

Ways to Count

Line Master 1 (Assessment Master)

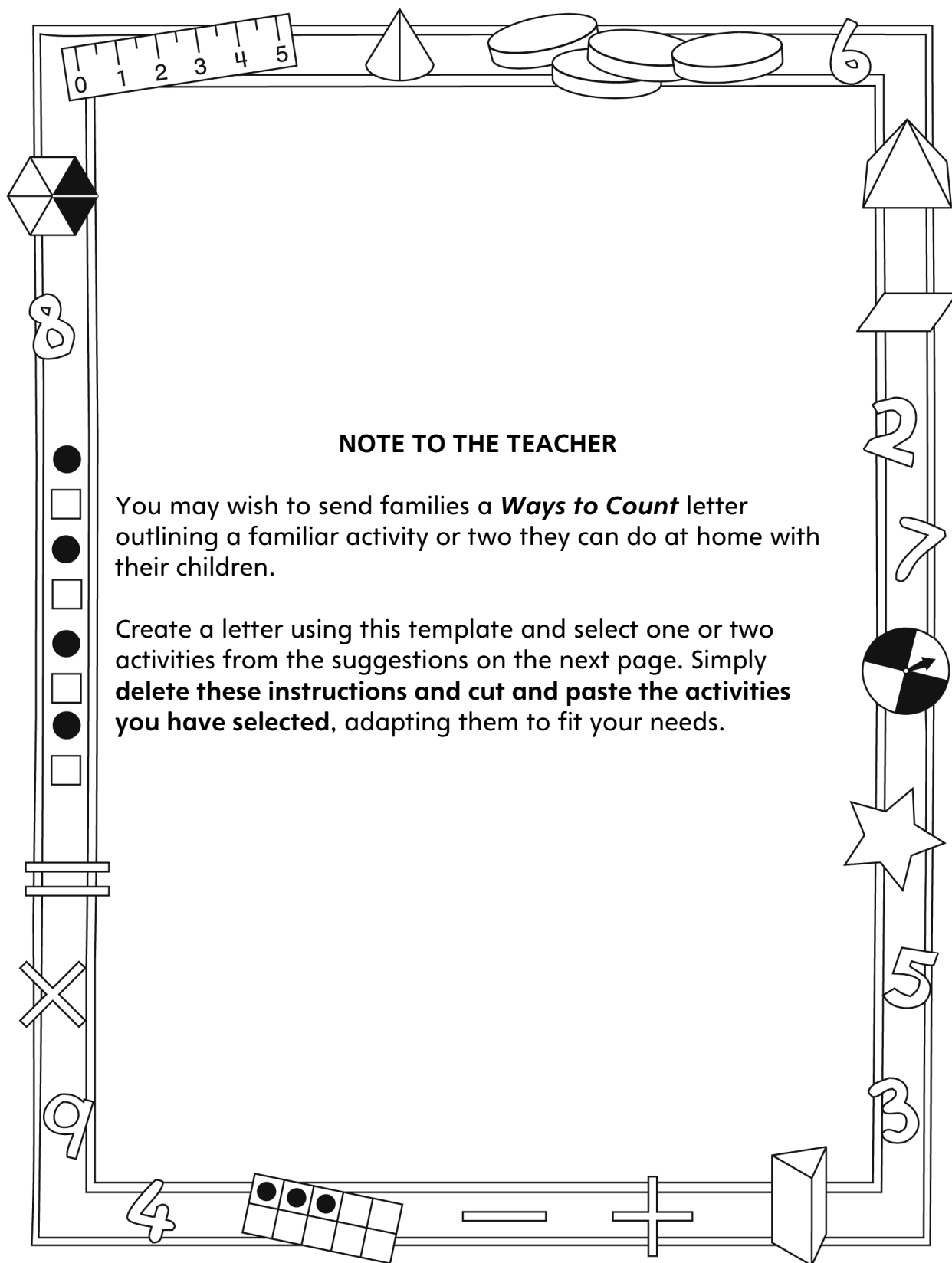
Name: _____

Estimate and Group to Count Quantities to 100	Not observed	Sometimes	Consistently
Uses benchmarks to estimate quantities			
Counts and groups to recount a collection to find how many			
Names, writes, and matches numerals to quantities			
Skip-count to 100			
Skip-counts by 2s, 5s, 10s			
Skip-counts from a given number			
Recognizes and uses skip-counting patterns			

Strengths:

Next Steps:

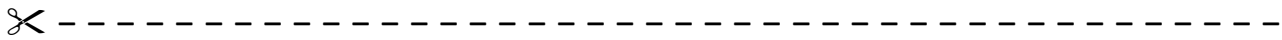
Connecting Home and School Line Master 2-1



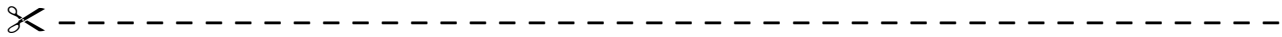
Connecting Home and School Line Master 2–2

Dear Family:

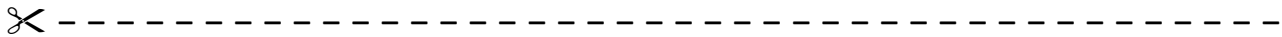
We have been working on **Ways to Count**, which engages children in conversations, investigations, and activities that help to develop their understanding of the big math idea that “Quantities and numbers can be grouped by units or split into units.” Particular focus is placed on grouping to count, estimating, and skip-counting to 100. Try this activity at home.



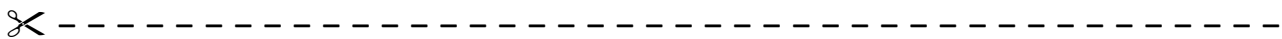
Reading the Story: Counting provides a foundation for understanding number and computational skills (addition, subtraction, multiplication, and division). As you read the story, enjoy estimating (guessing) how many objects there are, then counting and recounting to check.



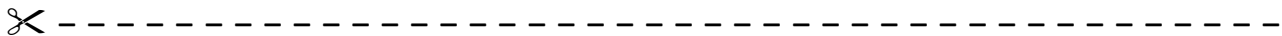
Make a Collection: Use the mat on the inside back cover (or a real container) to create an Estimating Jar. Place up to 100 small objects in the jar (corn kernels, beans, tiny buttons). Take turns estimating how many there are. Then decide on a way to group the objects so they are easy to count. Count and then recount just to be sure. Who had the closest estimate? How close was it? (**Note:** Would you consider sending us an Estimating Jar to add to our ongoing estimating and counting display?)



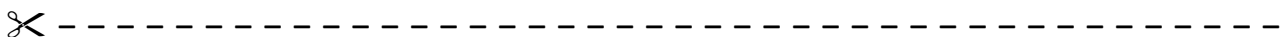
How Many Groups? Ask your child what size group he/she finds the easiest to count (10s, 5s, 2s). Display and identify a group of 100 (50 if that is easier) small objects. Ask: **How many groups of 10 do you think are in 100? How can we prove it?** Together, group and count the objects by 10s. **How many groups of 10 were in 100?** (10) Invite your child to take the lead.



Into the Piggy Bank: Consider dropping collections of dimes (nickels) into a jar (piggy bank) to practise counting by 10s and 5s.



Collections Wanted! We are estimating and counting lots of different collections. We can always use more! If you have a collection of small, unwanted “treasures” (puzzle pieces, buttons, lids, bread tags, etc.) we will put them to good use. Thank you!



Sincerely,

Ten-Frame

Line Master 3

Hundred Chart

Line Master 4

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

Blank Hundred Chart

Line Master 5

Counting Collections

Line Master 6

Names: _____

Our collection: _____

Our estimate: _____

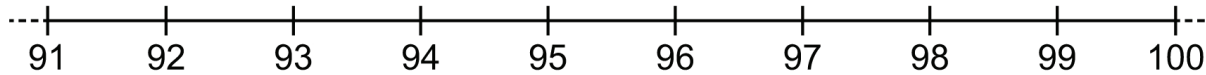
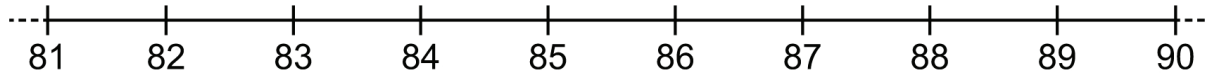
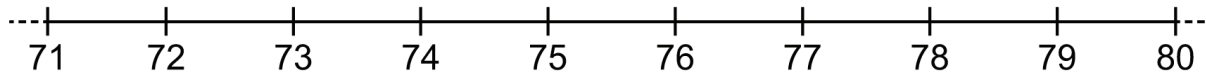
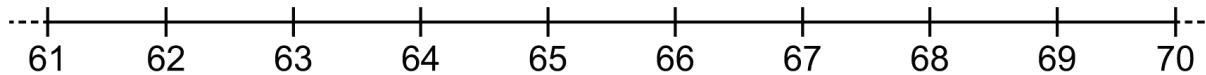
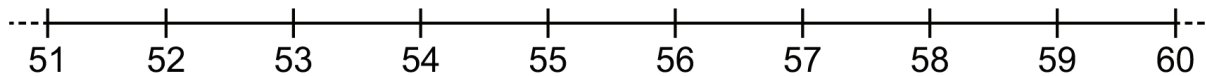
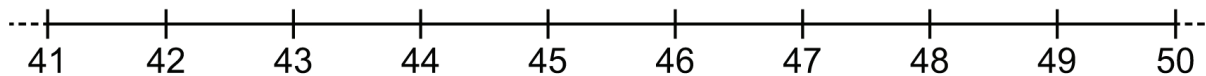
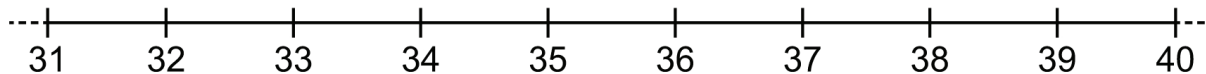
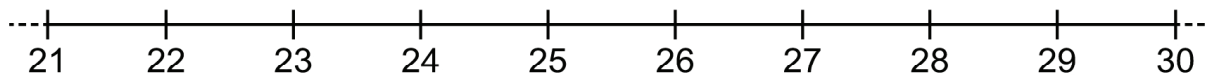
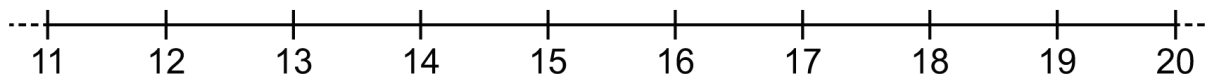
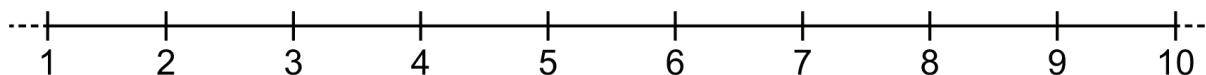
Our count: _____ Our recount: _____

Use numbers and pictures to show how you grouped and counted.

How close was your estimate?

Number Lines

Line Master 7



Guess How Many

Line Master 8

Name: _____

Guess how many _____.

Name	Estimate

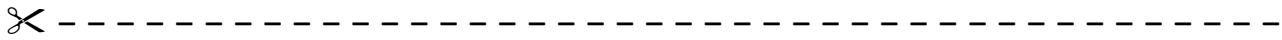
Will You Say It?

Line Master 9

Names: _____

Will you say _____ when you count by _____?

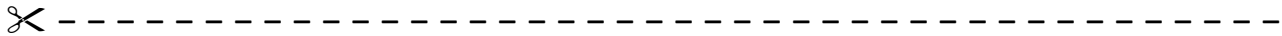
Start with the number _____.



Names: _____

Will you say _____ when you count by _____?

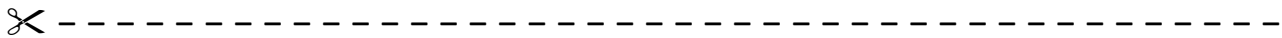
Start with the number _____.



Names: _____

Will you say _____ when you count by _____?

Start with the number _____.



Names: _____

Will you say _____ when you count by _____?

Start with the number _____.

Will You Say It? Answers

Line Master 10

Name: _____

Select a puzzle.

Record the names of the puzzle makers.

Solve their puzzle.

Record your answer.

Puzzle Makers	Yes	No

Double Hundred Chart

Line Master 11

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

I counted by _____.

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

I counted by _____.

Will You Say It? Problems

Line Master 12

✂ -----

Will you say 72 if you begin at 11 and count by 10s? Prove it!

✂ -----

Will you say 90 if you begin at 5 and count by 10s? Prove it!

✂ -----

Will you say 61 if you begin at 6 and count by 5s? Prove it!

✂ -----

Will you say 85 if you begin at 40 and count by 5s? Prove it!

✂ -----

Will you say 48 if you begin at 8 and count by 5s? Prove it!

✂ -----

Will you say 48 if you begin at 6 and count by 2s? Prove it!

What Would You Rather?

Line Master 1 (Assessment Master)

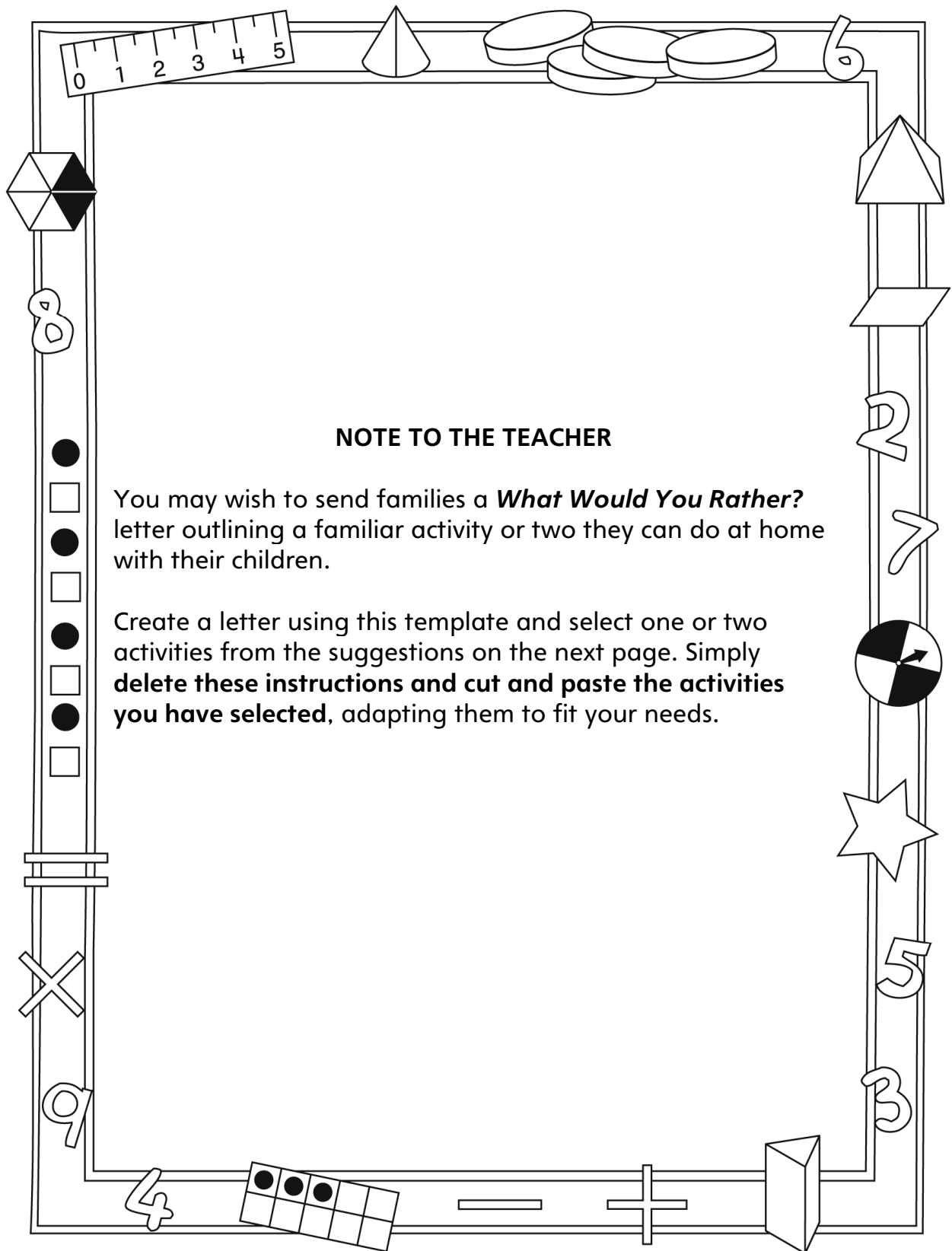
Name: _____

Compare Quantities to 100	Not observed	Sometimes	Consistently
Determines how many more/less one quantity is compared to another			
Uses relevant benchmarks to make mental comparisons and estimate quantities			
Estimate and Count to 100			
Skip-counts by factors of 10 (2, 5, 10) and multiples of 10			
Skip-counts by factors of 100 (20, 25, 50)			
Estimates and counts by different ways to 100			

Strengths:

Next Steps:

Connecting Home and School Line Master 2-1



NOTE TO THE TEACHER

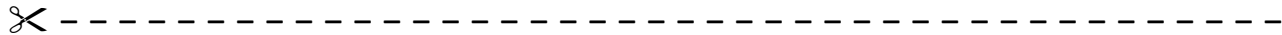
You may wish to send families a *What Would You Rather?* letter outlining a familiar activity or two they can do at home with their children.

Create a letter using this template and select one or two activities from the suggestions on the next page. Simply **delete these instructions and cut and paste the activities you have selected**, adapting them to fit your needs.

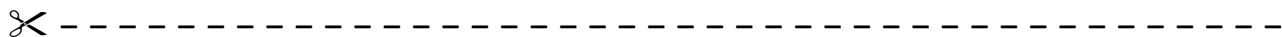
Connecting Home and School Line Master 2-2

Dear Family:

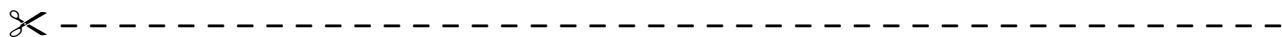
We have been working on *What Would You Rather?*, which focuses on comparing quantities to 100 and estimating and counting to 100. Try this activity at home with your child.



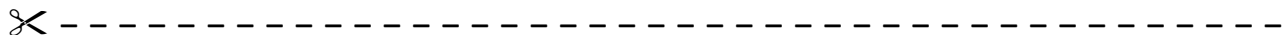
Reading the Story: As you read the story, enjoy estimating, counting, and comparing the objects and creatures on each page. Each set is close in number, so prepare to be surprised!



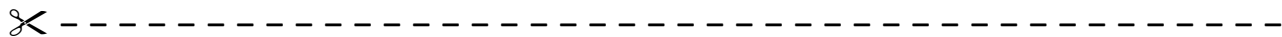
Spiders Galore! After you read, use the Math Mat (on the inside back cover of the book) to create counting stories of spiders in a web. Have your child close his/her eyes while you create sets of equal size on the web, and then have her/him estimate and count to see how many spiders there are. Have fun!



All Set Up! Gather a collection of 100 objects. They can be buttons, coins, counters, or even dried beans or pasta. Have your child count them to be sure of the total. Next, choose a number for each set—either 2, 5, 10, 20, or 25—and have your child break up the 100 objects into groups of that size. Next, he/she should skip-count to find the total (e.g., 10, 20, 30...), touching each group while saying the corresponding number. Trade roles and play too!



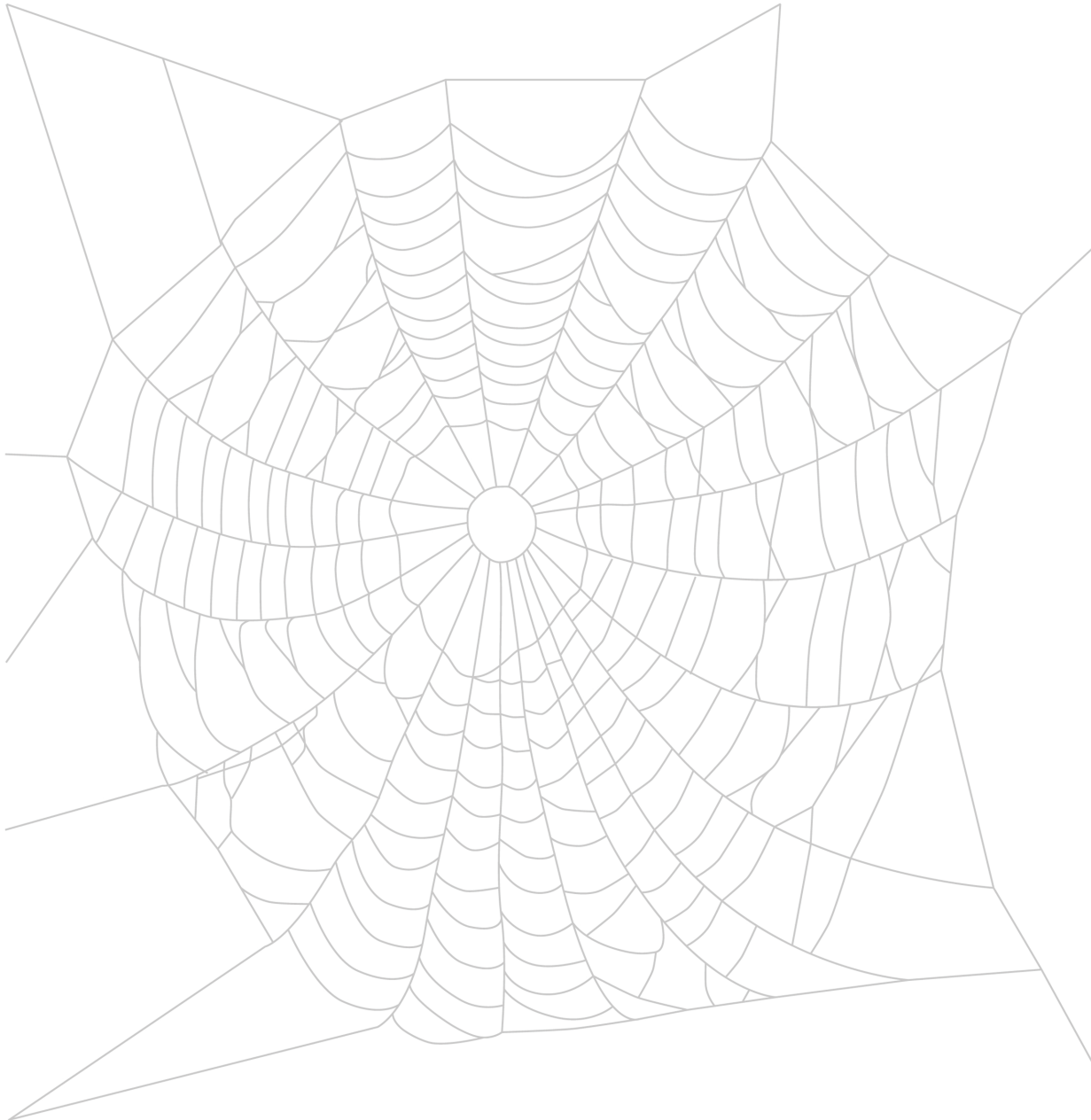
Ten Snap! Quietly count to 100 by 1s. As you reach multiples of 10 (10, 20, 30, 40, etc.), call out the number and snap your fingers. Play again with the multiples of 5 (5, 10, 15, 20, 25...). For a challenge, start at a different number!



