice game that can be modified to teach addition, subtraction and multiplication skills.

1. Grab two dice for each player, some counters, and a pencil and some paper for scoring.
2. Have each player roll one die. The player with the highest number goes first.
3. Each player rolls their two dice. The numbers on both dice are added together to come up with an individual player's score. The player with the highest scoring combination wins the round.
4. Winning rounds can be noted on a pad of paper with a tally mark under the winning player's name, or with counters.
5. Play a number of rounds and have players add up their counter or tally marks at the end to come up with a game champion.



(Source: http://www.granby.k12.ct.us/uploaded/facultywyzikaDice_and_Card_Games_to_Practice_Math_Facts.pdf)

“War (With Dice): Variations”

1. Play with one die for younger children to practice basic less than/greater than sequencing.



2. Learn subtraction skills by having players subtract the lower die from the higher die to come up with a number for each round.

3. Increase the number of dice in the game to 3+ to teach more complicated addition skills.

4. Practice place value skills by having players create a double-digit number from the rolled dice. For example, rolling a two and a five becomes either 25 or 52.

5. Learn multiplication skills by multiplying the numbers on the two dice to determine the winning score.

(Source: http://www.granby.k12.ct.us/uploaded/facultywyzikaDice_and_Card_Games_to_Practice_Math_Facts.pdf)



Counting Bills & Coins

“Coin Antennas”

This is a fun variation on counting and sorting coins that will help kids practice counting by 5s!



1. Students place coins on a piece of paper and draw antennas to represent the total value. Each antenna is worth 5 cents. (This means a dime has two antennas, a nickel has one antenna, a penny has no antennas, etc.)

2. Children simply point to each antenna as they count by 5s, then count on by ones to include any pennies.

(Source: Mathwire.com: Standards-Based Math Activities, <http://mathwire.com/money/money.html>)

“Counting Coins”

Students who confidently use the hundred chart and its patterns to solve problems can utilize this tool to work with coins.

1	2	3	4	5	6	7	8	9	
11	12	13	14	15	16	17	18	19	
21	22	23	24	25	26	27	28	29	
31	32	33	34		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

Use a hundred chart to help students count coins. Have students place coins on the correct number. For instance, given 3 dimes and 1 nickel, students would place dimes on 10, 20, 30 and the nickel on 35. The last coin tells students how much money they have altogether. This method is effective for having students figure out which coins to use to pay for an item.

(Source: Mathwire.com: Standards-Based Math Activities, <http://mathwire.com/money/money.html>)

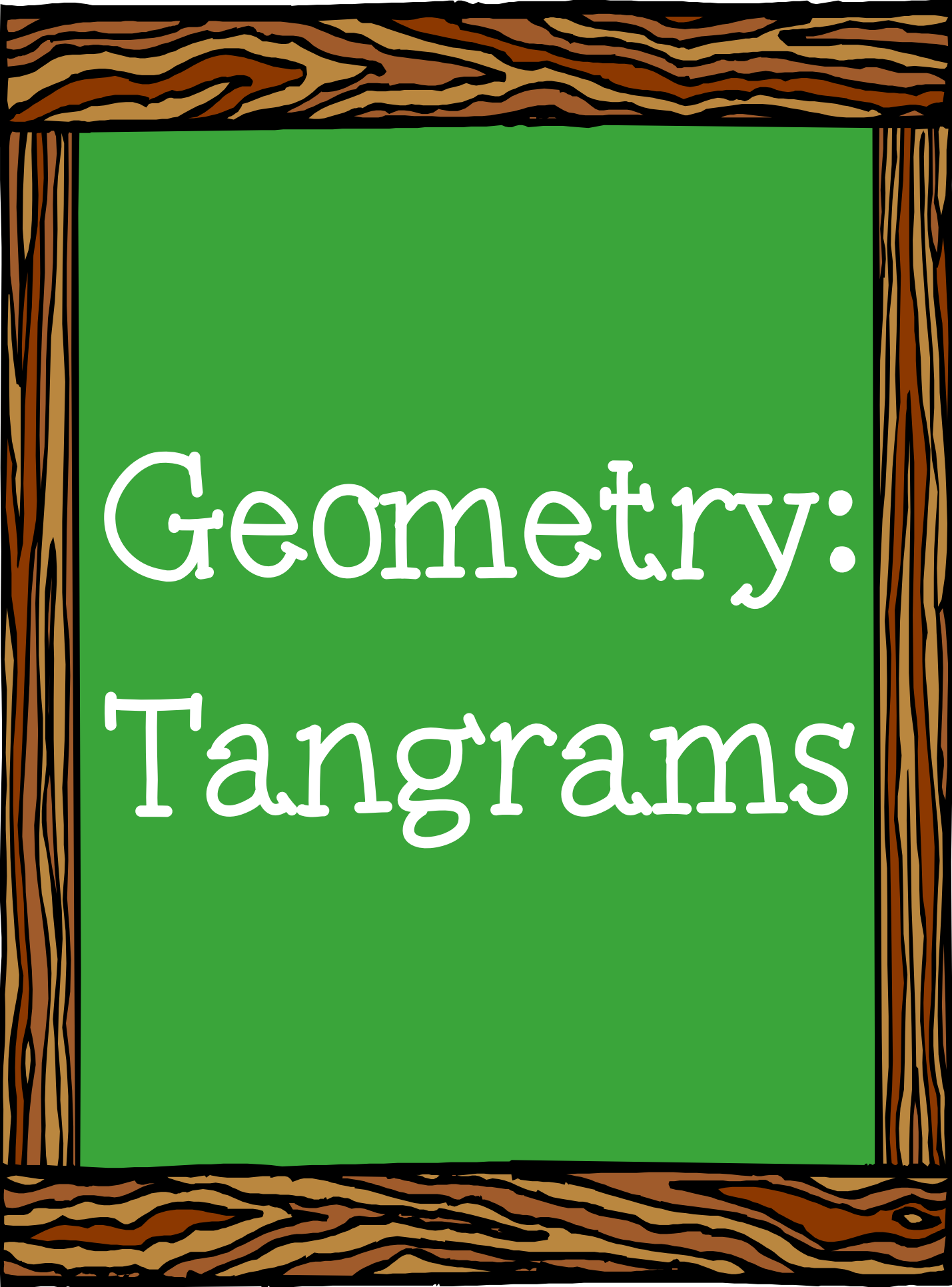
“Making Change for a Dollar”