Sincerely,

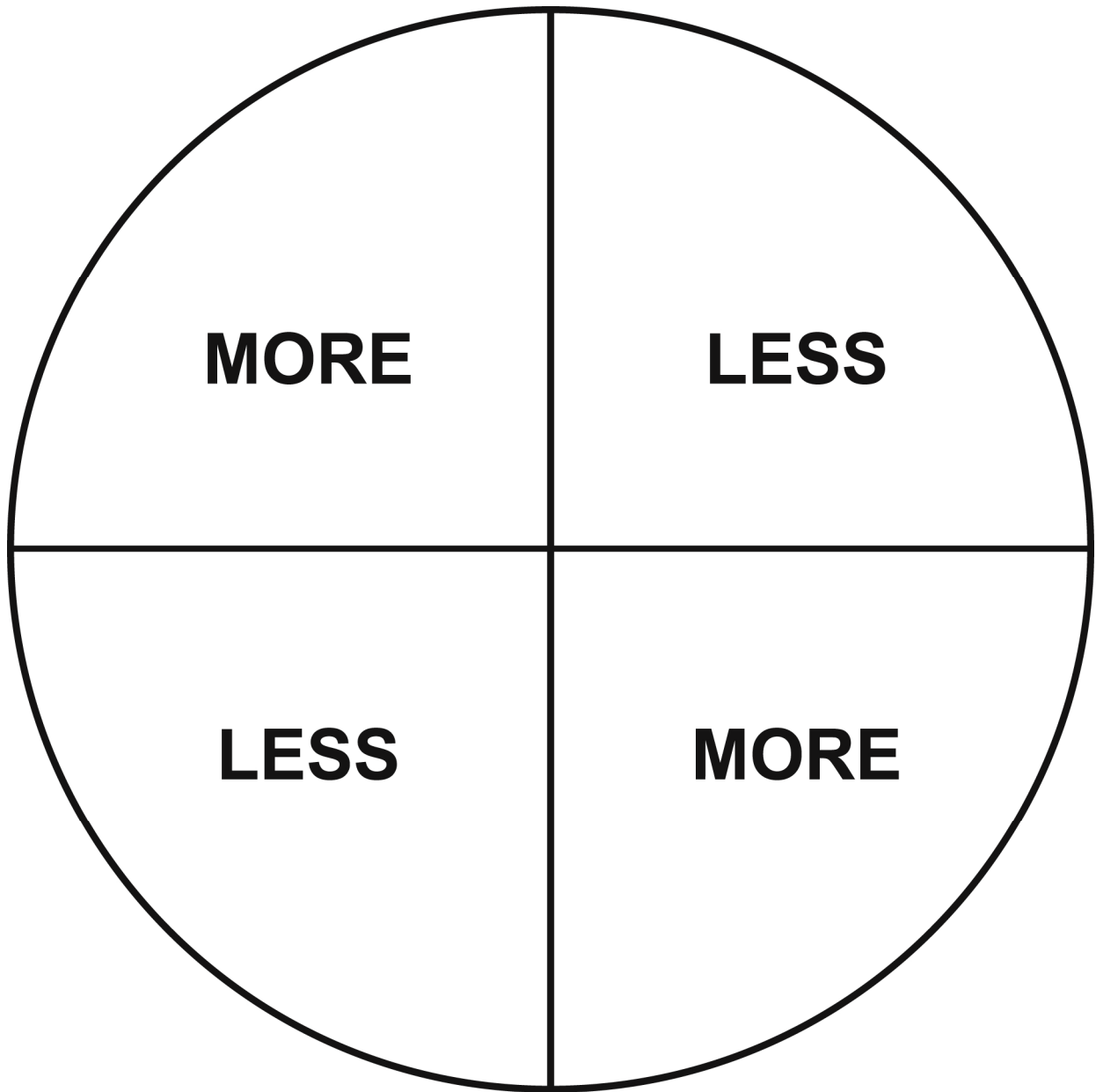
What Would You Rather? **Math Mat**

Line Master 3



More or Less Spinner

Line Master 4



Hundred Chart

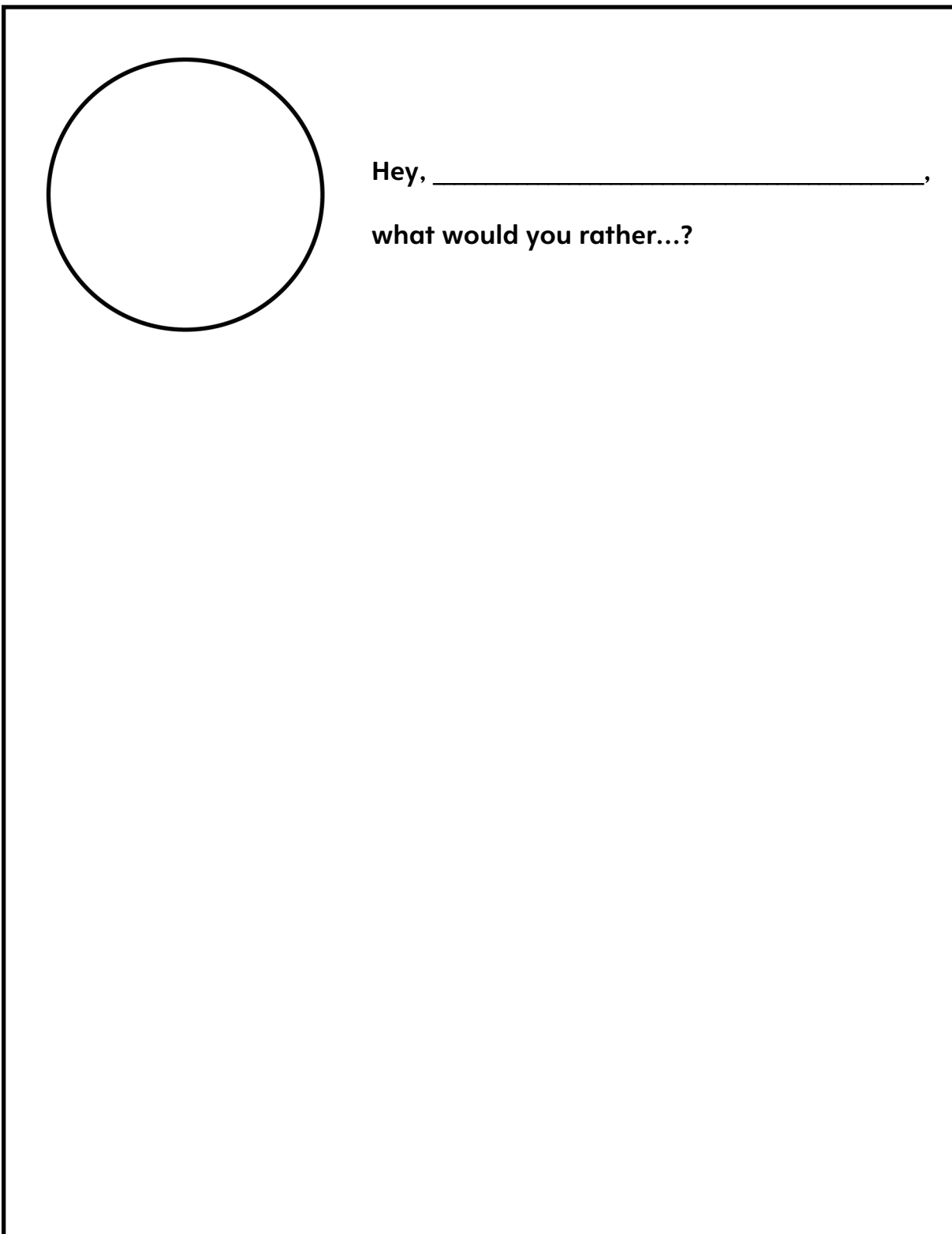
Line Master 5

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

My Page

Line Master 6-1

Name: _____

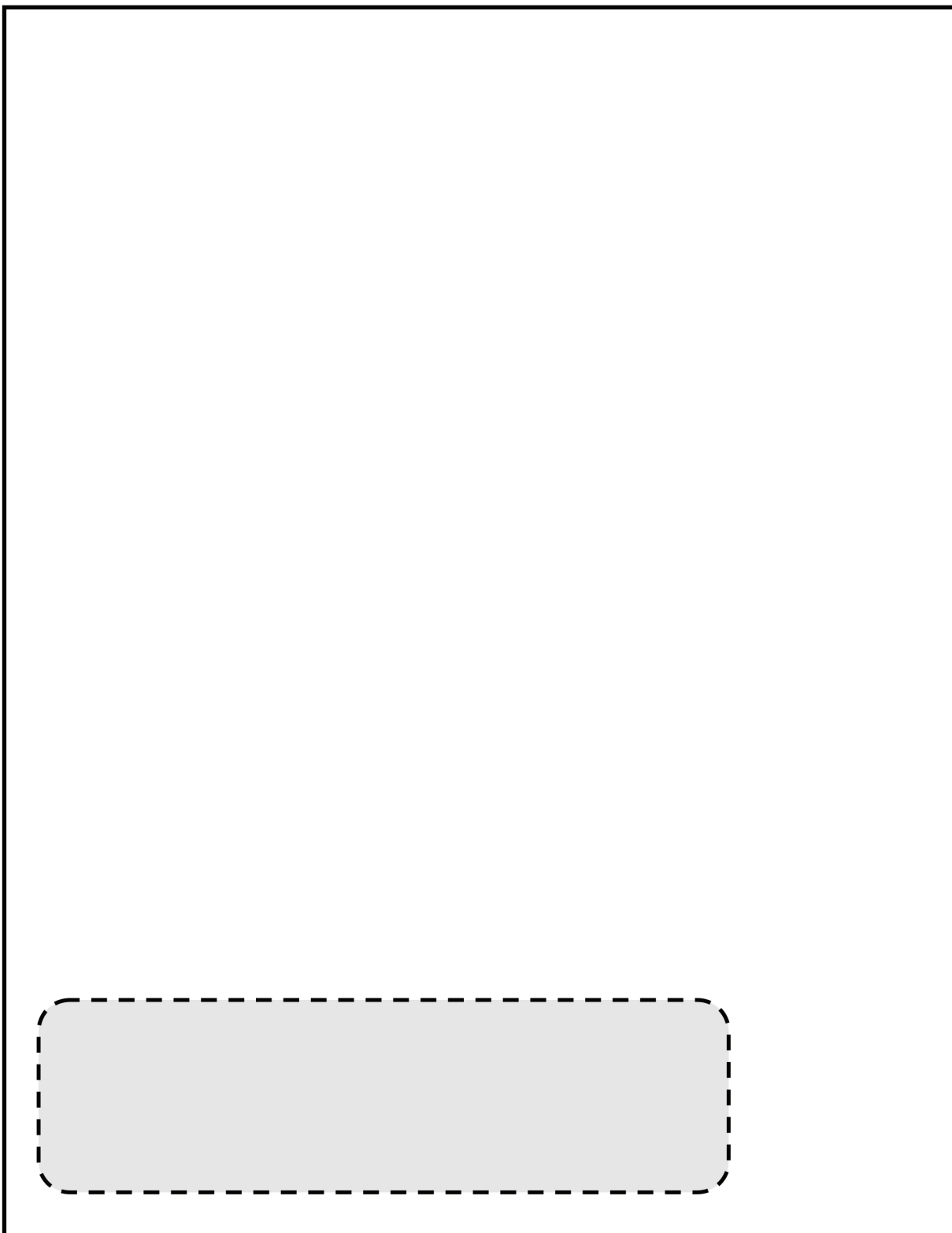


Hey, _____,
what would you rather...?

My Page

Line Master 6-2

Name: _____



Family Fun Day

Line Master 1 (Assessment Master)

Name: _____

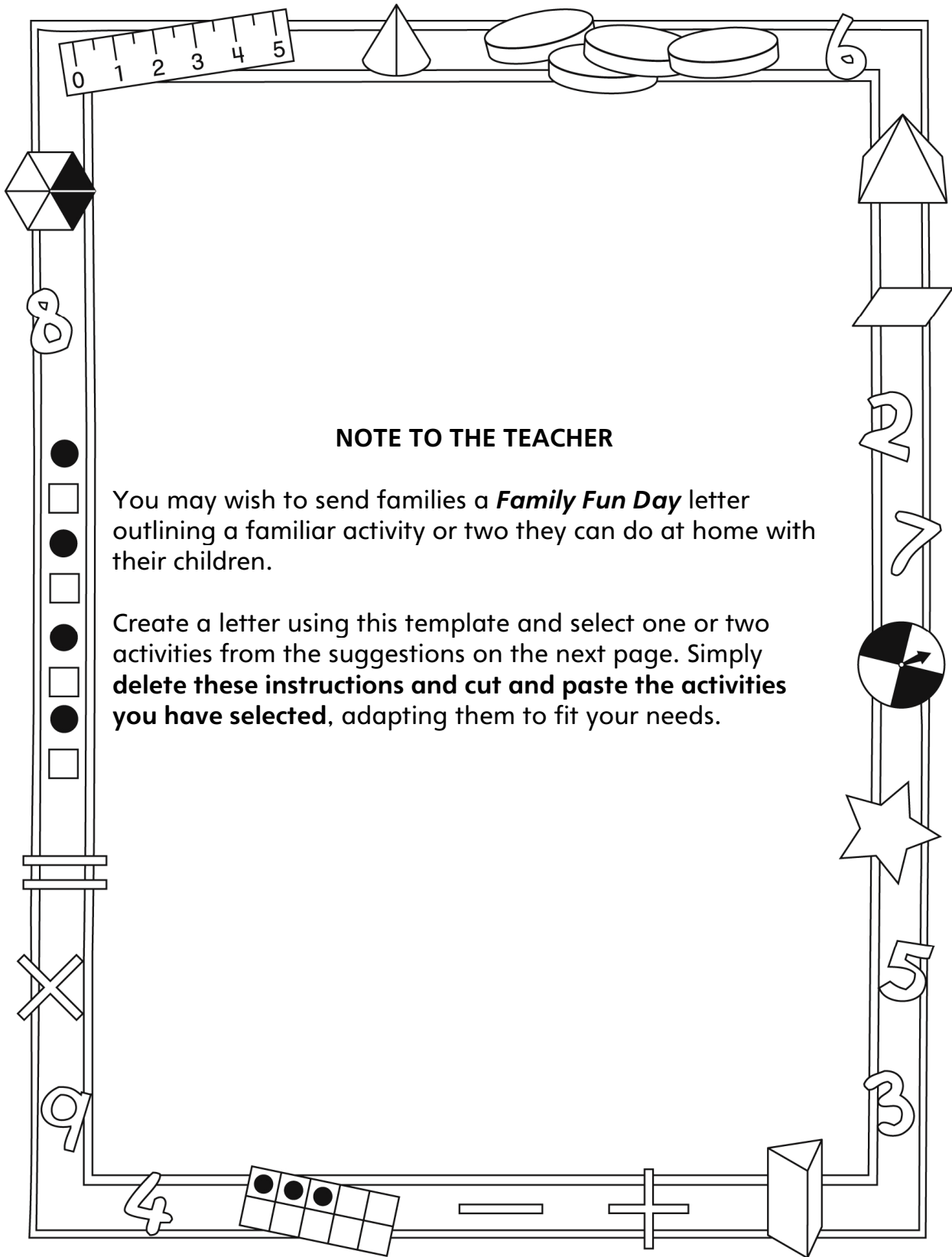
Split Quantities into Equal Groups to Count to 100	Not observed	Sometimes	Consistently
Splits into and skip-counts by equal-sized units, recognizing that the results will be the same when counting by 1s			
Keeps track of number of sets and how many in each set to form a many-to-one relationship			
Recognizes patterns in repeated units that are related to 10			
Uses relevant benchmarks to make mental comparisons and estimate quantities			
Compose and Decompose to 100			
Decomposes quantities to 100 into parts			

Strengths:

Next Steps:

Connecting Home and School

Line Master 2-1



NOTE TO THE TEACHER

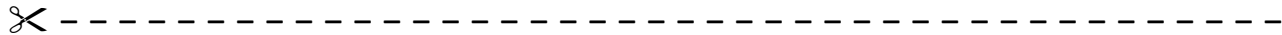
You may wish to send families a *Family Fun Day* letter outlining a familiar activity or two they can do at home with their children.

Create a letter using this template and select one or two activities from the suggestions on the next page. Simply **delete these instructions and cut and paste the activities you have selected**, adapting them to fit your needs.

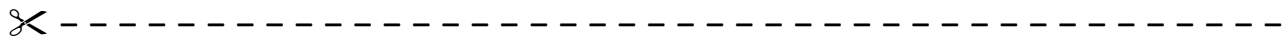
Connecting Home and School Line Master 2–2

Dear Family:

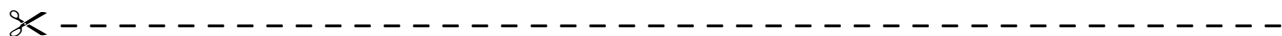
We have been working on **Family Fun Day**, which focuses on splitting quantities into equal groups to count to 100, and composing and decomposing to 100. Try this activity at home with your child.



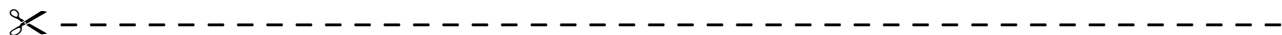
Reading the Story: As you read the story, enjoy counting the families, the food, the kites, the handprints, the shells, and more. The illustrations are full of items that can be counted in groups. The story begins with sets of 50, and moves quickly to include 100 items on each page. Talk about how the items are organized, and which are easiest to see.



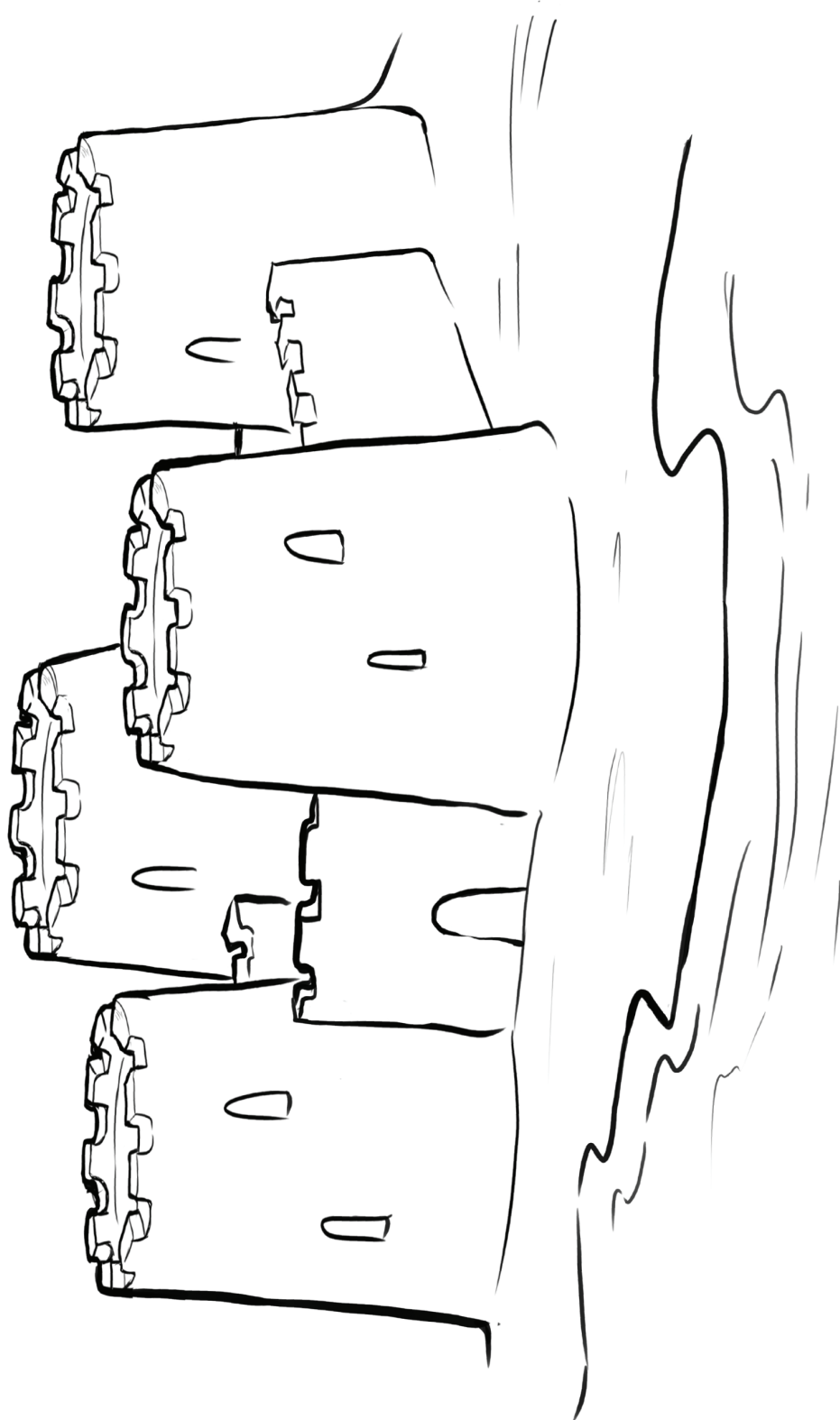
Get to 100! Play a game of “Get to 100!” on a hundred chart. Roll a number cube twice to make a 2-digit number, and place your counter on that space. For example, if you roll a 2 and a 6, you can make either 26 or 62, and then place your counter on whichever of these 2-digit numbers you decide on. Use the chart to figure out how many more you need to get to 100. Write a number sentence to match, if you can!



Will We Get There? You can play this game on the bus, at the soccer field, while waiting in a line, or going for a walk. Pick a number between 30 and 50. Next, pick either 2, 5, 10, or 25 as a skip-counting number. Ask: Will we get to _____ if we count by (2s, 5s, 10s, 25s)? Skip-count and see!

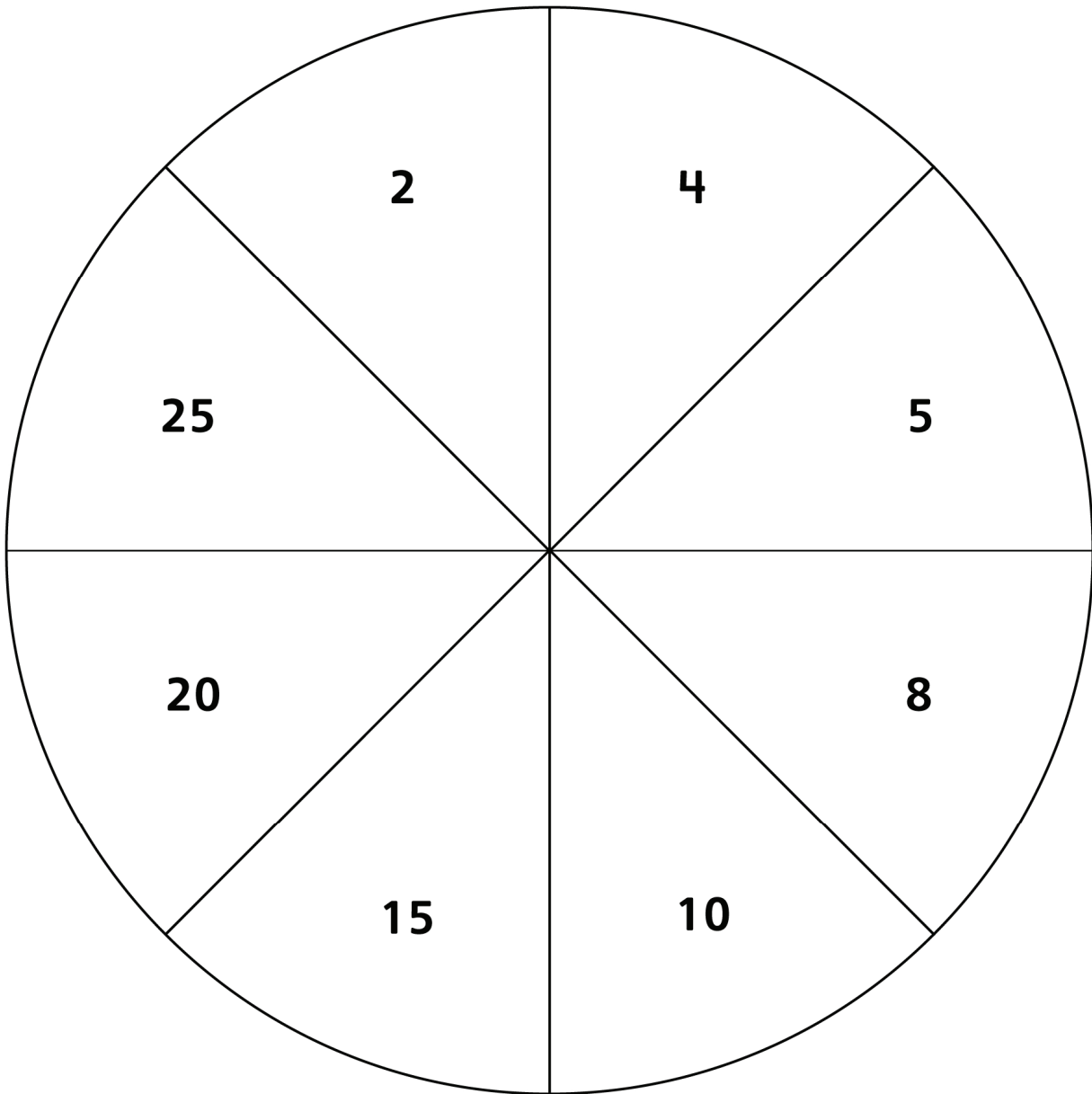


Sincerely,



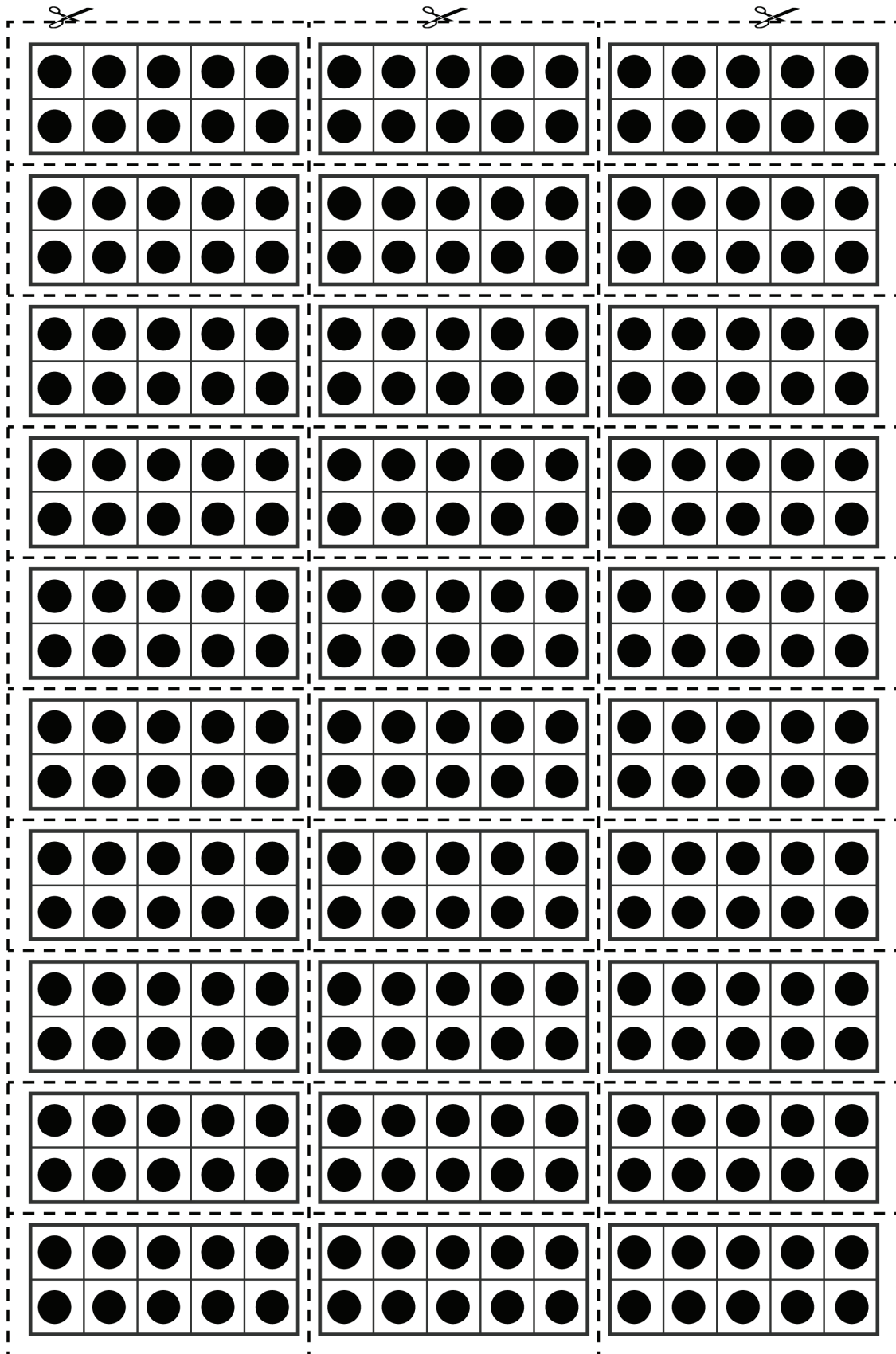
Skip-Counting Spinner

Line Master 4



Filled Ten-Frames

Line Master 5



Partially Filled Ten-Frames

Line Master 6

Line Master 6, Partially Filled Ten-Frames

Party Planning

Line Master 7

Name: _____

There are _____ people in our class. Each package of jelly beans has 10 pieces.

We will need _____ packages.

Here's how we will share them: _____

Other information we need for our party: _____

Use numbers and drawings to show how you counted and figured out your answers.

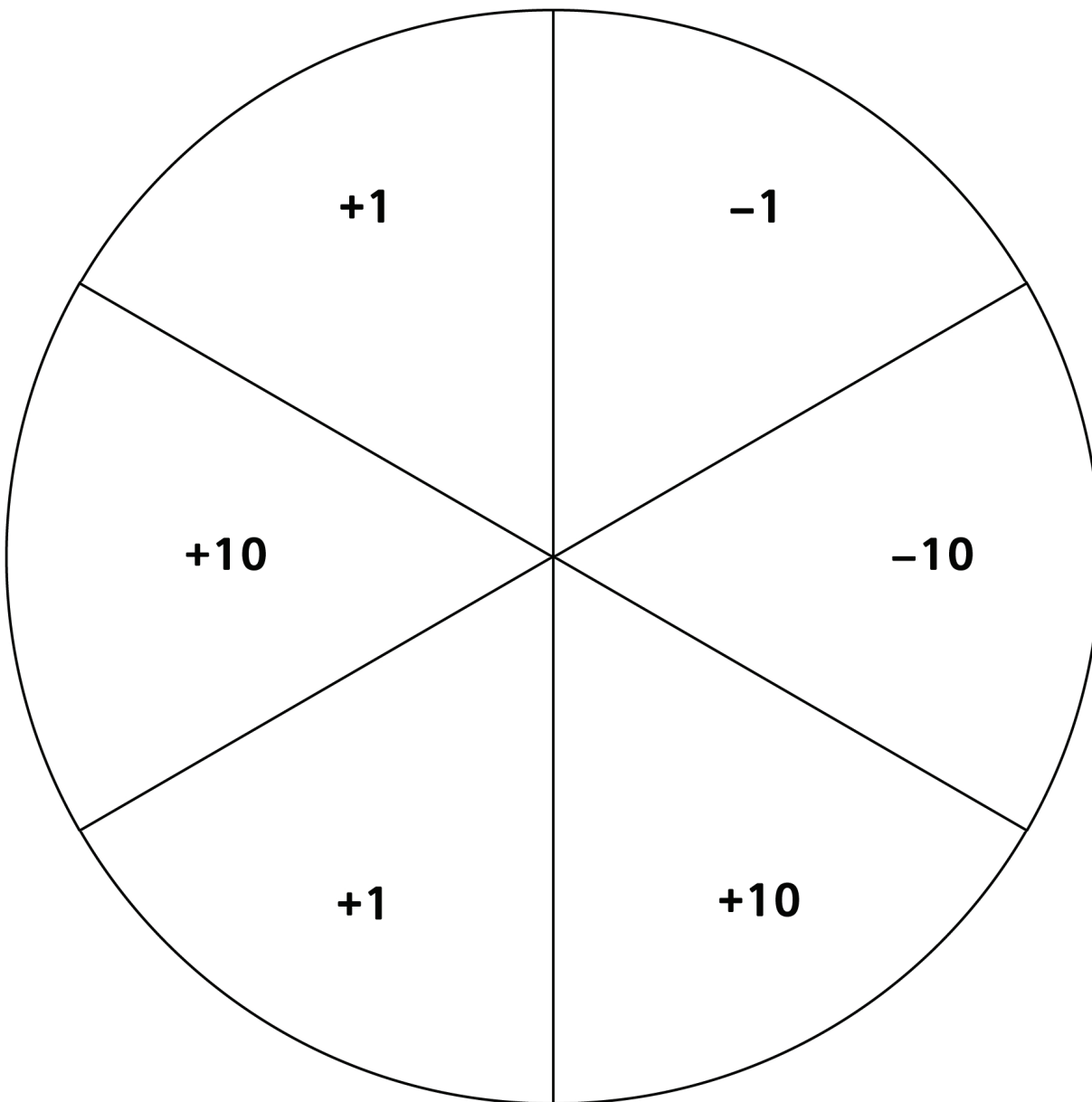
Hundred Chart

Line Master 8

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

Get to 100 Spinner

Line Master 9



Number Riddles

Line Master 10

Name: _____

Create a riddle for our riddle book!

I am more than _____.

I am less than _____.

When you skip-count by 5s, you say me.

When you skip-count by 2s, you don't.

What's my number?

You can use drawings to make your riddle interesting.

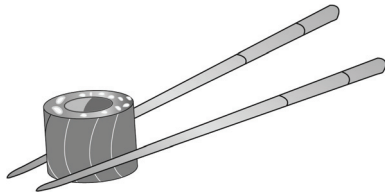
Record the answer for your riddle at the bottom of this page.

Answer: _____

Sharing Problems

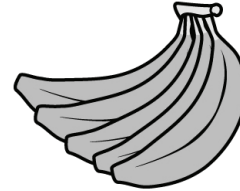
Line Master 11

Name: _____



How could 4 people share 20 pieces of sushi?

How could 5 people share 50 pieces of sushi?



These bananas are in bunches of 5.

How could 10 people share

6 bunches of bananas?

How could 15 people share them?



How could 4 people share \$100?

How could 20 people share \$100?



How could 25 people share 100 balloons?

How could 50 people share 100 balloons?

Back to Batoche

Line Master 1 (Assessment Master)

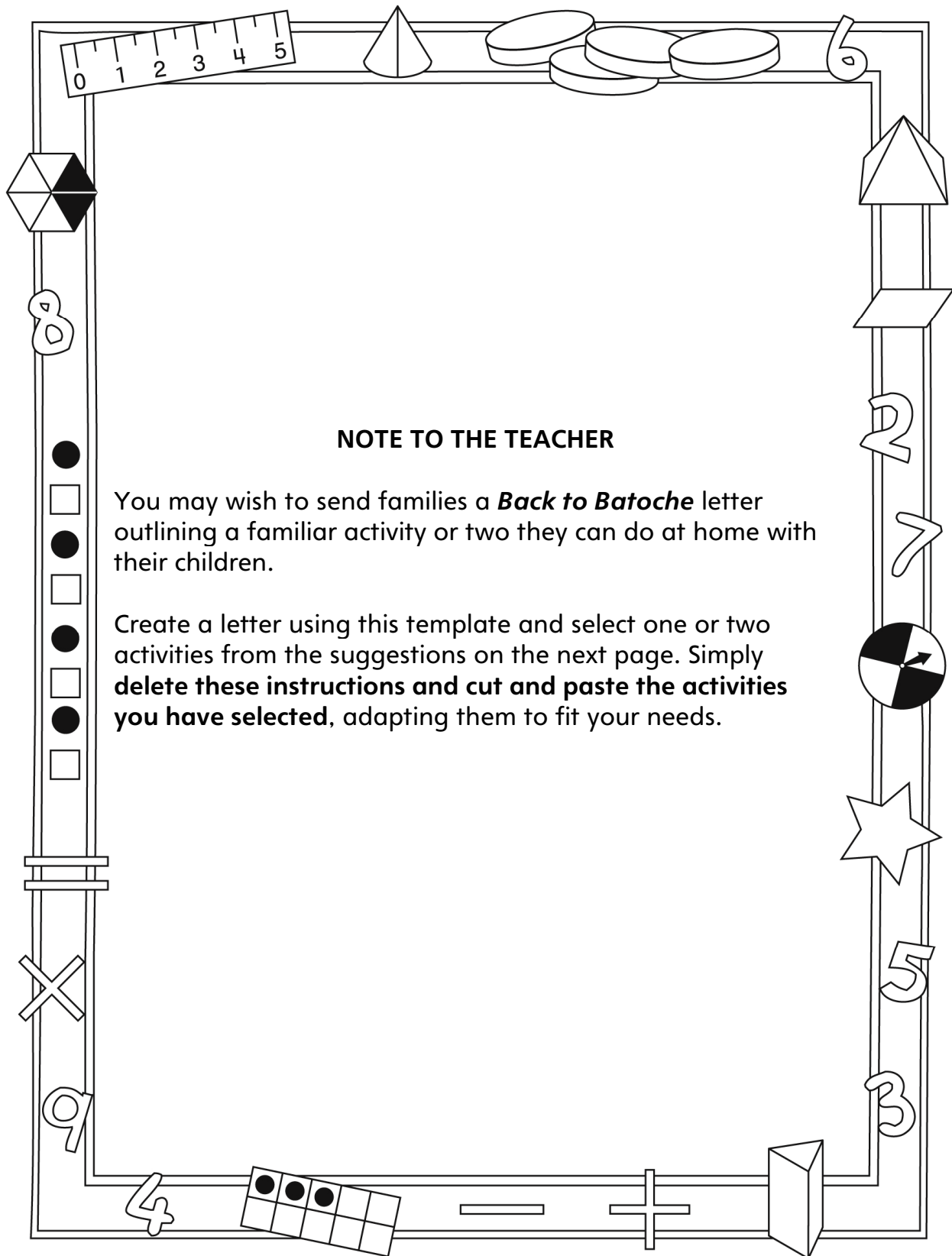
Name: _____

Group quantities based on units of 10	Not observed	Sometimes	Consistently
Writes, reads, composes, and decomposes 2-digit numbers as units of 10 and leftover 1s			
Determines 10 more/less than a given number without counting			
Compare and order numbers to 100			
Determines how many more/less one quantity is compared to another			
Determines more/less based by comparing digits (place value)			
Uses ordinal number names			
Orders 3 or more quantities using sets and/or numerals			

Strengths:

Next Steps:

Connecting Home and School Line Master 2-1



NOTE TO THE TEACHER

You may wish to send families a *Back to Batoche* letter outlining a familiar activity or two they can do at home with their children.

Create a letter using this template and select one or two activities from the suggestions on the next page. Simply **delete these instructions and cut and paste the activities you have selected**, adapting them to fit your needs.

Connecting Home and School Line Master 2–2

Dear Family:

We have been working on **Back to Batoche**, which focuses on grouping quantities based on units of 10, and comparing and ordering numbers to 100. Try this activity at home with your child.



Reading the Story: As you read the story, encourage your child to look for groups of 10 on each page. Invite him/her to compare and order any numbers you come across as you read about the many attractions. Ask him/her to identify which is the greatest and which is the least number.



Making 10s: Provide a handful of small objects such as beads, beans, or buttons. Encourage your child to arrange the objects into groups of 10 and any “extras.” Invite her/him to estimate the total number of objects. Then, skip-count together by 10s (i.e., 10, 20, 30, and so on) to count the number of groups of 10. If there were any extras, have your child count them and add them to the 10s. Ask: **How many did we count altogether? How close was your estimate?**



Tiddlywinks: Play tiddlywinks with your child. A tiddlywink in the cup gets 10 points, and one that hits the cup but doesn’t go in gets 5 points. Keep a running record of points, and pause every so often to compare total scores. Invite your child to predict the winner and figure out how many more points the leader has. As the game progresses, ask your child if the leader changes.



Ordering Numbers: Invite your child to collect flyers and cut out 5–10 items. Encourage him/her to identify the most expensive item and the least expensive item. Then, work together to put the items in order from greatest to least, and then from least to greatest. As a challenge, ask your child to find the price difference between any 2 items.





Sincerely,

Back to Batoche Math Mat

Line Master 3

Name: _____

Tens	Ones
	

Numeral Cards

Line Master 4-1

	✂		✂		✂		✂	
	12	15	17	19	20			
✂								
	21	23	25	27	29			
✂								
	30	33	34	36	38			
✂								
	42	43	47	48	49			

Numeral Cards

Line Master 4-2

	✂	✂	✂	✂	
	50	51	54	55	58
✂					
	61	62	66	67	68
✂					
	70	73	75	77	79
✂					
	81	82	84	86	87
✂					
	90	92	94	98	99

Ordering Numbers

Line Master 5

Name: _____

Record 10 points for an even number and 5 points for an odd number.

Turn	My Points	My Partner's Points
1		
2		
3		
4		
5		
Score After 5 Turns		
6		
7		
8		
9		
10		
Score After 10 Turns		

Who has more points after 5 turns? _____

How many more? _____

Who has more points after 10 turns? _____

How many more? _____

Hundred Chart

Line Master 6

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

Parking Lot

Line Master 7

Name: _____

Grouping Cars

Line Master 8

Name: _____

Roll	Total Number of Cars

I have _____ cars.

There are _____ 10s.

There are _____ 1s.

Attraction Cards

Line Master 9

The Memorial	Log-cutting Competitions	Bannock- making Contest	Souvenirs
Chuckwagon Races	Square Dancing, Jigging, and Fiddling Competitions	Horseshoe Games	Craft Making
Face Painting	Family Games	Tasty Snacks	Horses

Roll and Compare

Line Master 10

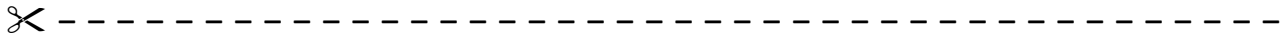
Round	_____ 's Number	_____ 's Number	_____ 's Number
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			

Class Picnic

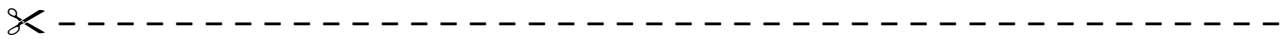
Line Master 11

Name: _____

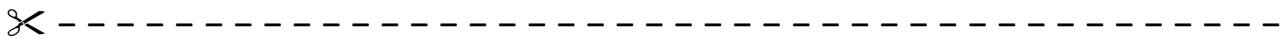
Classroom	Number of People	Number of 10s	Number of 1s	Number of Picnic Tables Needed
1				
2				
3				
4				
5				
Whole School				



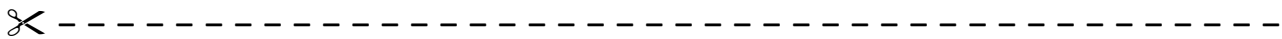
Raine bought 2 red sashes for \$35 each. Ryan bought 2 blue sashes for \$30 each.
Who spent more money? How much more? Show how you know.