Counting change may seem old-fashioned, but mental math is an important skill to have (especially in situations where a calculator isn't handy!)

1	2	3	4	5	6	7	8	9	
11	12	13	14	15	16	17	18	19	
21	22	23	24	25	26	27	28	29	
31	32	33	34		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

Place a counter on the price of the object. Place pennies on each square to get to the nearest multiple of 5. Use nickels, dimes or quarters to get to \$1.00. Students should begin with whatever combination of coins they wish then work toward using the least number of coins as they become more proficient at making change.

(Source: Mathwire.com: Standards-Based Math Activities, <http://mathwire.com/money/money.html>)



Geometry: Tangrams

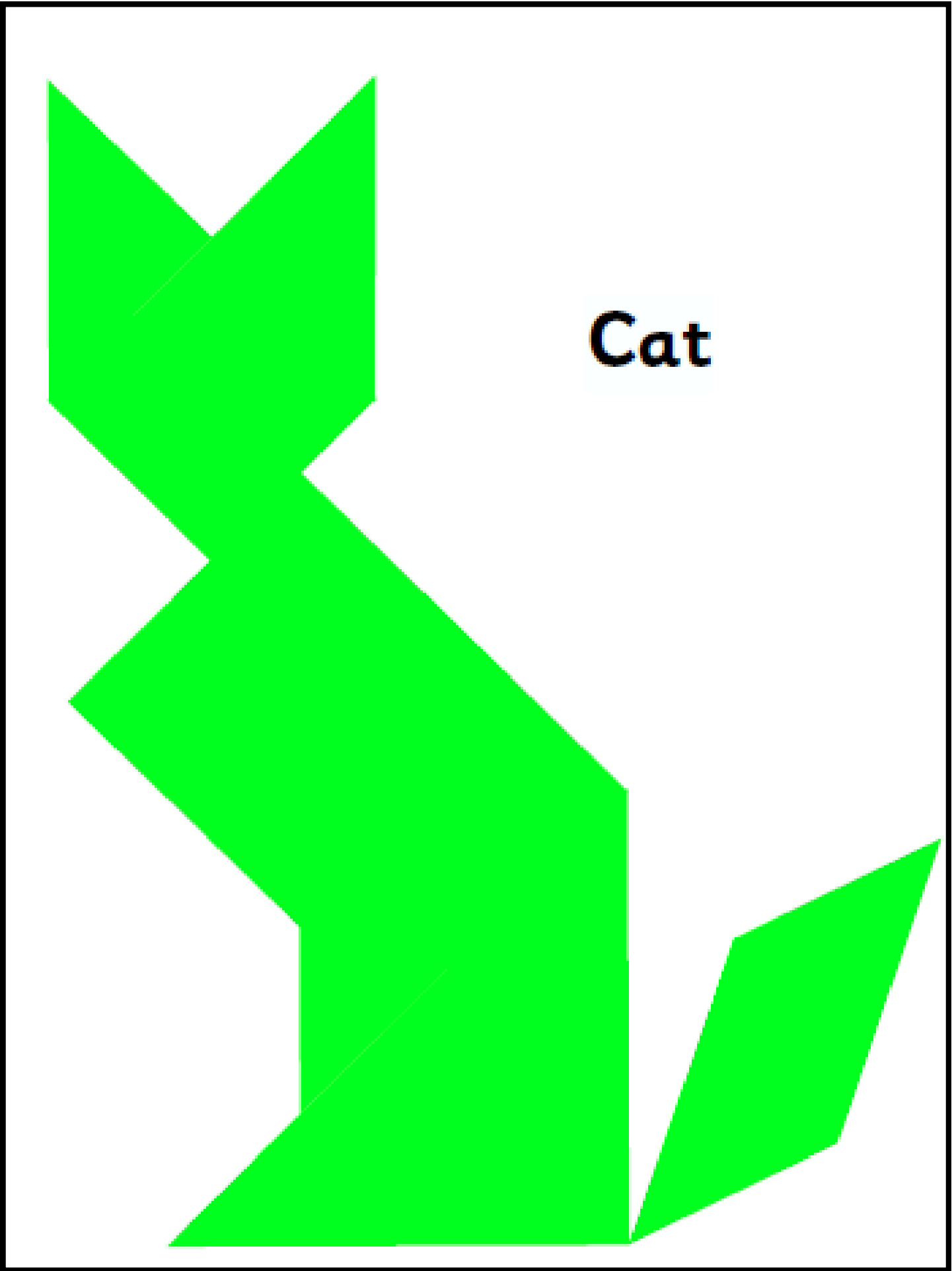
Here's some puzzling fun
from ancient China!