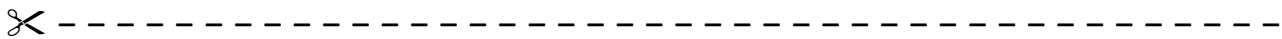
Raine finished 4th in the flour-sack race and Ryan finished 7th.
Who finished the race faster? By how many places?



Steve got 10 votes in the bannock contest. Sage got 10 more votes than Steve. Diana got twice as many votes as Sage.
Who had the most votes?
How can you put them in order from greatest to least?



Team A had 20 points in horseshoes. Team B had 15 more points than Team A. Team C had twice as many points as Team A.
Which team won?
How can you put the scores in order from least to greatest?



A Class-full of Projects

Line Master 1 (Assessment Master)

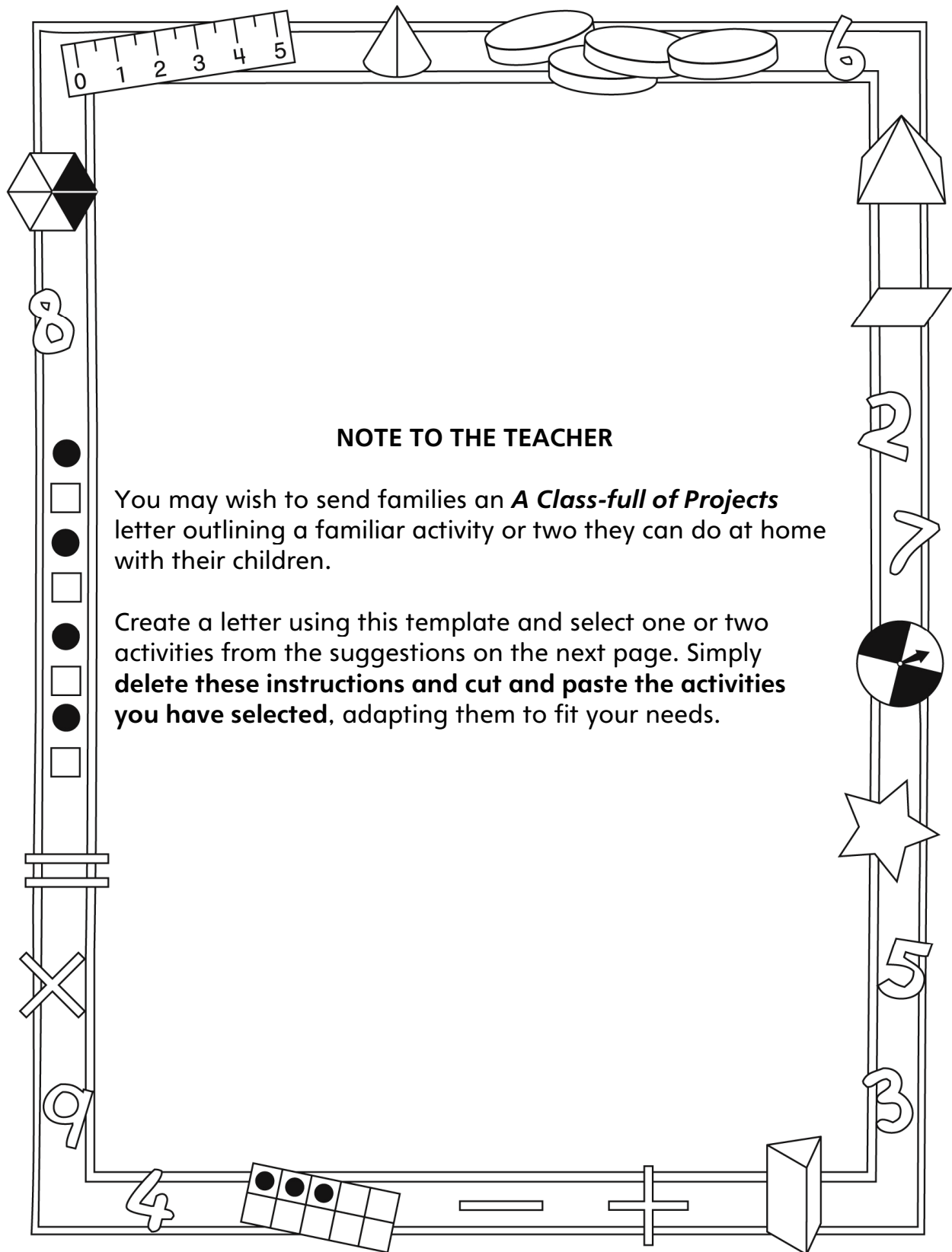
Name: _____

Add and Subtract to 100	Not observed	Sometimes	Consistently
Estimates sums and differences			
Models and symbolizes addition and subtraction			
Develops mental and personal addition and subtraction strategies			
Develops complements of 100			
Compose and Decompose Based on Units of 10			
Writes, reads, and composes 2-digit numbers as 10s and 1s			
Determines 10 (other multiples of 10) more/less than a given number			

Strengths:

Next Steps:

Connecting Home and School Line Master 2-1



NOTE TO THE TEACHER

You may wish to send families an *A Class-full of Projects* letter outlining a familiar activity or two they can do at home with their children.

Create a letter using this template and select one or two activities from the suggestions on the next page. Simply **delete these instructions and cut and paste the activities you have selected**, adapting them to fit your needs.

Connecting Home and School Line Master 2–2

Dear Family:

We have been working on *A Class-full of Projects*, which focuses on adding and subtracting to 100, and composing and decomposing numbers based on units of 10. Try this activity at home with your child.



Reading the Story: As you read the story, enjoy figuring out together the progress of each group as they make and then reuse collections of 100. After you read, use small objects such as buttons, coins, or nuts and bolts to investigate making 100. Invite your child to grab a handful of the objects, and spill them onto the Math Mat (inside back cover of the book). Have your child estimate the number of items there are. Then, invite him/her to place the items in groups of 10 (10s) and a group of the leftovers (1s). Then, ask “How many more groups of 10 do we need to make 100?”



Race to 100: This game builds proficiency in adding and develops number sense to 100. You need a hundred chart, numeral cards for the numbers 1 to 9, and a small object for each of you, such as a coin. (Your child has the hundred chart and the cards.) Turn the numeral cards face down. To start the game, turn over 2 cards. Ask your child to help you to add the numbers on the cards. Then, place your marker on the sum on the hundred chart. For example, if you pick the numbers 7 and 8, you place your marker on 15. Turn the 2 numeral cards face down again and mix up all the cards. For the next turn, your child selects another 2 numeral cards, adds those numbers, and places his/her coin on the sum. Continue taking turns and moving your markers forward on the hundred chart by the amount of each sum. Get as close to 100 as you can!



That’s 100, Too! In class, we are looking for ways to make 100. We have found lots of ways, including $50 + 50$, $10 + 90$, and $35 + 10 + 55$, just to share a few. There are lots of other ways! Encourage your child to investigate other ways to make 100. You can work along, too! Please have your child bring more ideas to make 100 to class by (date).



Sincerely,

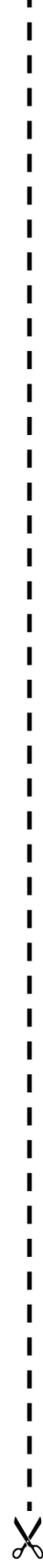
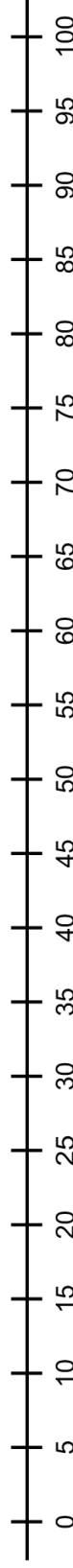
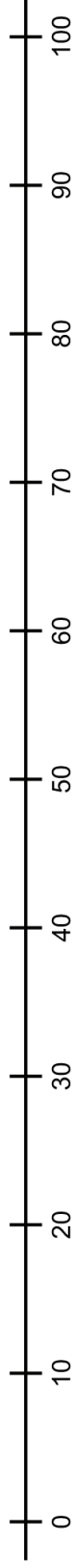
Hundred Chart

Line Master 3

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

Number Lines

Line Master 4



Make It 100

Line Master 5

Name: _____

How many are in your collection?

Use numbers, words, and/or drawings to tell how many.

How many more do you need to make 100?

Show how you know using numbers, words, and/or drawings.

From 100

Line Master 6

Name: _____

How many are in your collection? _____

How many are you taking from your collection? _____

How many are left in your collection? _____

Show how you know using numbers, words, and/or drawings.

A Class-full of Projects Math Mat

Line Master 7

Name: _____

Ones	
Tens	

Get Close to 100

Line Master 8

Name: _____

Roll	Tens	Ones
1		
2		
3		
4		
5		
How many?		

0	1	2
3	4	5
6	7	8
9		

3 in a Row

Line Master 10

Name: _____

What You Need:

- cards for 0 to 9
- counters in 2 colours

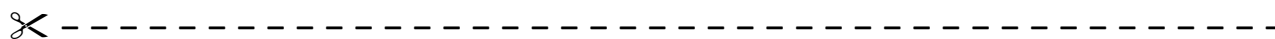
How to Play:

1. Turn 2 cards face down. Use them to make a 2-digit number. For example, if your cards are 5 and 8, you can make the numbers 58 or 85.
2. Put a counter on the number you make. Or, you can put a counter on the number that is 10 greater or 10 less.
Example: If you made 58, you can put a counter on 58. Or on $58 + 10$, which is 68. Or on $58 - 10$, which is 48.
3. The player with 3 in a row WINS!

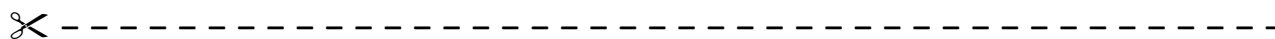
Turn	My Cards	My Number	Number I Put My Counter On
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

Solving Problems

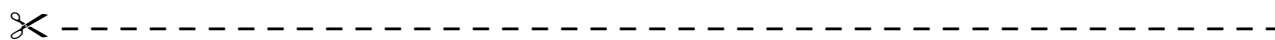
Line Master 11



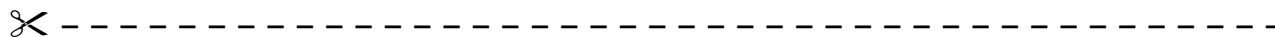
Jordie wants to make a collection of 100 baseball cards.
She has 65 already. How many more does she still need?



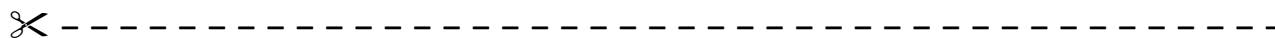
Alexis collected 30 shells the first day at the beach.
The next day, she collected another 48.
How many does she have?
How many more does she need to collect to make 100?



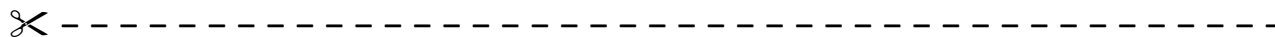
Kyle collected 100 rocks. He decided to give some to his sister.
He gave her 28. How many does he have left in his collection?



Sam is excited because his Grandpa gave him 55 stamps for his collection.
He now has 100 stamps!
How many did he have before his Grandpa gave him 55 stamps?



Jonah, Luc, and Abby are working together to make a collection
of 100 stickers.
Jonah has 42 stickers. Luc has 35. Abby has 18. Do they have 100?



The Money Jar

Line Master 1 (Assessment Master)

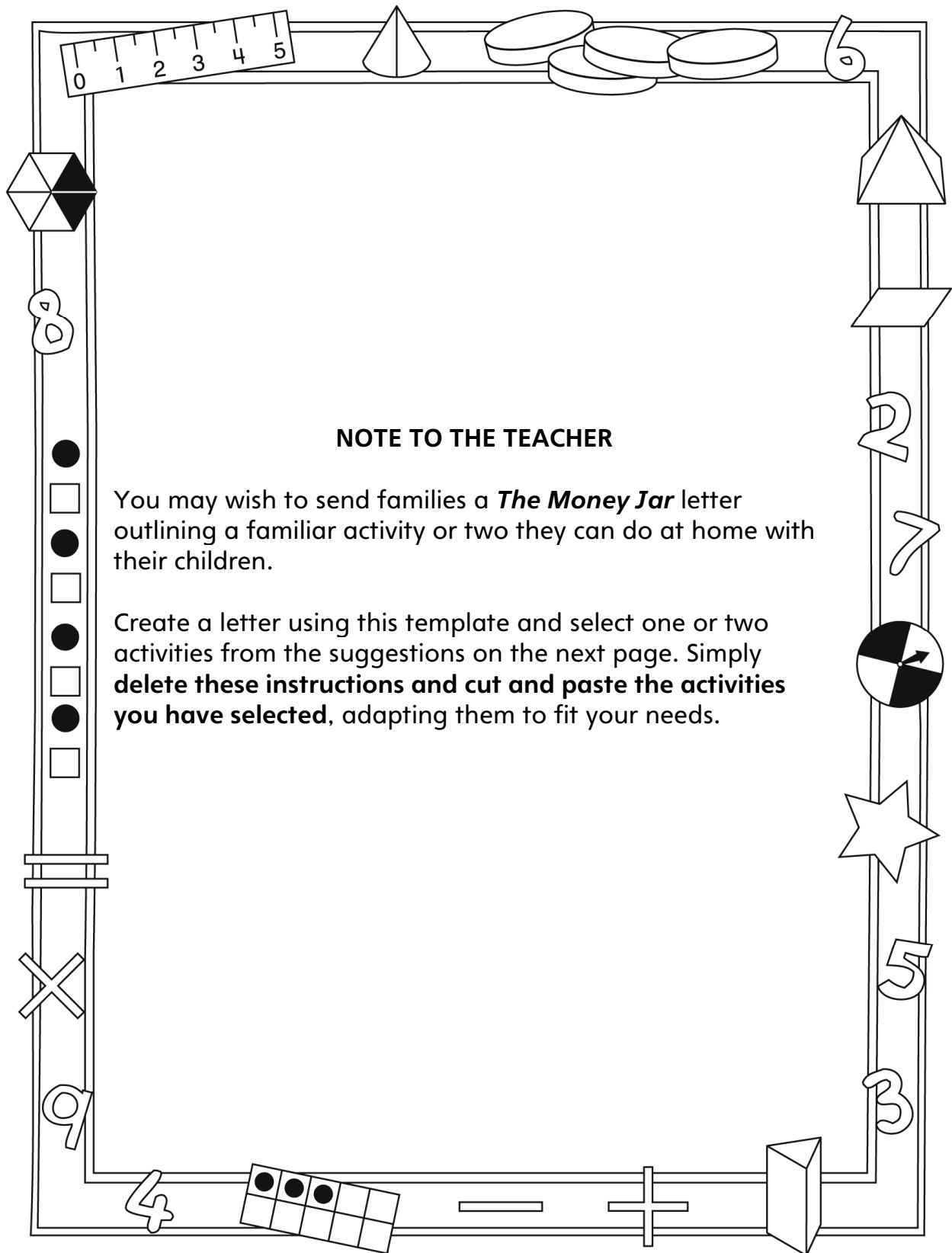
Name: _____

Add and Subtract to 100	Not observed	Sometimes	Consistently
Models and symbolizes addition and subtraction problem types			
Uses properties of addition and subtraction			
Extends known sums and differences to solve other equations			
Develops efficient mental strategies to solve equations with multi-digit numbers			
Compose and Decompose Based on Units of 10			
Writes, reads, composes, and decomposes 2-digit numbers as units of 10 and leftover 1s			
Determines 10 more/less than a given number without counting			

Strengths:

Next Steps:

Connecting Home and School Line Master 2-1



NOTE TO THE TEACHER

You may wish to send families a *The Money Jar* letter outlining a familiar activity or two they can do at home with their children.

Create a letter using this template and select one or two activities from the suggestions on the next page. Simply **delete these instructions and cut and paste the activities you have selected**, adapting them to fit your needs.

Connecting Home and School Line Master 2-2

Dear Family:

We have been working on *The Money Jar*, which focuses on adding and subtracting to 100, and composing and decomposing based on units of 10. Try this activity at home with your child.



Reading the Story: As you read the story, enjoy counting the money that goes into the money jar, adding the totals, and subtracting what is taken out. After you read, you might gather some coins or play money to re-create some of the different scenes in the story.



Money Shout Out: Gather an assortment of coins or play money. Start by shouting out an amount of money (less than a dollar); your child then must build that amount, using the coins or play money. If the amount is correct, he/she gets a point. Then, ask your child to find another way to build the same amount to get another point. Switch roles. First person to score 10 points wins.



What's in My Hand? Put a few coins in each hand. Show your child what you have in one hand and hide the other behind your back. Say the total of all the coins, and tell your child to use the sum to guess the hidden amount. Then, invite your child to guess what coins you have.



Cupcake Money: On the inside of cupcake liners, write different amounts of money that are under a dollar. Have your child put the correct amount of coins (or play money) in each cupcake liner. Count together to ensure that the correct amount was placed in each liner.



Sincerely,

Play Money

Line Master 3

5¢	5¢	5¢	5¢
10¢	10¢	10¢	10¢
25¢	25¢	25¢	25¢
\$1	\$1	\$1	\$1
\$2	\$2	\$2	\$2

The Money Jar Math Mat

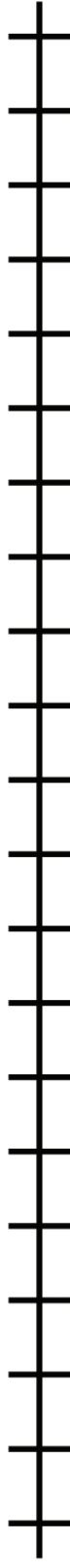
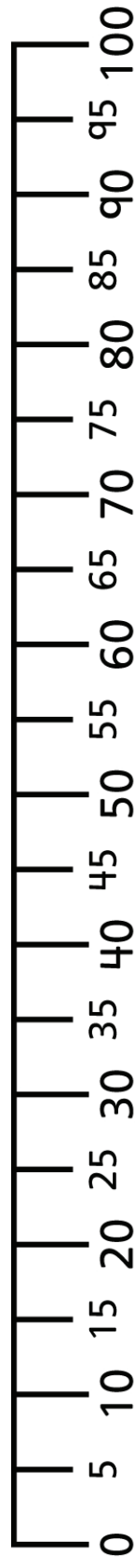
Line Master 4

Name: _____

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

Number Lines

Line Master 5



Double Ten-Frame

Line Master 6

Number of the Day

Line Master 7-1

Name: _____

The number of the day is:

Show the number with tally marks.

Show how many 10s and 1s.

10s	1s

Show the number with Base Ten Blocks.

Number of the Day

Line Master 7-2

Name: _____

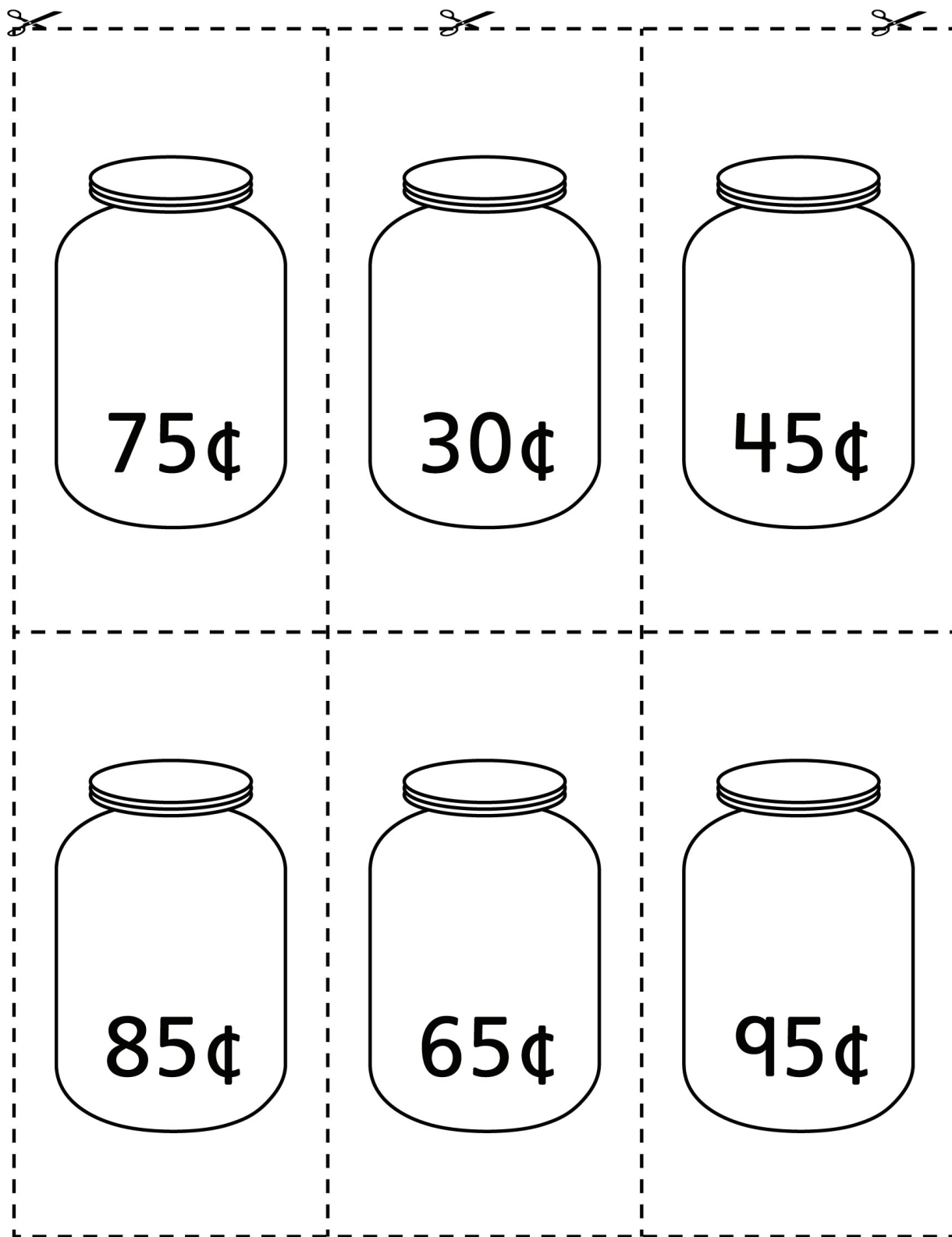
The number of the day is:

<p>Break the number apart.</p> $\underline{\hspace{2cm}} + \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$	<p>Show more than and less than.</p> <table border="1" style="margin-left: auto; margin-right: auto;"><tr><td></td><td style="text-align: center;">10 less</td><td></td></tr><tr><td style="text-align: center;">1 less</td><td></td><td style="text-align: center;">1 more</td></tr><tr><td></td><td style="text-align: center;">10 more</td><td></td></tr></table>		10 less		1 less		1 more		10 more	
	10 less									
1 less		1 more								
	10 more									

Show the number with coins.