Tangrams, "seven pieces of
cleverness", are an ancient
Chinese puzzle which is still
mind-bending and
intriguing today. Can you
make the following pictures
using seven tangram pieces?
Turn the page to find out!

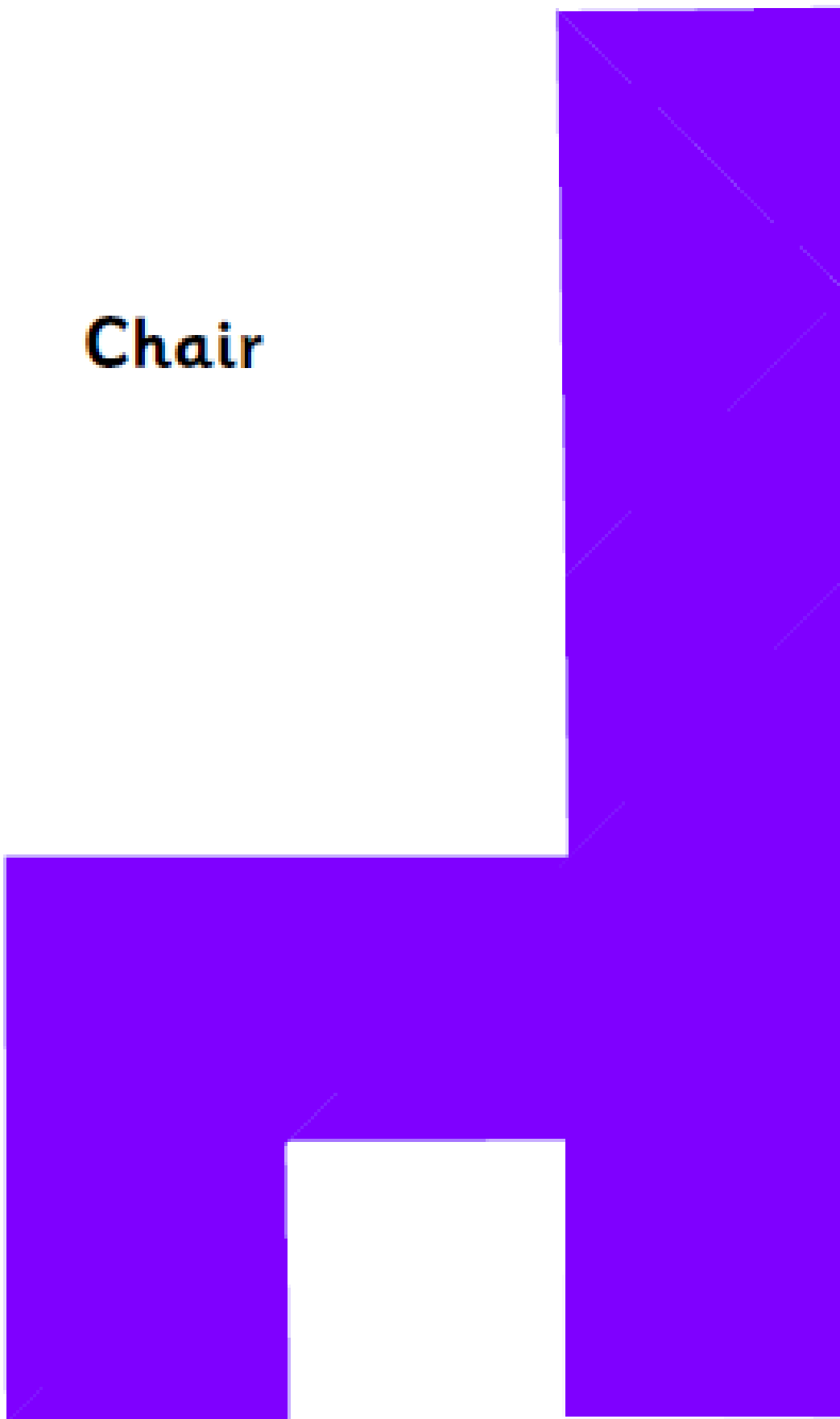
(Source: <http://www.activityvillage.co.uk/tangrams>)