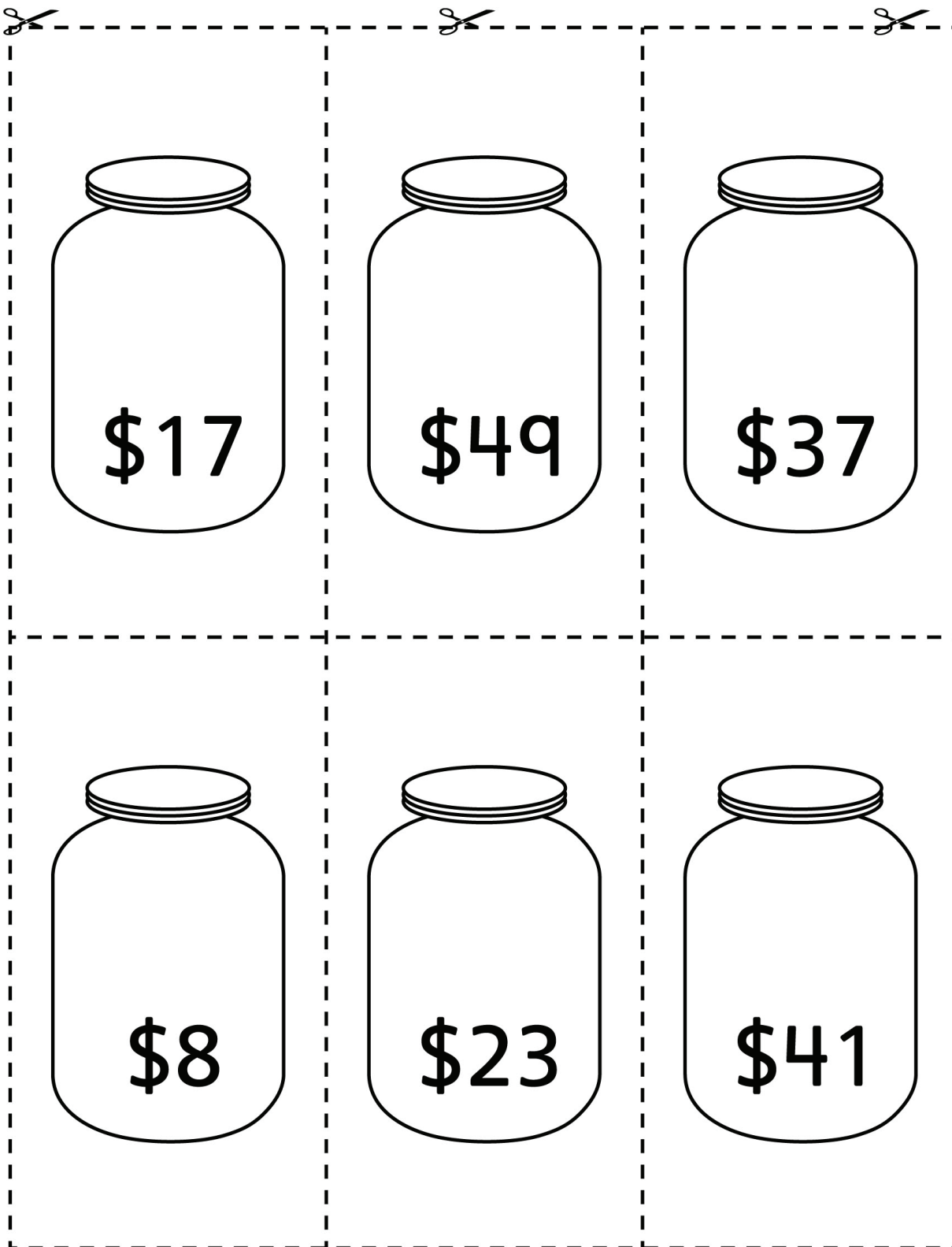
Money Jars

Line Master 8-1




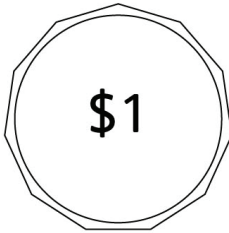


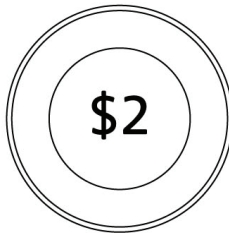
Money Jars


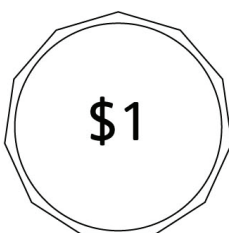


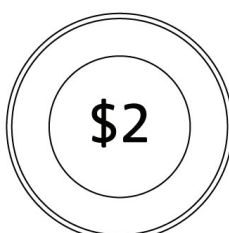
Line Master 8-2



Race to \$100

Line Master 9-1

  \$1	 Miss a Turn	 \$5
\$20	 \$2	\$10

  \$1	 Miss a Turn	 \$5
\$20	 \$2	\$10

Race to \$100

Line Master 9-2

Name: _____

My Score		My Friend's Score	
Card Drawn	Total So Far	Card Drawn	Total So Far

Back to Back

Line Master 10



My Number

+

My Friend's Number

=

Sum



My Number

+

My Friend's Number

=

Sum



My Number

+

My Friend's Number

=

Sum



My Number

+

My Friend's Number

=

Sum



Buying School Supplies

Line Master 11

Name: _____

You have only \$1. You want to buy as many items as you can.

Circle the items you plan to buy.

Pencils	16¢ each
Pencil Crayons	40¢ each
Scissors	82¢ each
Pencil Case	98¢ each
Glue Stick	34¢ each
Ruler	76¢ each

How many items did you get? _____

How much do you have left over? _____

Now How Many?

Line Master 12

✂ -----

You have 45¢ in your pocket. What are the possible combinations of coins you could have?

✂ -----

Carlos has 17¢ and Neil has 25¢. How much more money does Neil have?

✂ -----

John sold his hockey card for 60¢ and then bought some gum for 25¢. How much money does he have now?

✂ -----

Matthew has 68¢. Shawn has a nickel more than Matthew. How much money does Shawn have?

✂ -----

Mr. Fraser had 75¢. He decided to spend 45¢ on a cupcake from the bake sale. How much money does Mr. Fraser have now?

✂ -----

Laura had 60¢ and decided to spend 35¢ on a yo-yo. How much money does Laura have now?

✂ -----

Omar has 1 quarter, 2 dimes, and 3 nickels. How much money does he have altogether?

✂ -----

The Great Dogsled Race

Line Master 1 (Assessment Master)

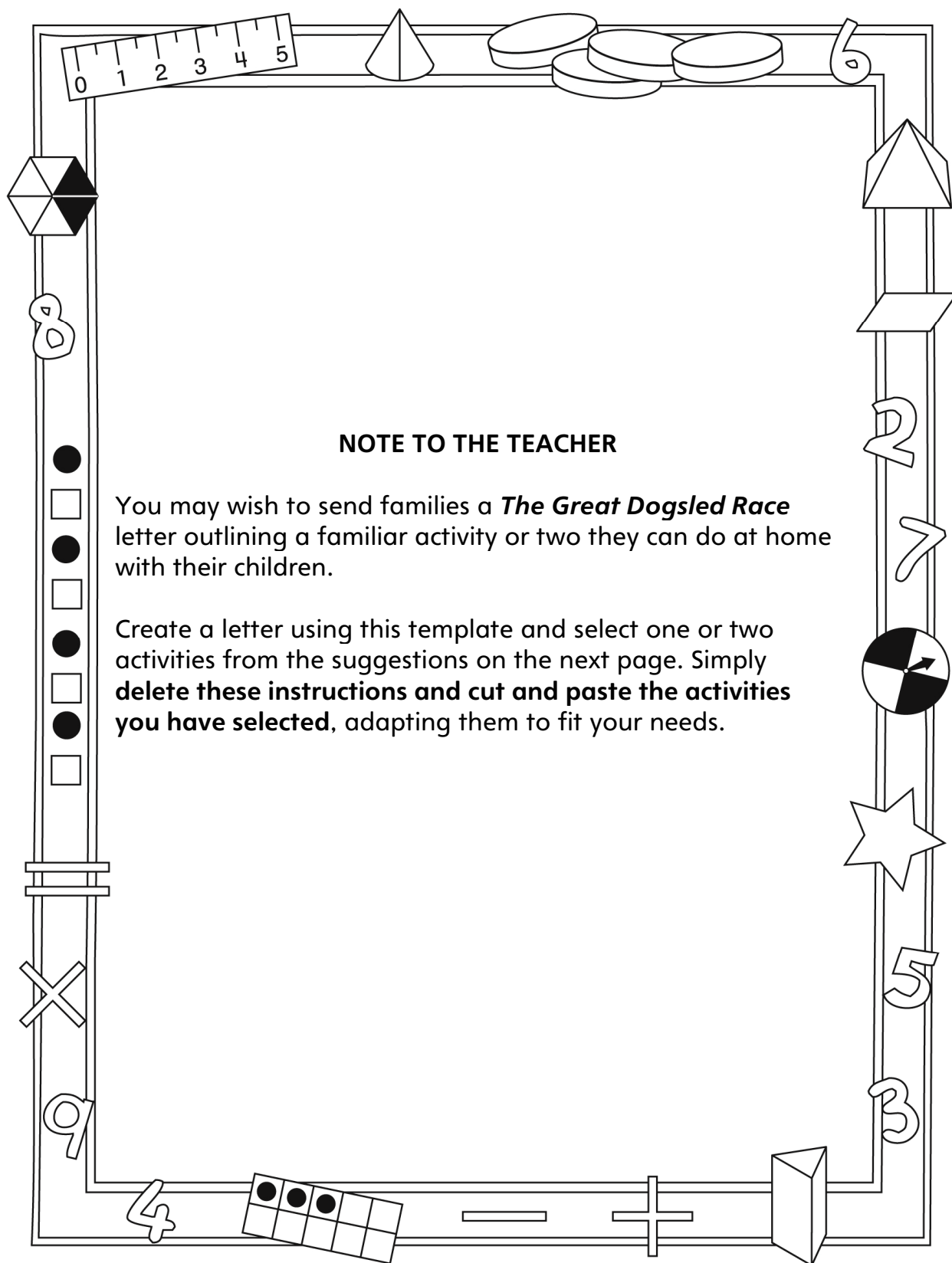
Name: _____

Add and Subtract to 100	Not observed	Sometimes	Consistently
Estimates sums and differences			
Extends known sums and differences to solve other equations			
Develops mental and personal addition and subtraction strategies			
Models and symbolizes addition and subtraction			
Compare and Order Numbers			
Compares quantities to 100			
Orders three or more quantities			
Finds how many more/less one quantity is compared to another			

Strengths:

Next Steps:

Connecting Home and School Line Master 2-1



Connecting Home and School Line Master 2–2

Dear Family:

We have been working on *The Great Dogsled Race*, which focuses on adding and subtracting to 100, and comparing and ordering numbers. Try this activity at home with your child.



Reading the Story: As you read the story, encourage your child to follow along as Darryl and Natalie take care of the dogs. They can count scoops of food, tally daily exercises, and add the number of race-goers. After reading, engage your child in tracking the animals they see regularly and monitoring the differences between numbers that come up in daily life. For example: **We saw 6 dogs on the way to school and 4 on the way home. How many more did we see in the morning?**



Blogging: Encourage your child to keep a daily blog or journal to record important numbers they encounter every day. Explain that regular updates can include important events, weather statistics, and number facts. Talk about special items they would like to include. Invite them to share their blogs with family, friends, and classmates.



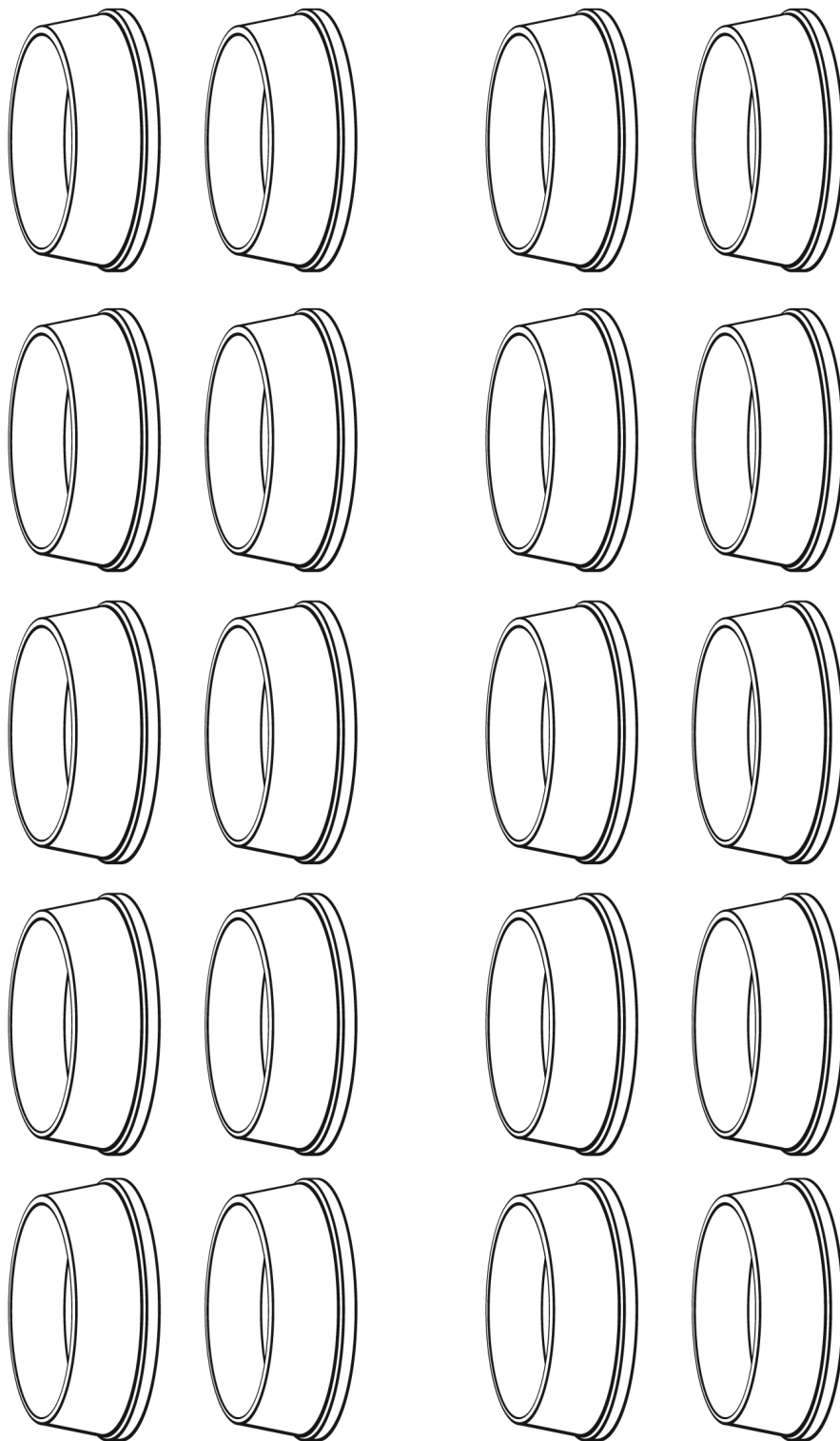
Race to 50: Use number cubes and counters (any small objects) to play Race to 50. Take turns rolling 2 number cubes and adding the numbers together. Record each answer using tally marks. Each player should keep track of their own score, adding to the tally marks each time they roll 2 number cubes. The first to reach 50 wins the game. Encourage your child to predict each move and to double-check their answers. Extend the game by racing to 100 or racing back from 50 to 0 by rolling number cubes and subtracting tally marks.



Sincerely,

The Great Dogsled Race Math Mat

Line Master 3



Hundred Chart

Line Master 4

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

Modelling Addition

Line Master 5

Name: _____

Solve using words, numbers, and/or drawings.

$$\underline{\quad} + \underline{\quad} = \underline{\quad}$$

Circle the tool(s) you used:

- Base Ten Blocks
- Hundred chart
- Number line
- Other: _____

Modelling Subtraction

Line Master 6

Name: _____

Solve using words, numbers, and/or drawings.

$$\underline{\quad} - \underline{\quad} = \underline{\quad}$$

Circle the tool(s) you used:

- Base Ten Blocks
- Hundred chart
- Number line
- Other: _____

Making 10

Line Master 7

Name: _____

$$25 + 15 = \underline{\quad}$$

$$33 + 27 = \underline{\quad}$$

$$11 + 29 = \underline{\quad}$$

Numeral Cards

Line Master 8-1

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

Numeral Cards

Line Master 8-2

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

Numeral Cards

Line Master 8-3

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

Numeral Cards

Line Master 8-4

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

Fifty Chart

Line Master 9

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



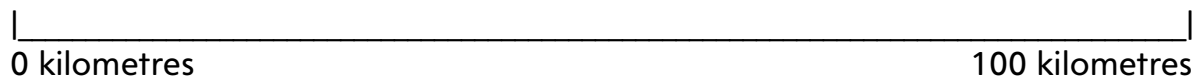
1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50

Race Map

Line Master 10

Name: _____

Record your checkpoints along the route.



Checkpoint Number	Distance from Start in kilometres
Start	0 kilometres
1	
2	
3	
4	
End	100 kilometres

The distance between the start and Checkpoint 1 is _____.

The distance between Checkpoints 1 and 2 is _____.

The distance between Checkpoints 2 and 3 is _____.

The distance between Checkpoints 3 and 4 is _____.

The distance between Checkpoint 4 and the end is _____.

Class Blog

Line Master 11

Name: _____

CLASS NUMBER FACTS:	Class Blog		
	Today's date is _____ Our daily update...		
NEWS:			
PHOTOS:			
	Total number of students today: _____		
	<i>Read</i>	<i>Comments</i>	<i>Likes</i>

Dogsled Math Problems

Line Master 12-1



The longest distance between checkpoints during the race is 63 kilometres and the shortest distance is 17 kilometres. What is the difference between 63 and 17? Use words, numbers, and/or drawings to show your thinking.



The oldest racer to compete was 71 years old and the youngest racer was only 18 years old. What is the difference between their ages? Use words, numbers, and/or drawings to show your thinking.

Dogsled Math Problems

Line Master 12-2



41 people read the blog on Day 6, and 52 people read it on Day 7. How many people read the blog altogether on Day 6 and Day 7?



38 people read the blog on Day 8, and 62 people read it on Day 9. How many people read the blog altogether on Day 8 and Day 9?

Marbles, Alleys, Mibs, and Guli! Line Master 1

(Assessment Master)

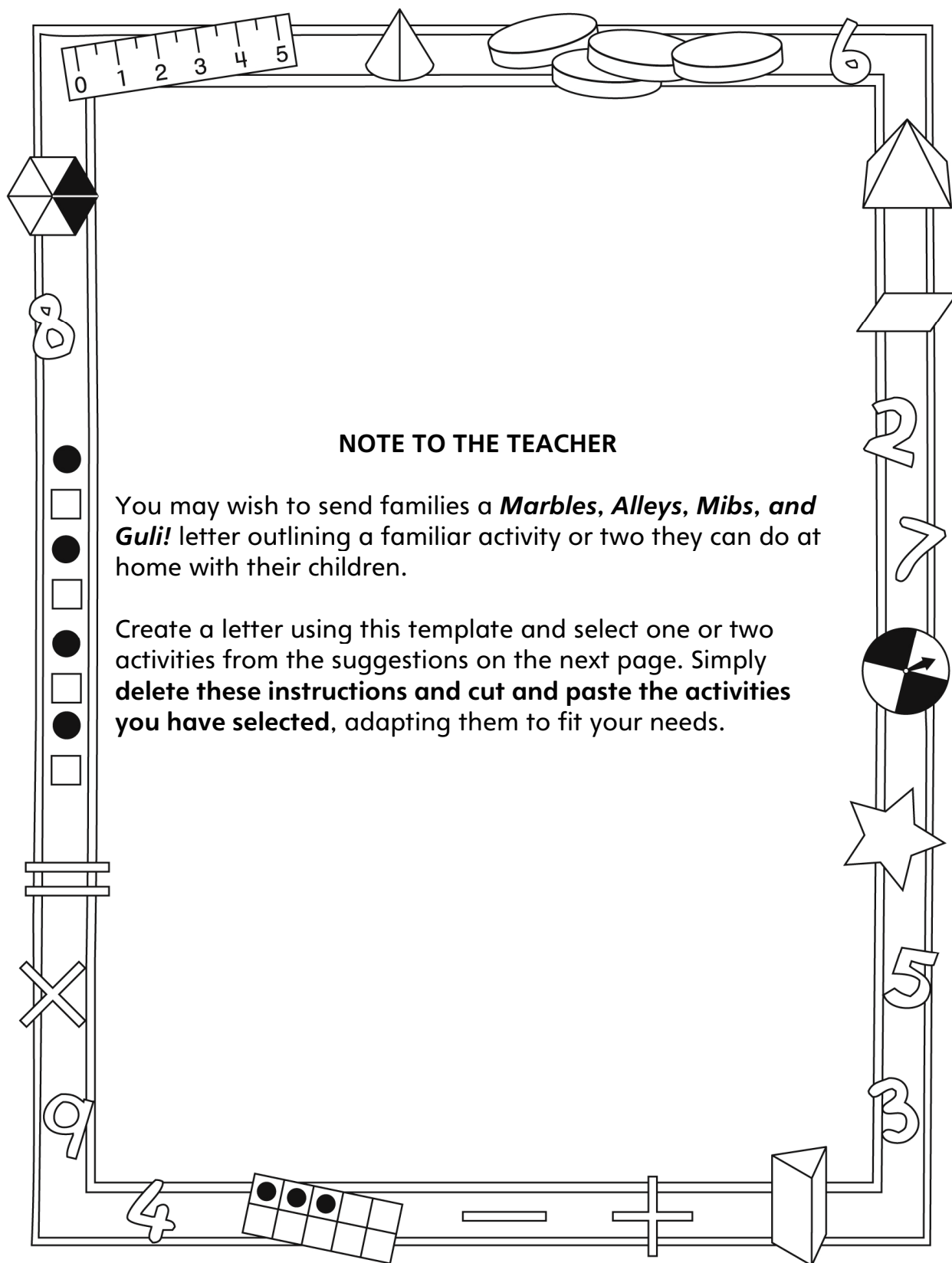
Name: _____

Add and Subtract 2-digit Numbers	Not observed	Sometimes	Consistently
Makes reasonable estimates for sums and difference			
Creates and solves addition and subtraction problems			
Uses appropriate symbols to express addition and subtraction			
Is developing mental addition and subtraction strategies			
Adds and subtracts with quantities to 20 fluently			
Model and Solve Equal Grouping and Sharing Problems			
Uses repeated addition to solve problems			
Uses equal groups to find how many			
Shares groups equally			
Creates and solves grouping and sharing problems			

Strengths:

Next Steps:

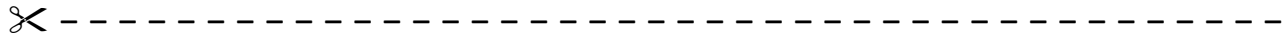
Connecting Home and School Line Master 2-1



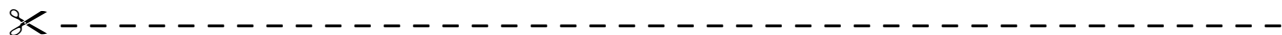
Connecting Home and School Line Master 2–2

Dear Family:

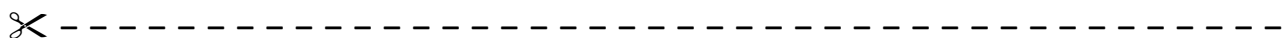
We have been working on **Marbles, Alleys, Mibs, and Guli!**, which focuses on adding and subtracting 2-digit numbers, and making and sharing equal groups. Try this activity at home with your child.