Candle

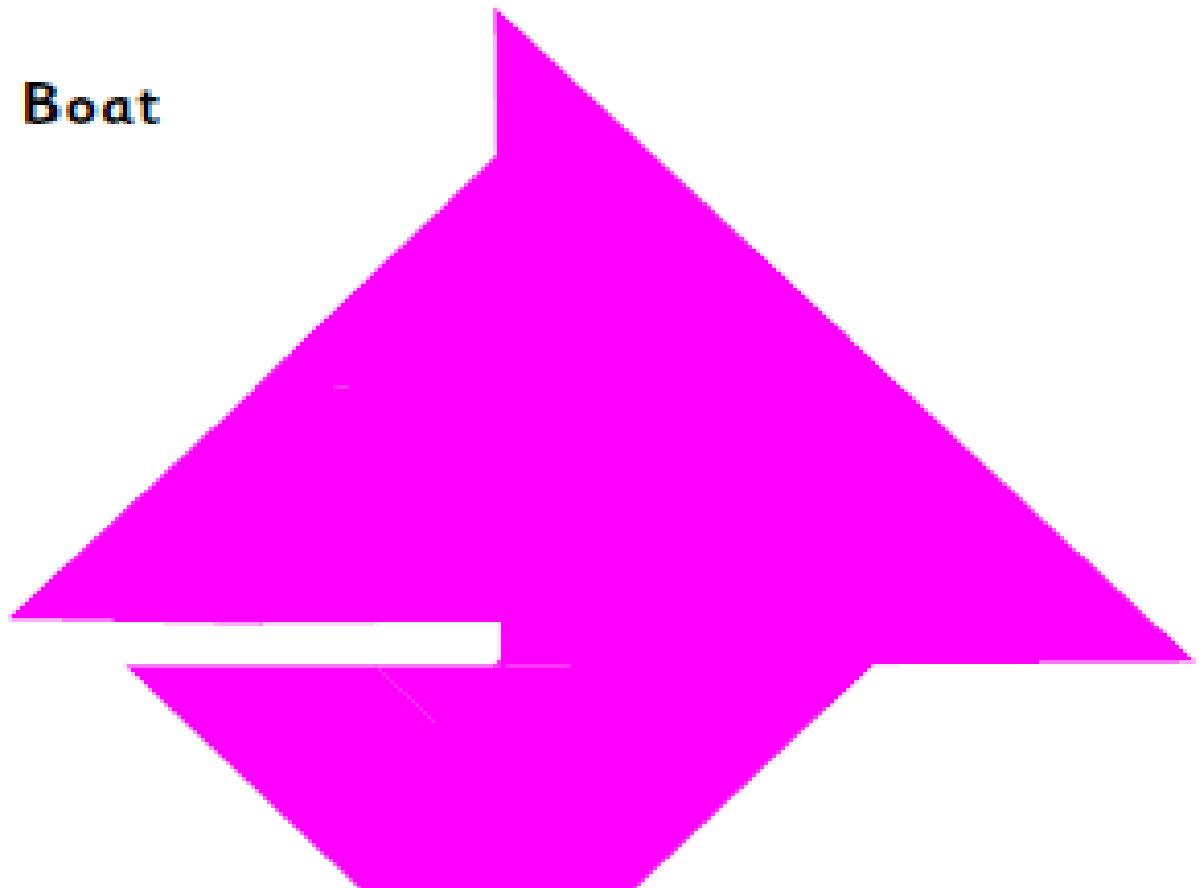




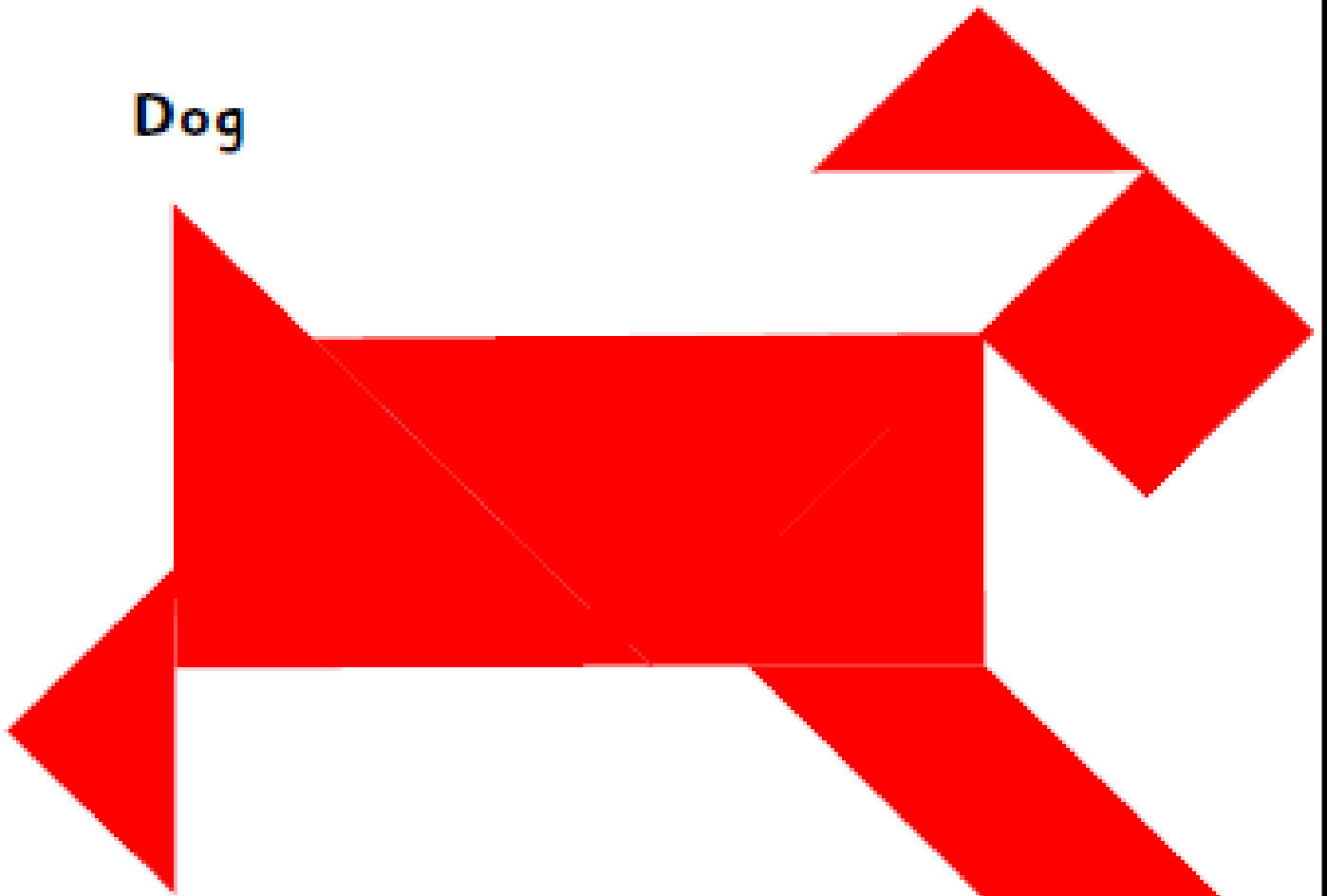
Chair



Boat

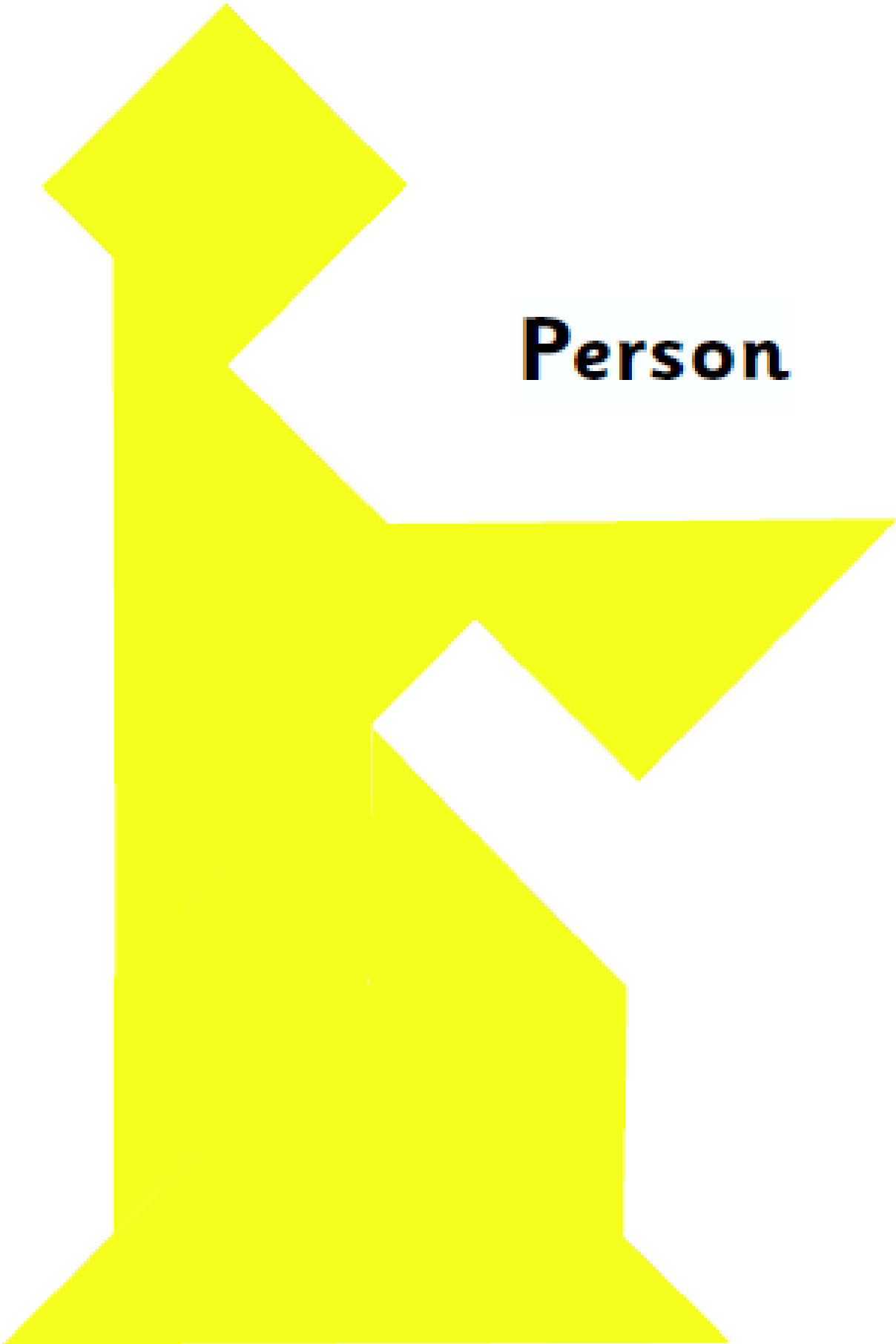


Dog

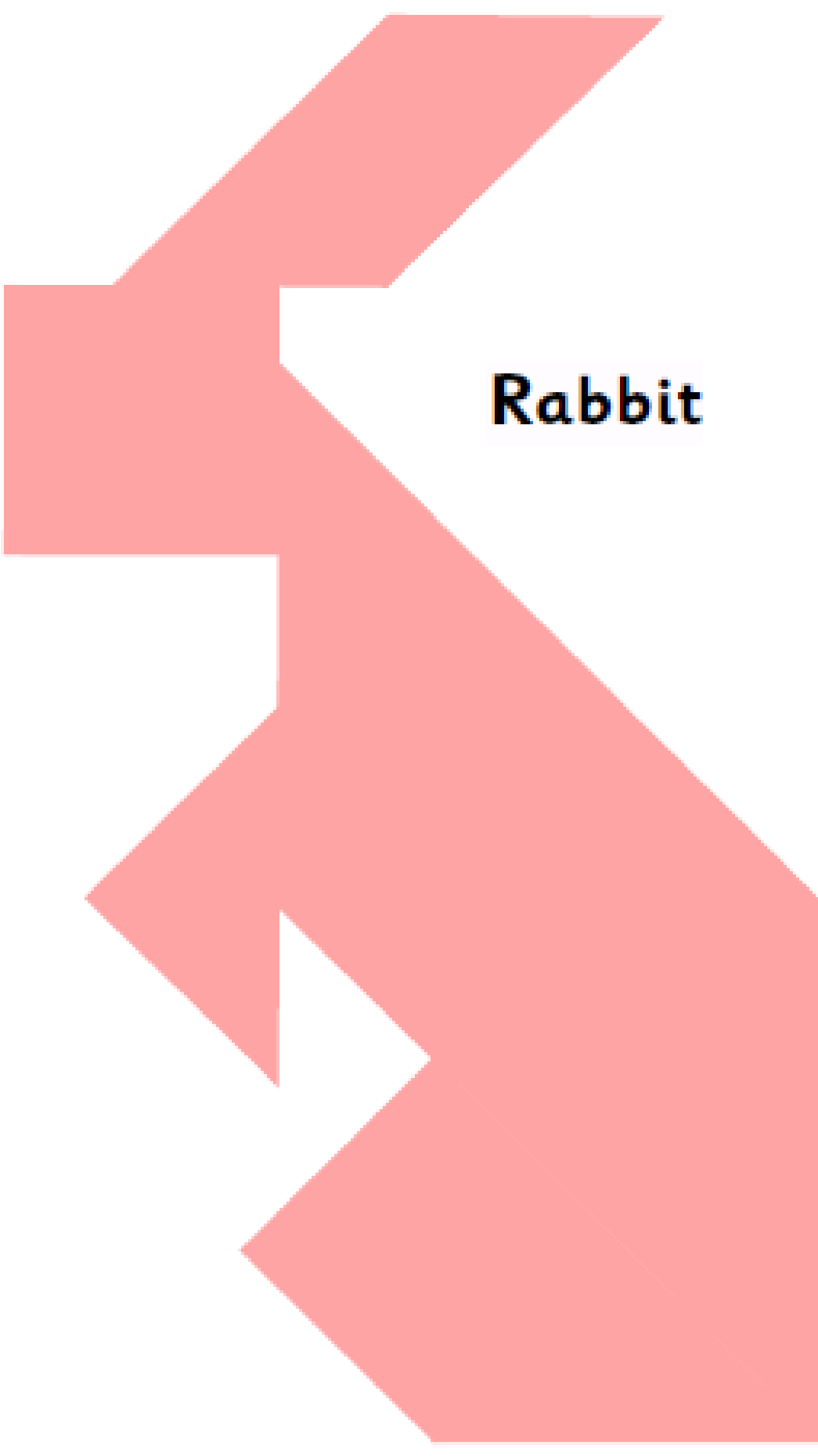


House

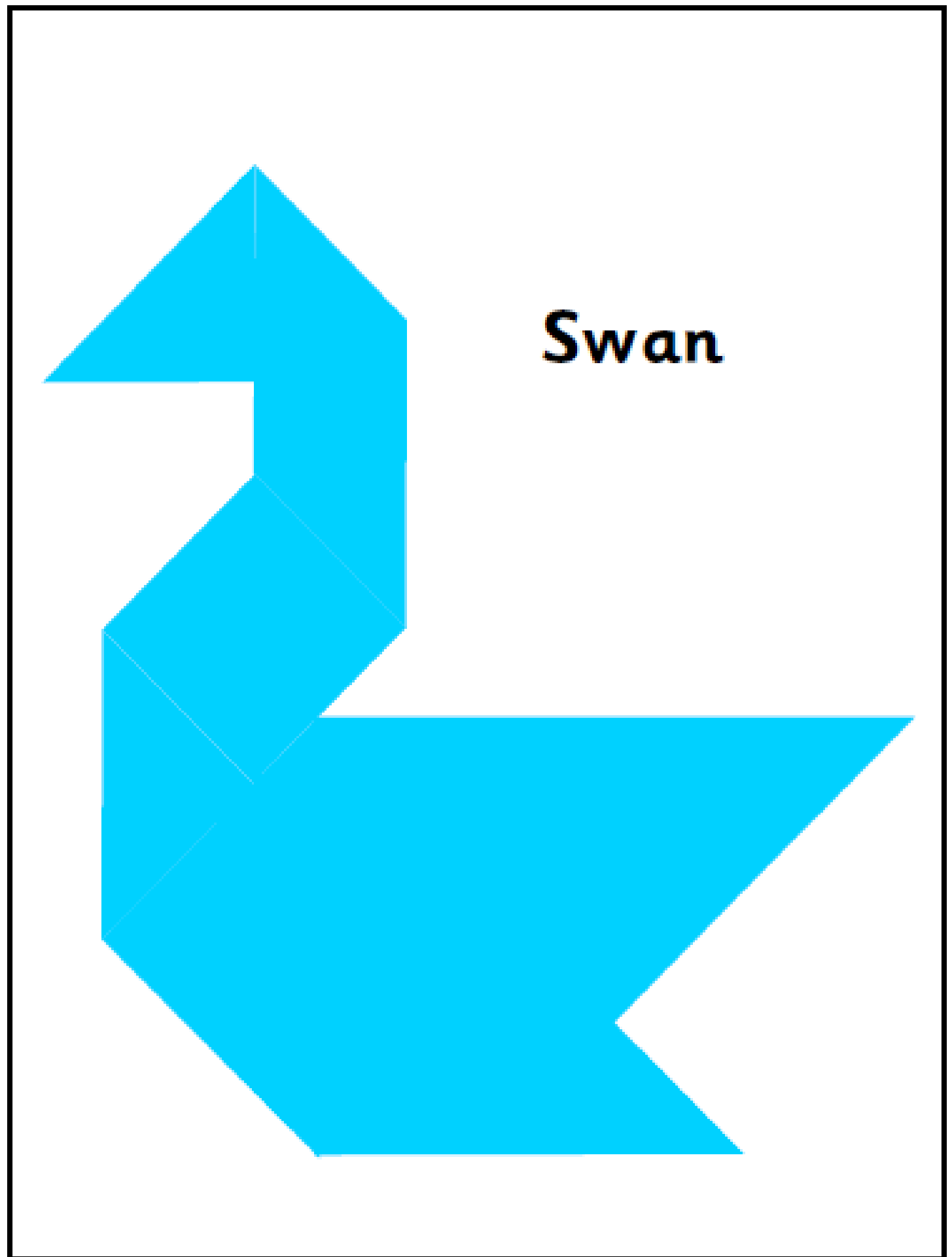


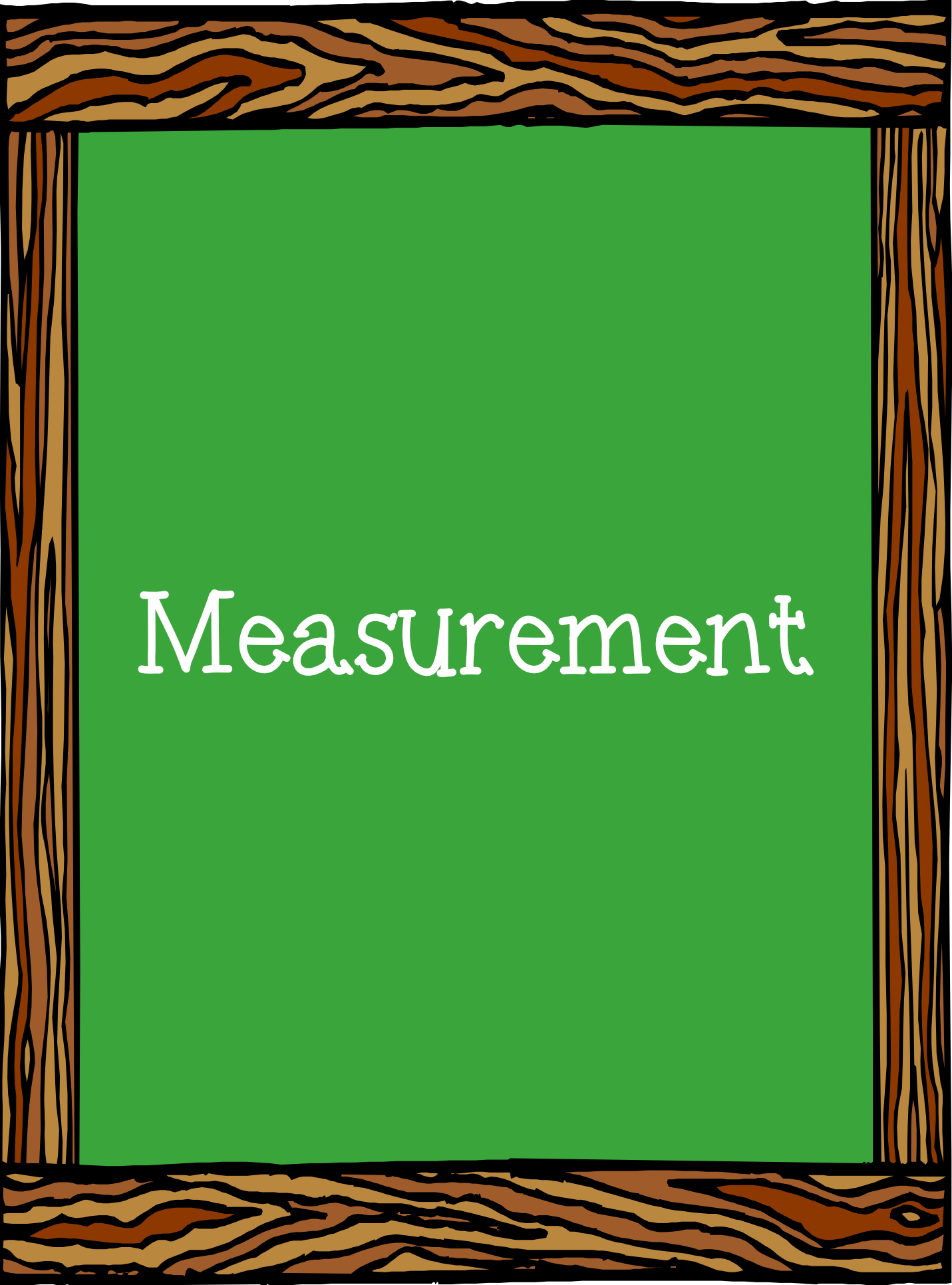


Person



Rabbit

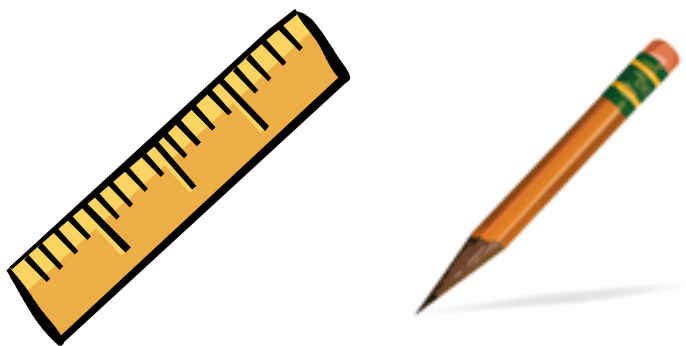




Measurement