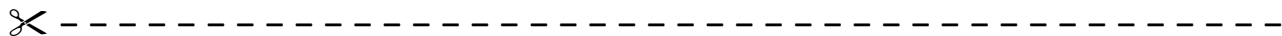
Reading the Story: As you read the story, enjoy discussing the games played. Together, figure out the scores for the games presented. Talk about which of the games you would prefer to play. If you have marbles at home, make up a game together, including a target and a way of scoring. Play, adjusting the rules and the scoring method if need be. Please let us know about the game you invented and played! Your child can teach us the rules on (date).



Shake, Drop, Add: Play a variation of the game we played in class. You need 5 (or more) coins each. Hold all coins in a closed fist. Together, shake your hands and count to 3. On 3, drop your coins in front of you. For each coin that lands heads up, you score 5 points. For each coin that lands tails up, you score 2 points. Total your points to see who has the greater score and play again. After a few rounds, you might change the number of coins you play with and/or the number of points scored for heads and tails.



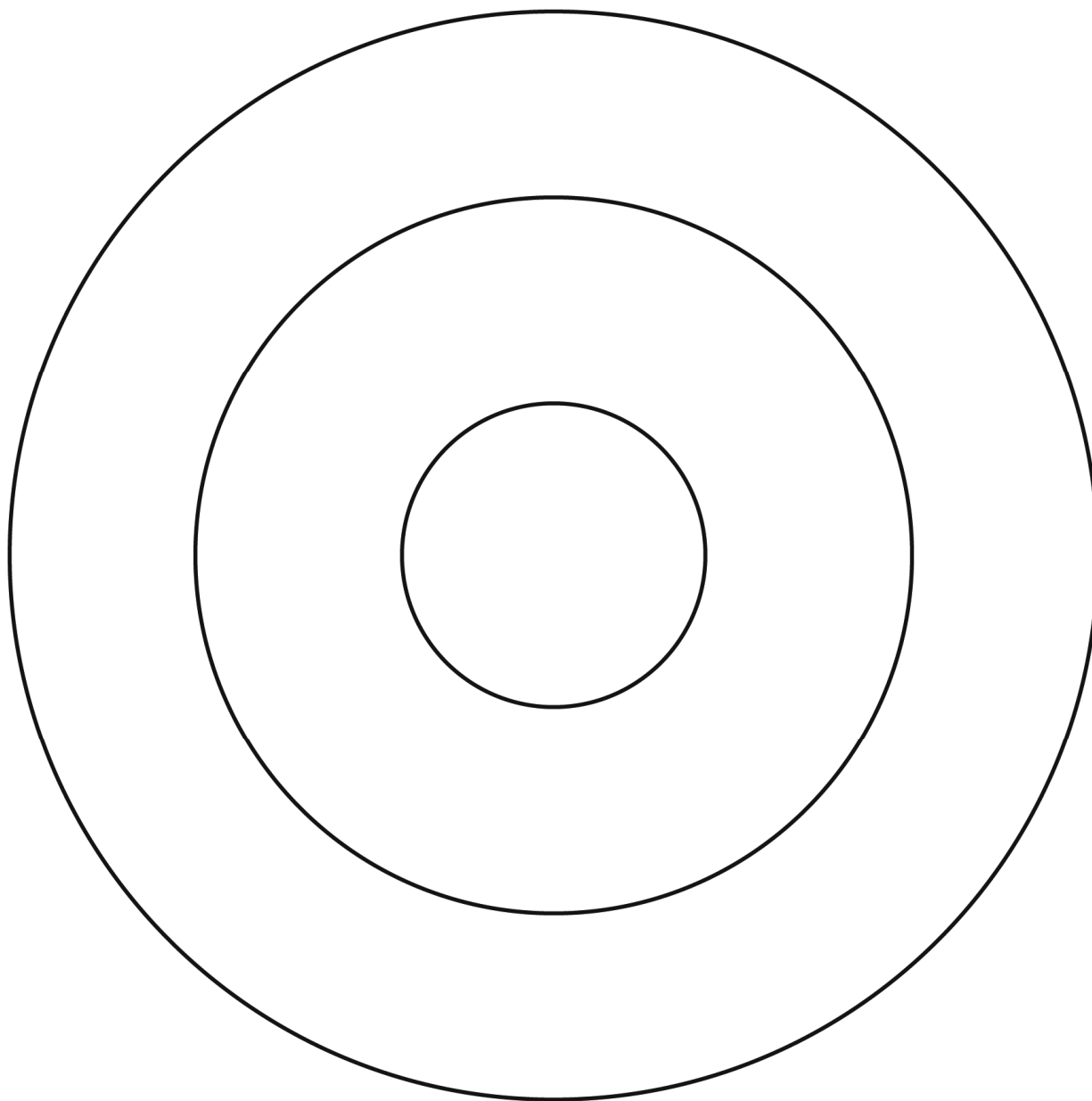
Make the Target Number: Together, choose a number from 25 to 50. Spend a few minutes independently creating expressions that result in that target number. You can use addition and/or subtraction. For example, if the target number is 25, all of these expressions work: $20 + 5$; $26 - 1$; $10 + 10 + 5$; $20 + 10 - 5$. Share what you have created and then work together to make even more expressions.



Sincerely,

Marbles, Alleys, Mibs, and Guli! Math Mat

Line Master 3

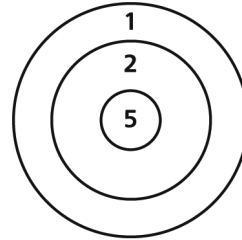


Marble Scores

Line Master 4

Name: _____

You have **5 marbles**.
They all land on the target!
What is your total score?



Find as many scores as you can.
Record each one.

A Score of 100

Line Master 5

Name: _____

Grandpa has a score of 25.
The boy has a score of 45.
Grandma has a score of 50.

How many more points does each person need to score 100?
Show your thinking using numbers, drawings, and/or words.

Grandpa

Boy

Grandma

Hundred Chart

Line Master 6

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



Sharing Marbles

Line Master 7-1



Name: _____



There are 24 marbles.
How many marbles does each player get?



There are 2 players.

There are 3 players.



There are 4 players.

There are 6 players.





Sharing Marbles

Line Master 7-2



Name: _____



There are 24 marbles.

There are 2 players.

How many marbles does each player get?



--	--



Each player gets _____ marbles.





Sharing Marbles

Line Master 7-3



Name: _____



There are 24 marbles.

There are 3 players.

How many marbles does each player get?





Each player gets _____ marbles.





Sharing Marbles

Line Master 7-4



Name: _____



There are 24 marbles.

There are 4 players.

How many marbles does each player get?





Each player gets _____ marbles.





Sharing Marbles

Line Master 7-5



Name: _____



There are 24 marbles.

There are 6 players.

How many marbles does each player get?





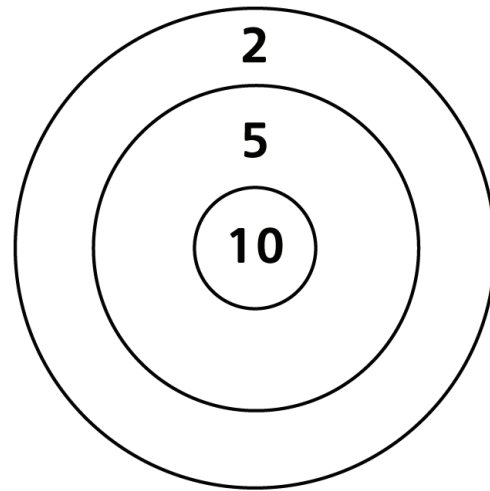
Each player gets _____ marbles.



Keeping Score

Line Master 8

Draw where the counters land.



Our Scores

Round	Player 1: _____	Player 2: _____
1		
2		
3		
4		
5		
Total Score		

Who wins? _____

How many more points does the winner have? _____



Players and Marbles

Line Master 9



Name: _____



round 1

round 2



round 3

round 4



round 5

round 6



Shake, Drop, Add

Line Master 10

You Need

- 2-sided counters

How to Play

- Play in pairs. Both players take the same number of counters (you can take from 5 to 10).
- Hold the counters in one hand.
- Count to 3 together. On 3, gently drop your counters in front of you.
- Find your score. Red side up scores 5 points. Yellow side up scores 2 points. Record the scores.
- Repeat 5 times. Add all of your scores.
The player with the greater score wins!

Our Scores

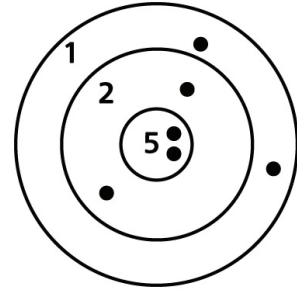
Round	Player 1: _____	Player 2: _____
1		
2		
3		
4		
5		
Total Score		

Solve the Problem

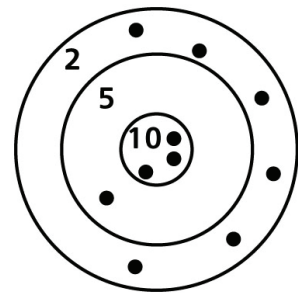
Line Master 11



6 of Grandpa's marbles landed like this.
What is his score?



In this game, 10 marbles are used.
What is the score?



The game ends when a player has 50 points.
Grandma has 28.
Grandpa has 35.
How many more points do they each need to get to 50?



4 players are ready. They each have 8 marbles.
How many marbles do they have altogether?



There are 24 marbles.
Jenni, Art, and Imran are ready to play.
Each player needs the same number of marbles.
How many marbles does each player get?



Ten-Frames

Line Master 12





Array's Bakery

Line Master 1 (Assessment Master)

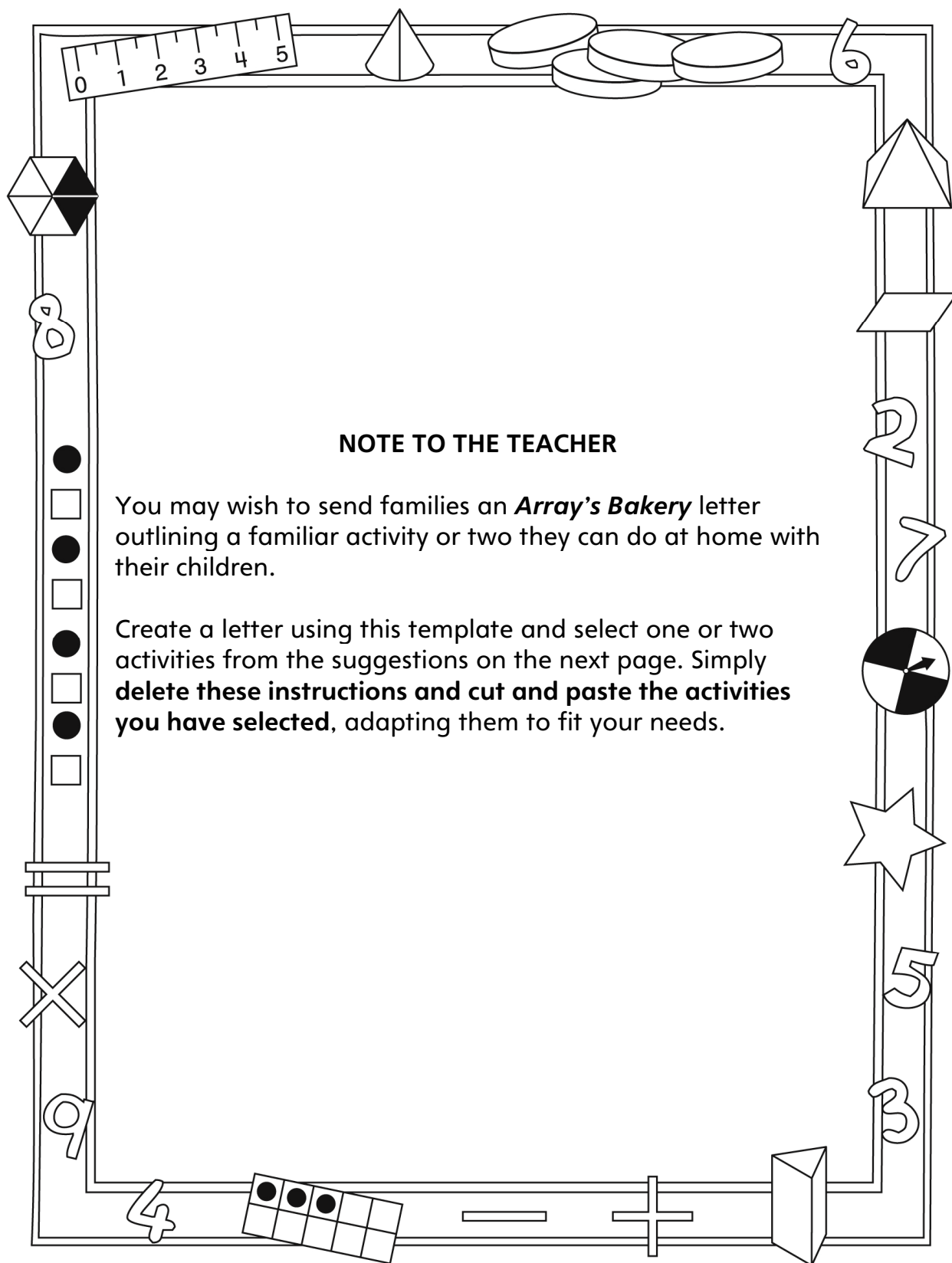
Name: _____

Addition and Subtraction	Not observed	Sometimes	Consistently
Makes reasonable estimates of sums and differences			
Models and symbolizes repeated addition			
Uses skip-counting and repeated addition to find how many			
Uses mental and personal addition and subtraction strategies			
Equal Grouping and Sharing			
Creates and describes equal groups of objects			
Shares groups equally			
Models and solves equal grouping and sharing problems			

Strengths:

Next Steps:

Connecting Home and School Line Master 2-1



NOTE TO THE TEACHER

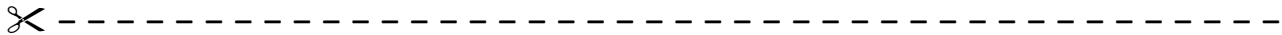
You may wish to send families an *Array's Bakery* letter outlining a familiar activity or two they can do at home with their children.

Create a letter using this template and select one or two activities from the suggestions on the next page. Simply **delete these instructions and cut and paste the activities you have selected**, adapting them to fit your needs.

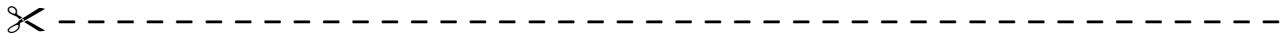
Connecting Home and School Line Master 2-2

Dear Family:

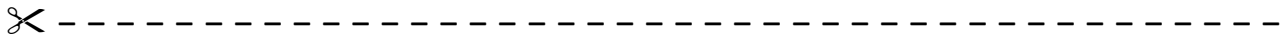
We have been working on **Array's Bakery**, which focuses on adding and subtracting, and on making equal groups and finding how many. Try this activity at home with your child.



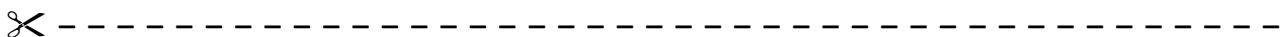
Reading the Story: As you read the story, enjoy discussing the way Array always organizes his baked goods in equal rows. Together, figure out how many are arranged on the trays or in the boxes pictured. Talk about different ways to describe baked goods.



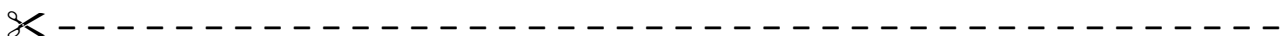
Arrays: Arrays are objects or images arranged in rows with the same number in each row. Look around to see if you can find some examples. Egg cartons, muffin tins, plastic building blocks, and some floor tiles are example of arrays. Take a moment to describe the number of rows, the number in each row, and the number altogether.



The Math Mat: On the inside back cover of the book you will find a baking tray. Use this along with a handful of small objects to explore how (and if) you can arrange them in equal rows.



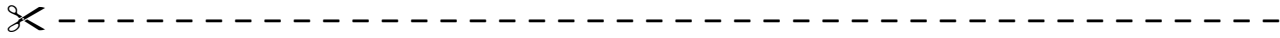
Sharing: Use a handful of small objects. Ask your child to share the items so you each have an equal number. There may be an item left over if there is an odd number. Talk about the two groups to agree that the shares are equal. Consider posing the challenge: What if there was another person? How would you share the items so the three of us have an equal number?



Sincerely,

Problem Strips

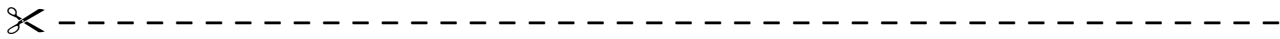
Line Master 3



Show and arrange muffins.

_____ rows and _____ in each row.

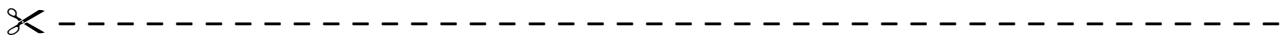
How many are there?



Show and arrange muffins.

_____ rows and _____ in each row.

How many are there?



Show and arrange _____.

_____ rows and _____ in each row.

How many are there?

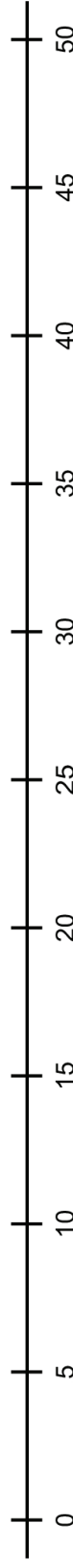
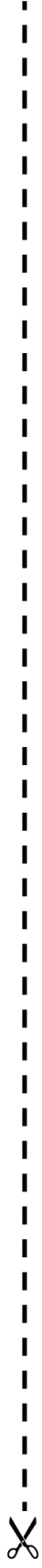
Hundred Chart

Line Master 4

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

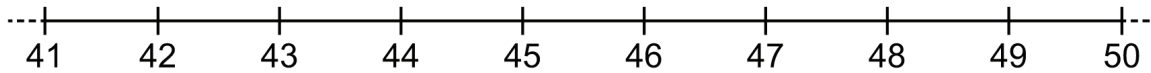
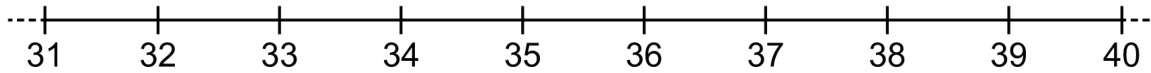
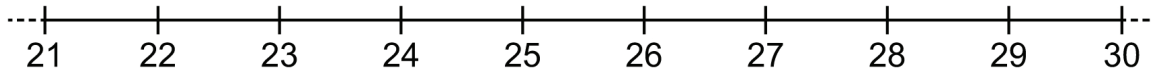
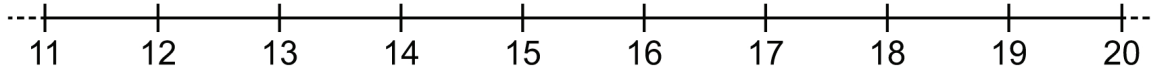
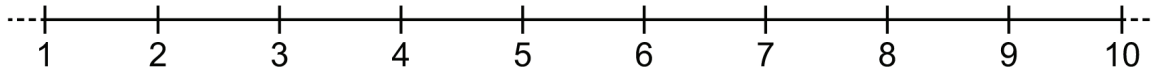
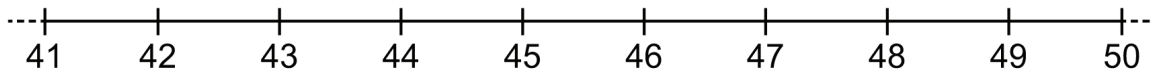
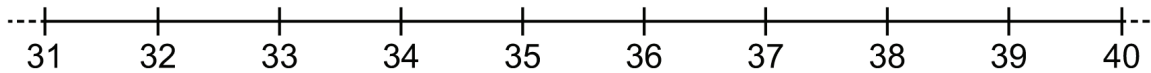
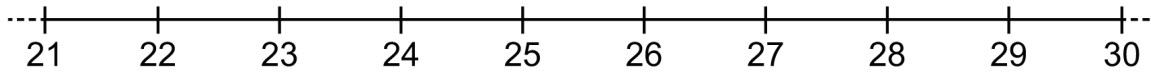
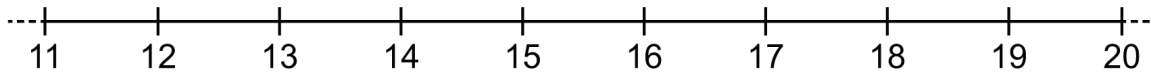
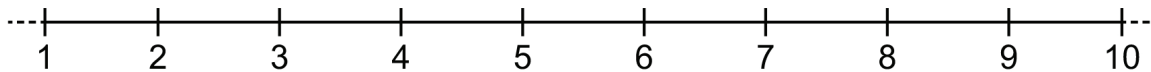
Number Lines

Line Master 5-1



Number Lines

Line Master 5-2



Array's Bakery Math Mat Line Master 6



Baking Trays

Line Master 7

Name: _____

This is how I arranged the cookies.



I made _____ rows of _____ cookies.

There are _____ cookies.

Grid Game

Line Master 8-1

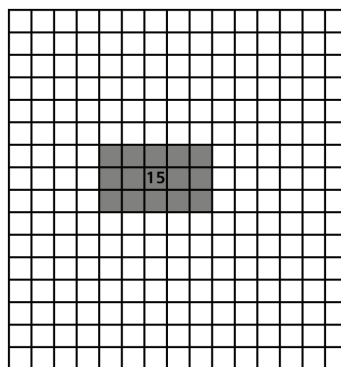
What You Need:

- 2 number cubes (2-7)
- 2 crayons (a different colour for each player)
- a grid

How to Play:

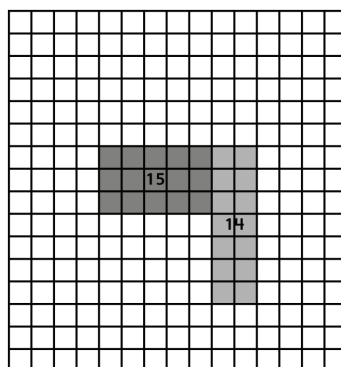
1. Player 1:

Roll the cubes.
Use the numbers to colour equal rows in the middle of the grid.
Print how many squares you coloured inside your rows.



2. Player 2:

Roll the cubes.
Use the numbers to colour equal rows. Your rows have to touch already coloured rows on one side.
Print how many squares you coloured inside your rows.



3. Players 1 and 2:

Take turns rolling the cubes and colouring equal rows.
If there is no space to colour rows for the numbers you roll, you lose a turn.

The game ends when no one can colour in more rows.
The player with the most coloured squares wins!

Grid Game

Line Master 8-2

Player 1

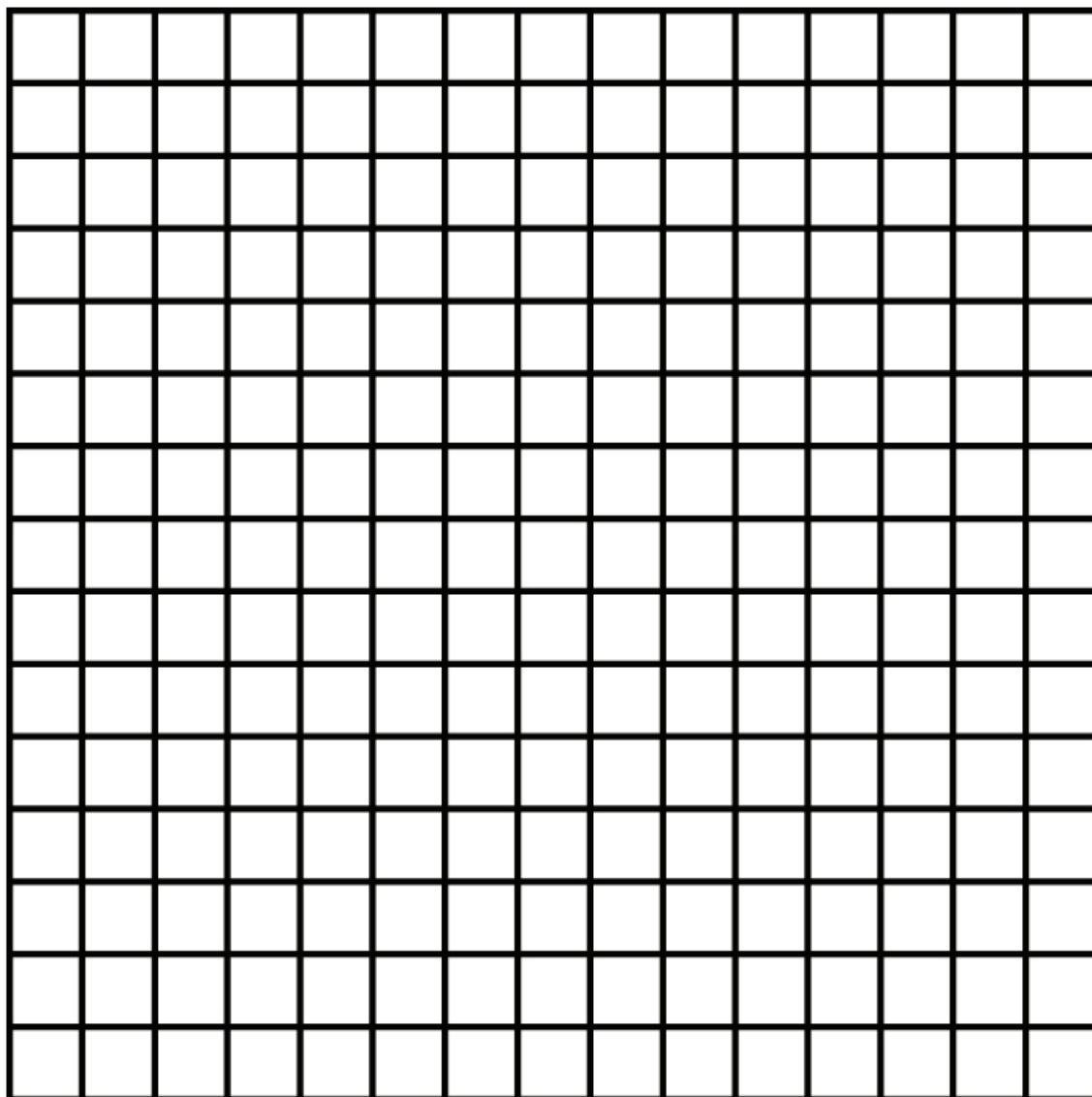
Player 2

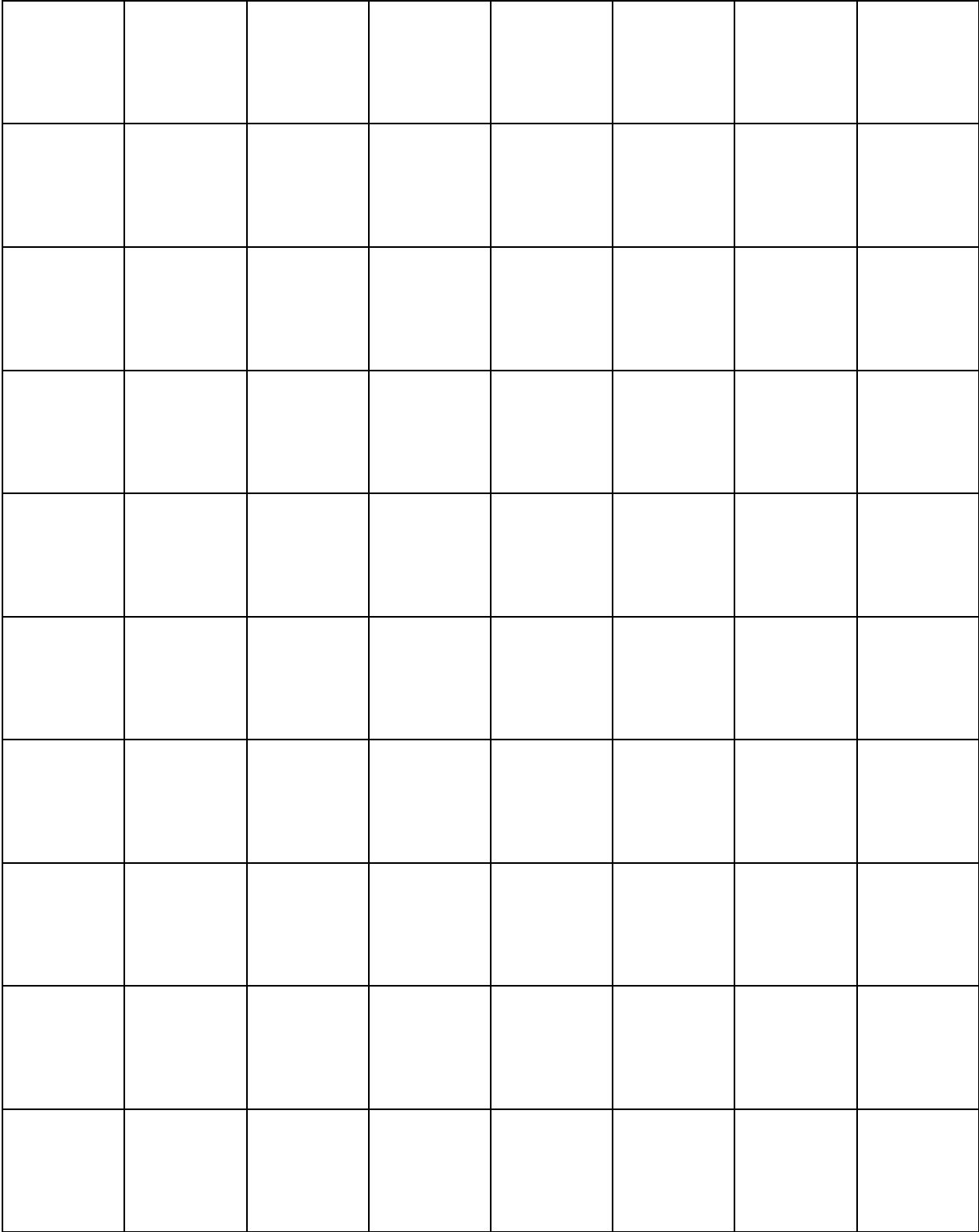
Name: _____

Name: _____

Colour: _____

Colour: _____





What Can You Learn?

Line Master 10

Name: _____

Look at the display of squares arranged in equal rows.
Tell what you learn.
Use words, numbers, and/or drawings.

Plan Your Advertisement

Line Master 11

Name: _____

Create an eye-catching advertisement for Array's Bakery.
Think and plan first.

What baked goods will you draw?

How many will you draw?

How will you arrange them in equal rows?

What words will you use to describe them?

How will you make your advertisement eye-catching?



Solve the Problem

Line Master 12-1



Name: _____



There are 24 cupcakes.
How many cupcakes does each customer get?



There are 2 customers.

There are 3 customers.



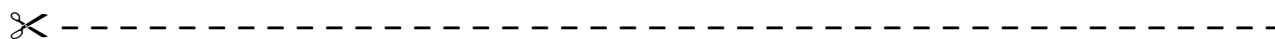
There are 4 customers.

There are 6 customers.

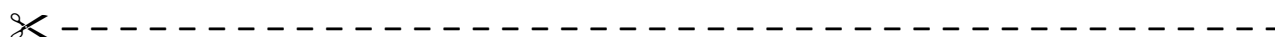


Solve the Problem

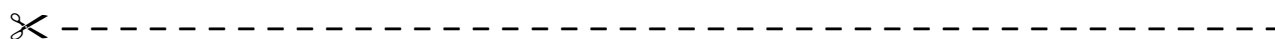
Line Master 12-2



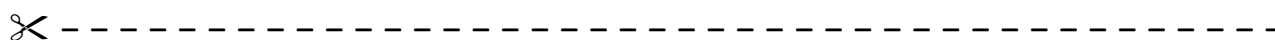
There are 24 muffins.
Show 2 ways to arrange the muffins in equal rows.
Use grid paper if you want.



There are 30 muffins.
Show 2 ways to arrange the muffins in equal rows.
Use grid paper if you want.



There are 20 muffins.
Show 2 ways to arrange the muffins in equal rows.
Use grid paper if you want.



There are 36 muffins.
Show 2 ways to arrange the muffins in equal rows.
Use grid paper if you want.

Solve the Problem

Line Master 12-3



Array has **4 rows of 5 cookies.**

That's _____ cookies.

If someone buys 5 cookies, how many cookies are left? _____



Array has **5 rows of 4 loaves of bread.**

That's _____ loaves of bread.

If someone buys 4 loaves, how many loaves are left? _____



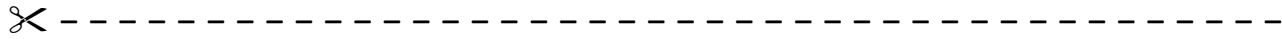
Array has **5 rows of 5 muffins.**

That's _____ muffins.

If someone buys 5 muffins, how many muffins are left? _____

Solve the Problem

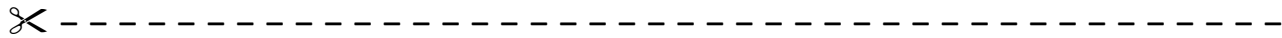
Line Master 12-4



Array has **2 rows of 5 cookies.**

That's _____ cookies.

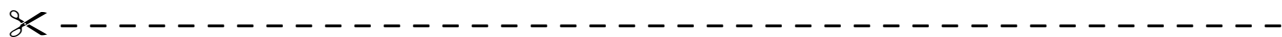
If Array adds 2 more rows, how many cookies does he have? _____



Array has **5 rows of 2 cupcakes.**

That's _____ cupcakes.

If Array adds 1 more row, how many cupcakes does he have? _____



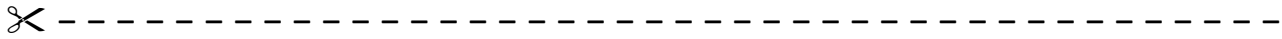
Array has **2 rows of 6 muffins.**

That's _____ muffins.

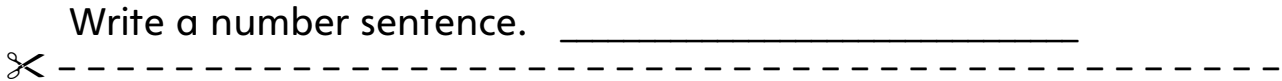
If Array adds 1 more row, how many muffins does he have? _____

Solve the Problem

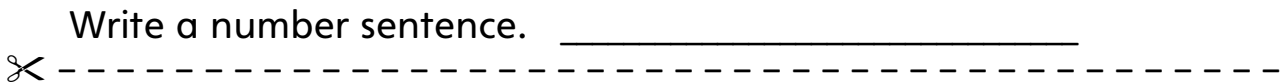
Line Master 12-5



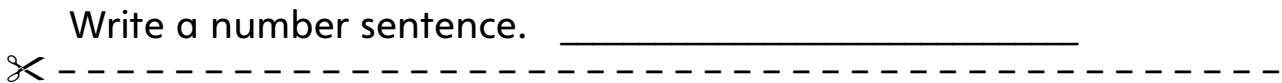
Draw 4 rows of 2 cookies.



Draw 3 rows of 5 cookies.



Draw 5 rows of 3 cookies.



Draw 2 rows of 4 cookies.

Write a number sentence. _____

The Best Birthday

Line Master 1 (Assessment Master)

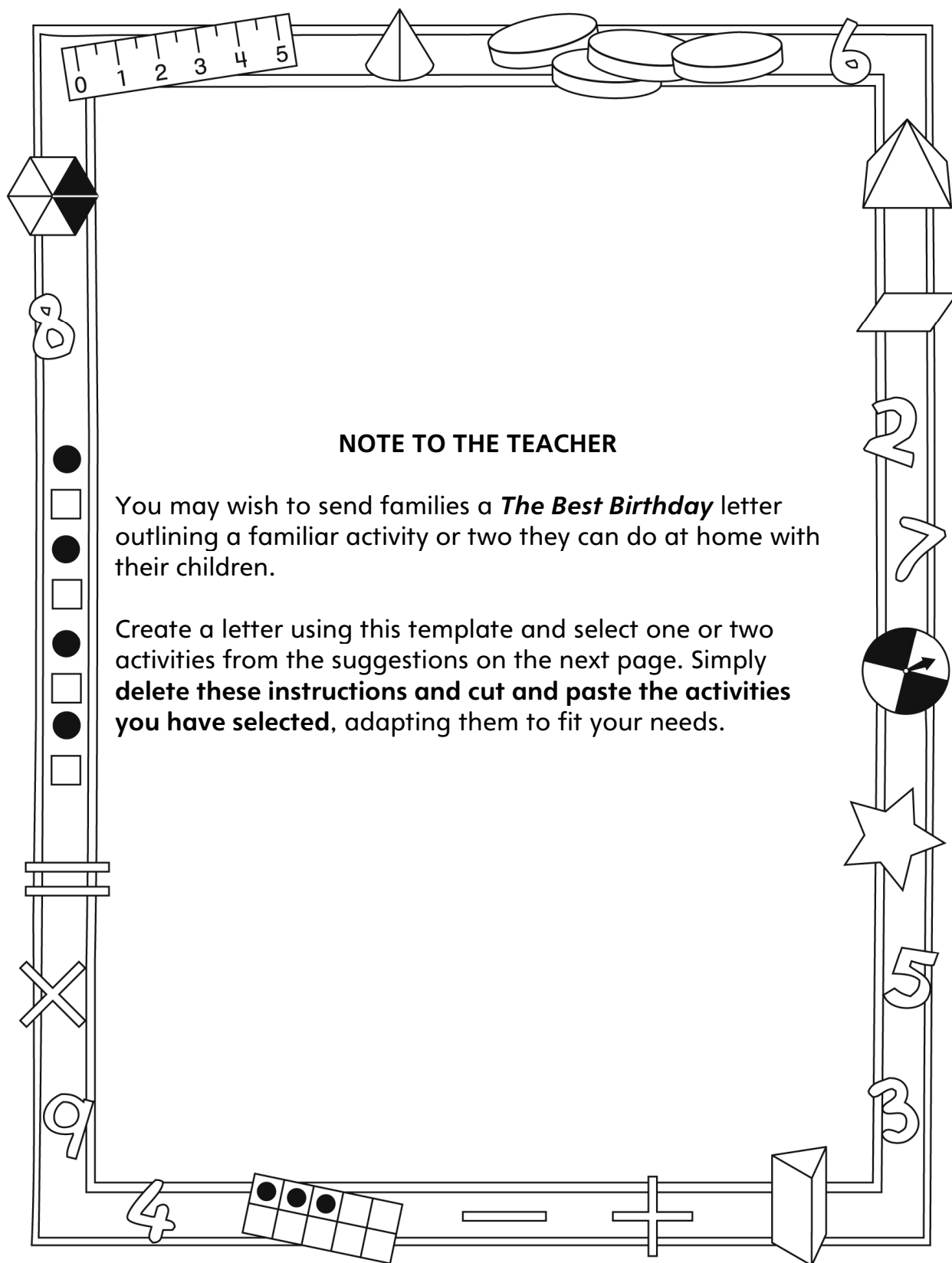
Name: _____

Make Fair Shares	Not observed	Sometimes	Consistently
Splits a whole into equal parts			
Compares parts to whole to determine more/less/equal			
Identifies the relationship between the number of parts to the whole			
Equal Grouping and Sharing			
Shares groups equally			
Creates and solves grouping and sharing problems			

Strengths:

Next Steps:

Connecting Home and School Line Master 2-1



Connecting Home and School Line Master 2–2

Dear Family:

We have been working on *The Best Birthday*, which engages children in conversations, investigations, and activities that help to develop their understanding of the big math idea that “Quantities and numbers can be grouped by units or split into units.” Particular focus is placed on making fair shares. Try this activity at home with your child.



Reading the Story: As you read the story, encourage your child to explain why the plan to share the pancake fairly does not work. Encourage your child to suggest a way that sharing would be more successful. Engage your child in thinking about times when you share things as a family. Talk about when the shares are fair and when the shares, while not equal in size or number, are still fair. For example; you share a meal but someone may eat more because they are hungrier, need more food, or like the food more.



Make a Fair Share: Ask your child to divide a piece of food (bread, cookie, granola bar, cracker, pancake, or other food) to make 2 fair shares. Before your child cuts the food, ask if he/she needs anything to help make the shares fair. Talk about the process and then use a food item that is a different shape. Talk about which items are easier to divide in half.



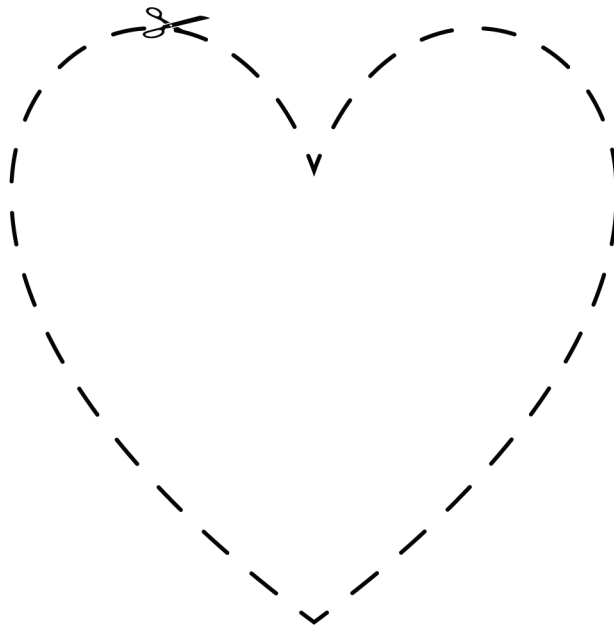
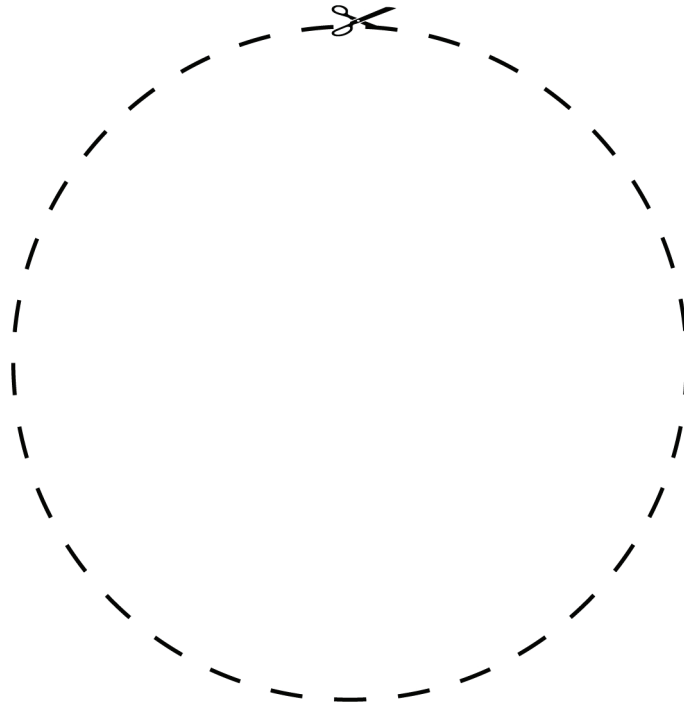
Scoop It! Share It! You need some small objects (buttons, coins, dried beans, nuts and bolts all work well). Each of you scoops a handful and drops the items to create one pile. Ask your child to share the pile so you each have an equal number—a fair share. An uneven number will have an item leftover. Agree that the shares are fair before asking your child to then share the pile as though there were another person. Are there leftovers? Do you both agree that the shares are fair?