“Guess How Long?”

Grab a ruler and see if your guesses are correct!



1. How many plastic cubes do you need to make a tower that's as tall as a ruler?
2. If you lay them end to end, how many paperclips does it take to make a chain that's as long as a ruler?
3. If you lay them end to end, how many counters does it take to make a line that's as long as a ruler?

Variation: Take the highest number and the lowest number and use them to practice addition and subtraction skills! What is the difference between the two? How much do you get if you add them together?

(Source: Mathwire.com: Standards-Based Math Activities, <http://mathwire.com/money/money.html>)

“Guess How Much?”

Try guessing the weight of each object first, then grab a scale and see if you're correct!

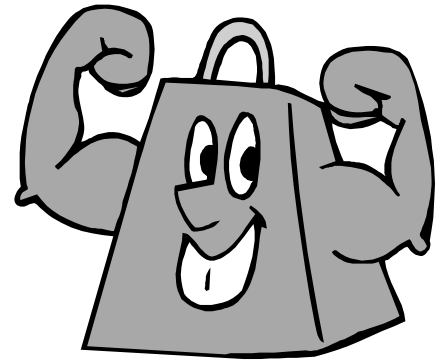


1. Ten pennies
2. Five pencils
3. Ten plastic cubes
4. Ten paper clips

“Which is Heavier?”

Now that we've practiced guessing the weights of different items, let's see what happens when we try to weigh them on different sides of the scale at the same time!

1. Try weighing five pennies and five plastic cubes. Which pile weighs more? Do they weigh the same amount? How can you tell?



2. Which is heavier, ten pennies or ten paper clips?

3. Which is heavier, five pencils or ten pennies?

4. Do ten plastic cubes equal the weight of one pencil? If not, which is heavier?

5. Do ten paper clips equal the weight of ten plastic cubes?