Sincerely,

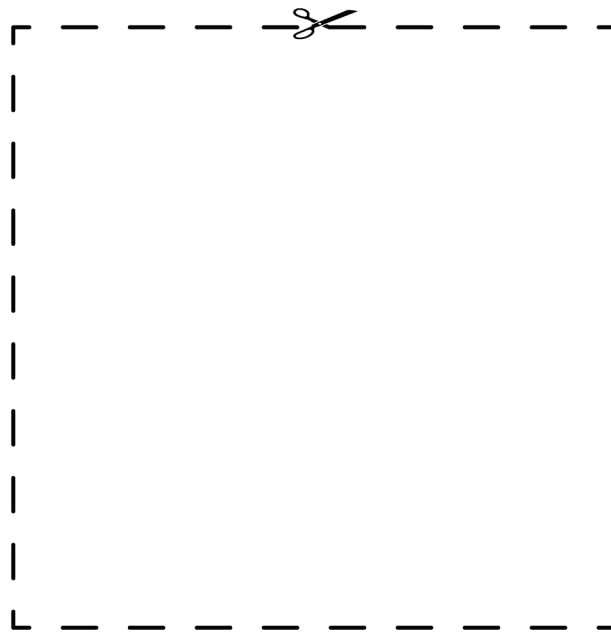
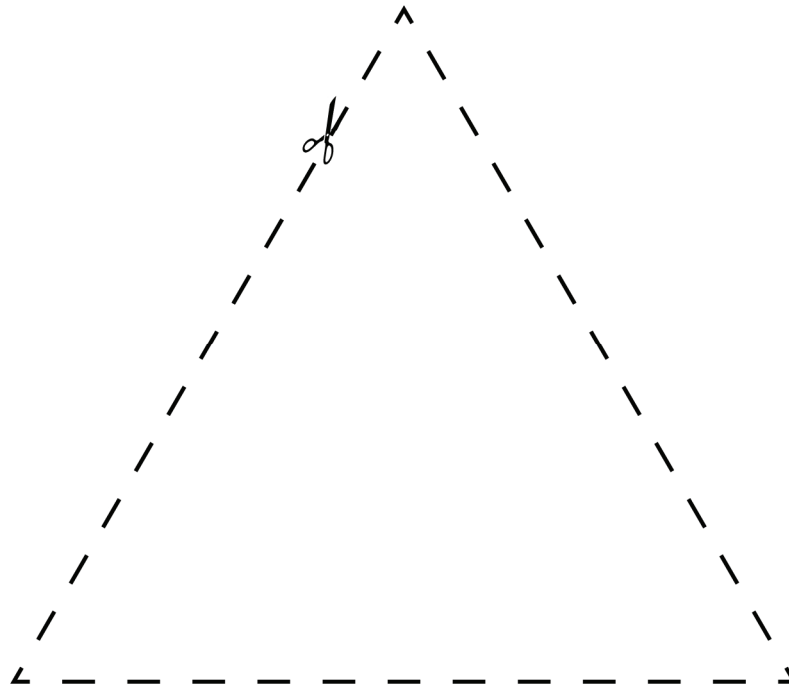
Shape Cutouts

Line Master 3-1



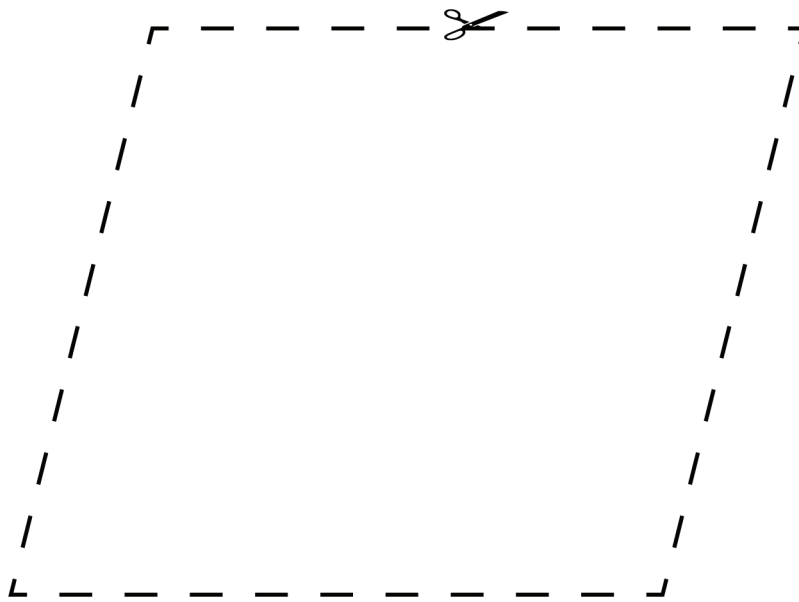
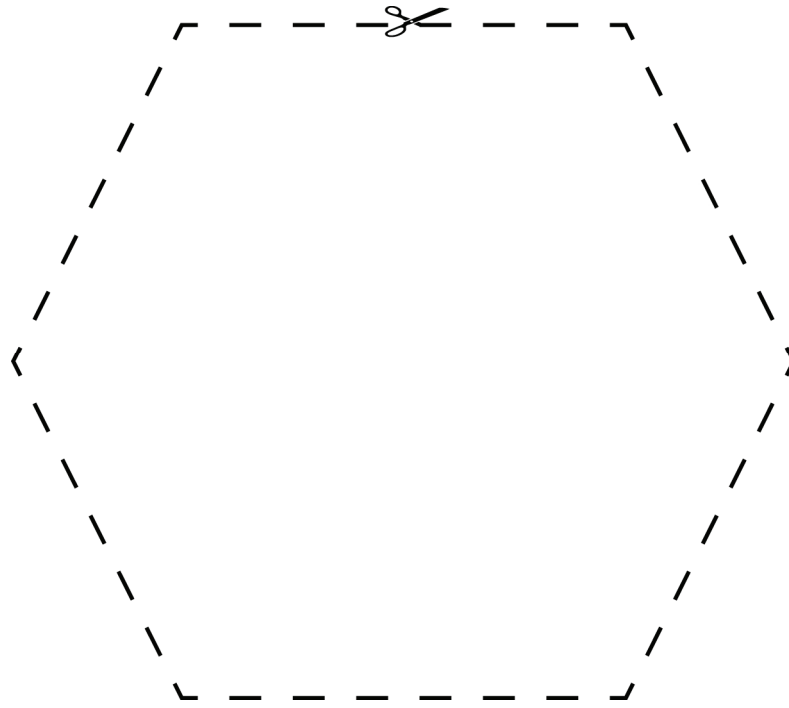
Shape Cutouts

Line Master 3-2



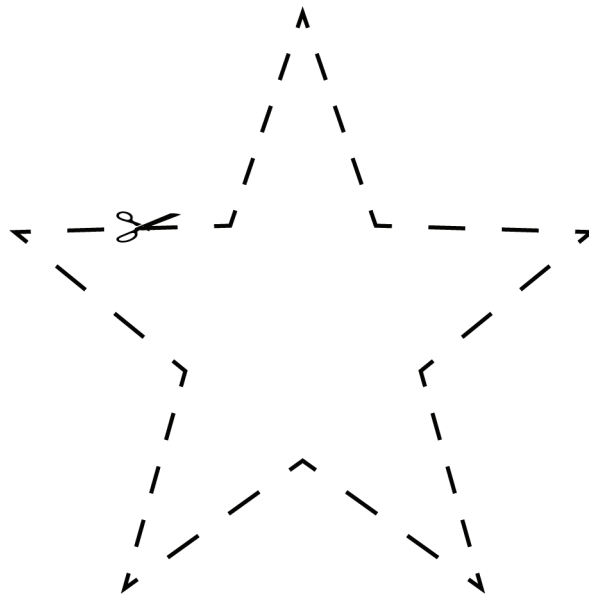
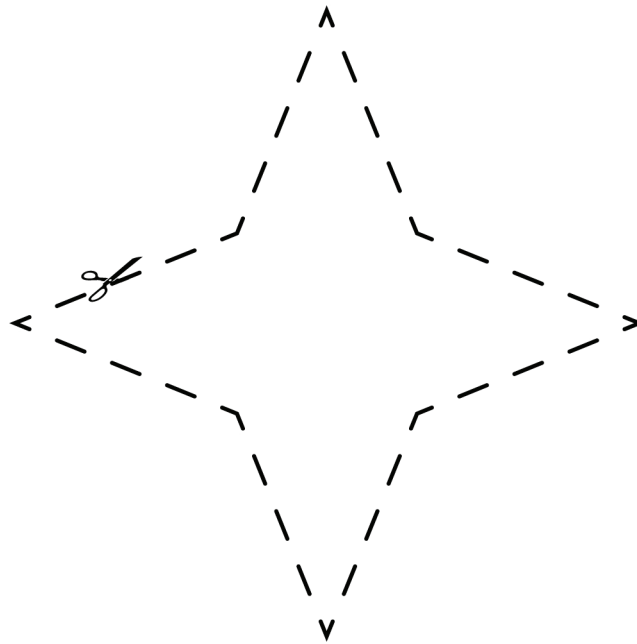
Shape Cutouts

Line Master 3-3



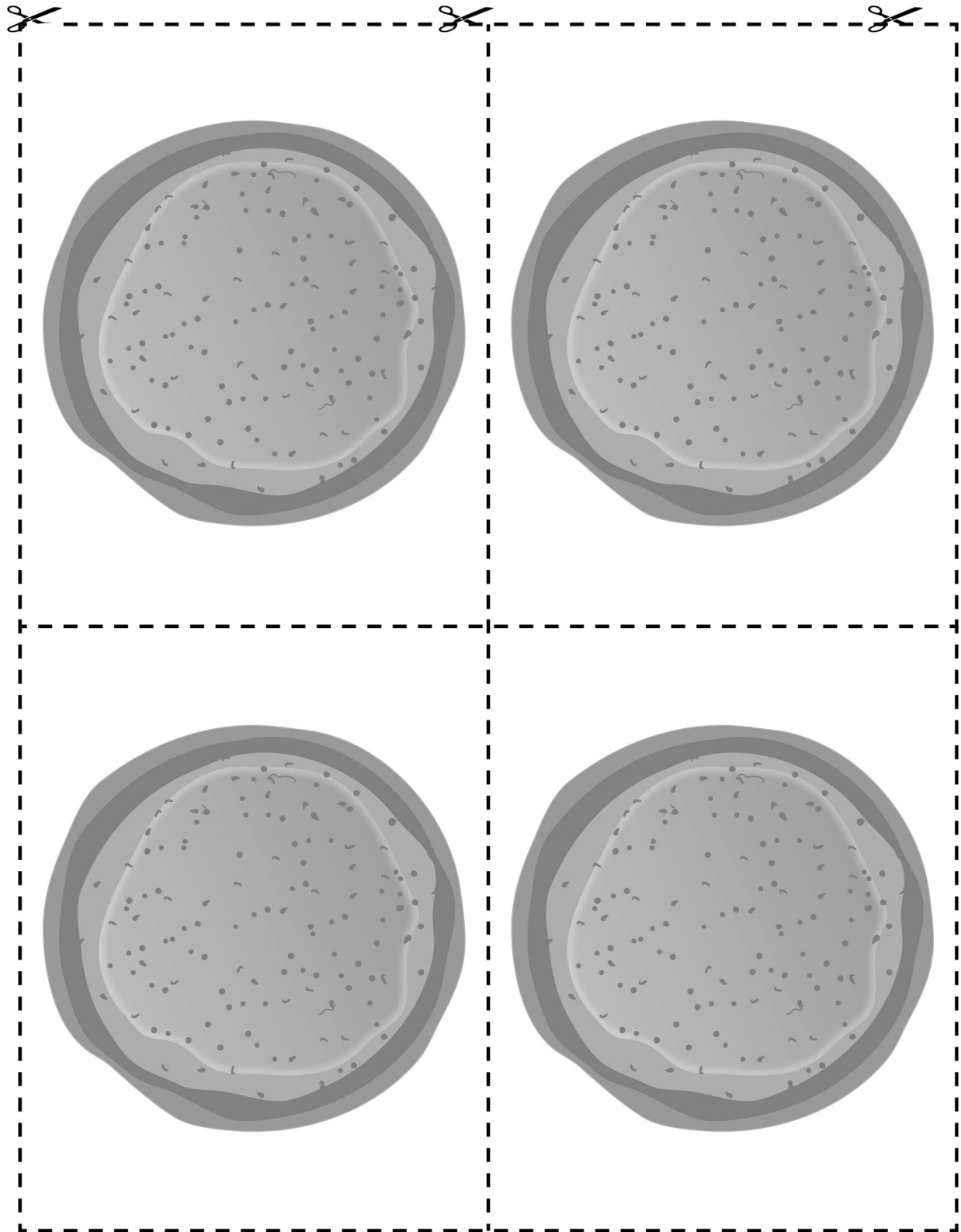
Shape Cutouts

Line Master 3-4



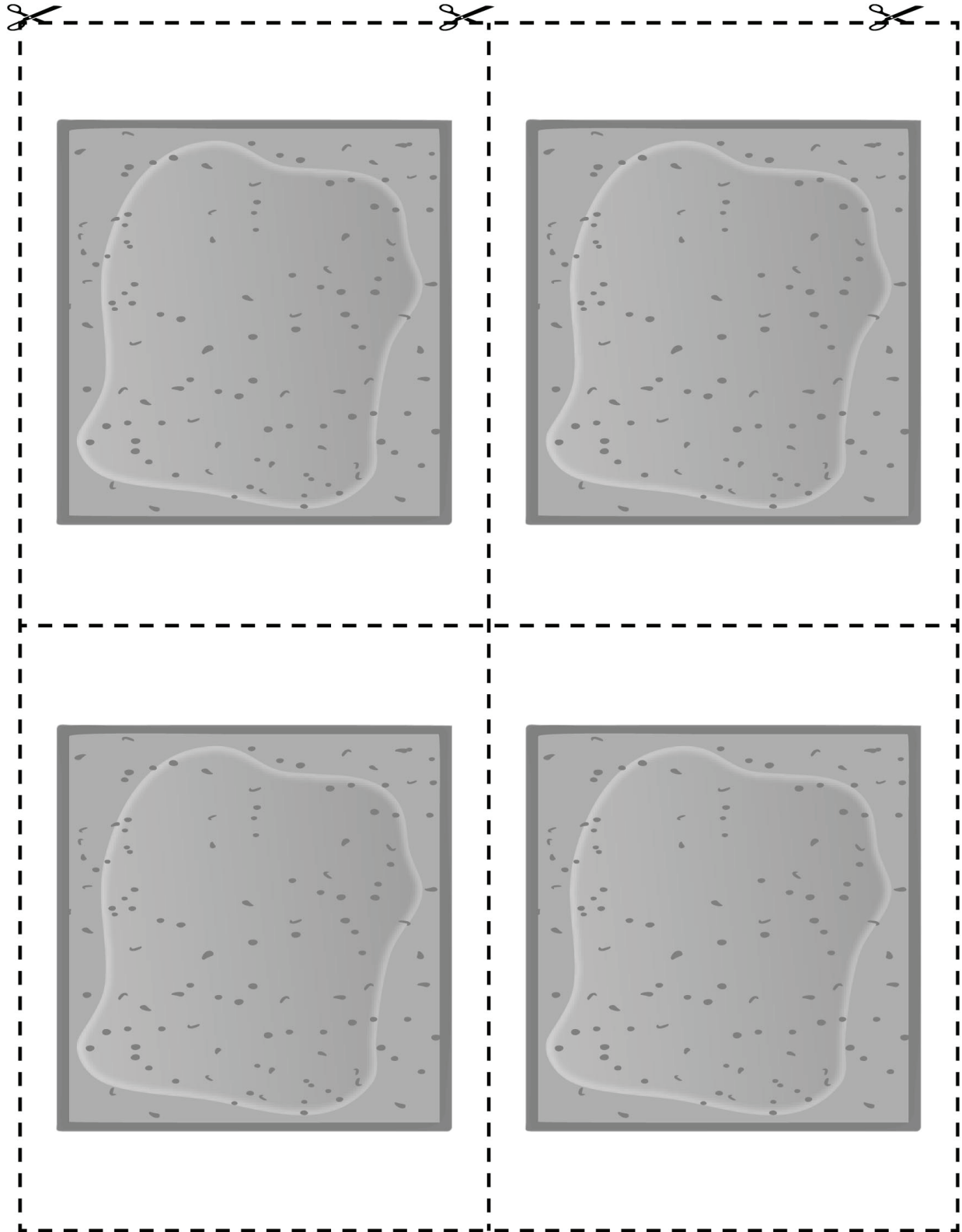
Pancake Shapes

Line Master 4-1



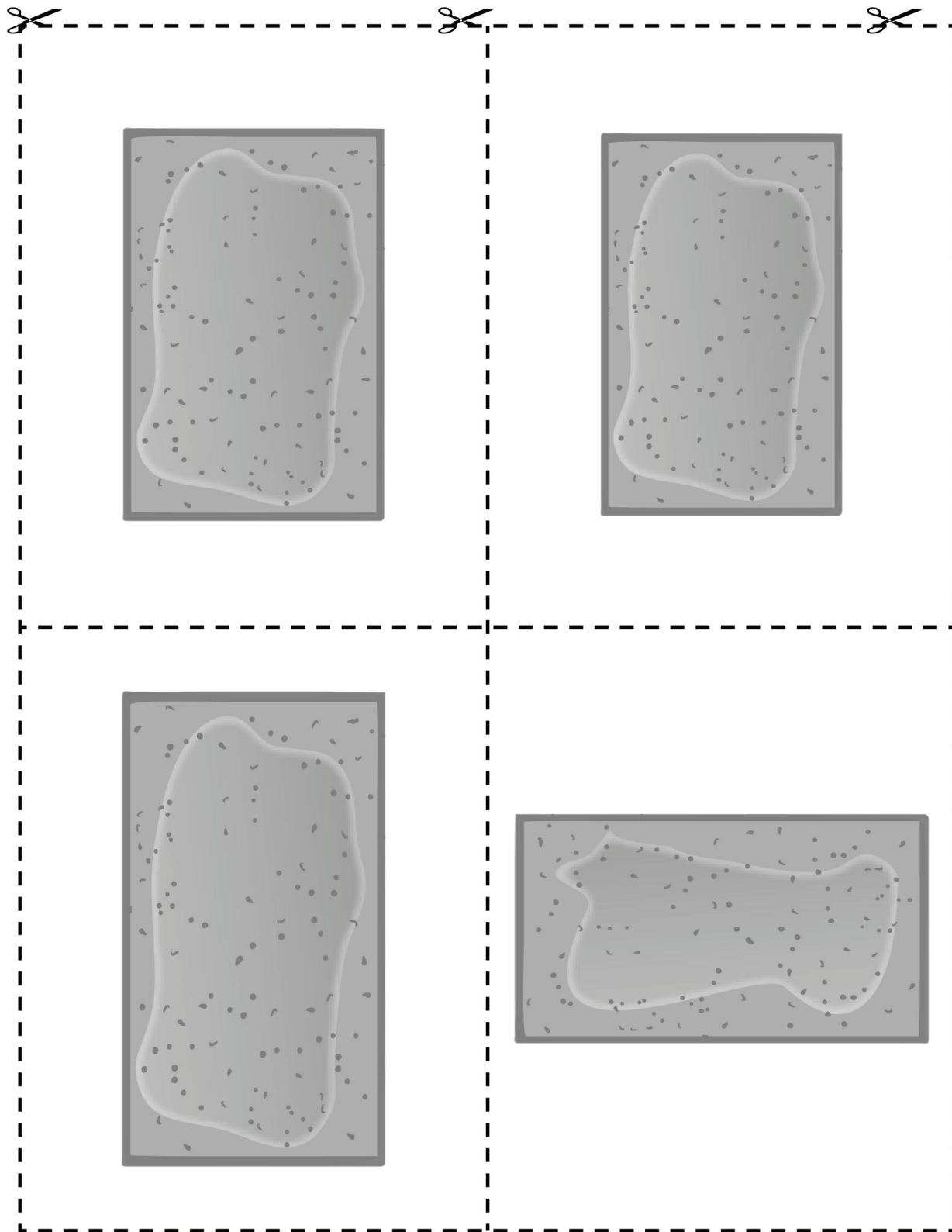
Pancake Shapes

Line Master 4-2



Pancake Shapes

Line Master 4-3



Pancake Halves

Line Master 5

Name: _____

How can you share each pancake with one friend?
Cut and paste the pancake shapes to show how you share.

This is how I share the circle pancake.

This is how I share the square pancake.

This is how I share the rectangular pancake.

Pancake Fair Shares

Line Master 6

Name: _____

I am sharing 1 pancake fairly among _____
people.

Here are the fair shares.

Numeral Cards

Line Master 7

1	2	3
4	5	6
7	8	9

Sharing Muffins

Line Master 8

Name: _____

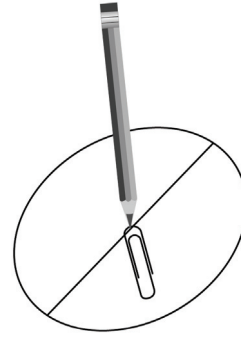
How many muffins?	How many each?	How many for PJ?

Fair Share Spinner

Line Master 9

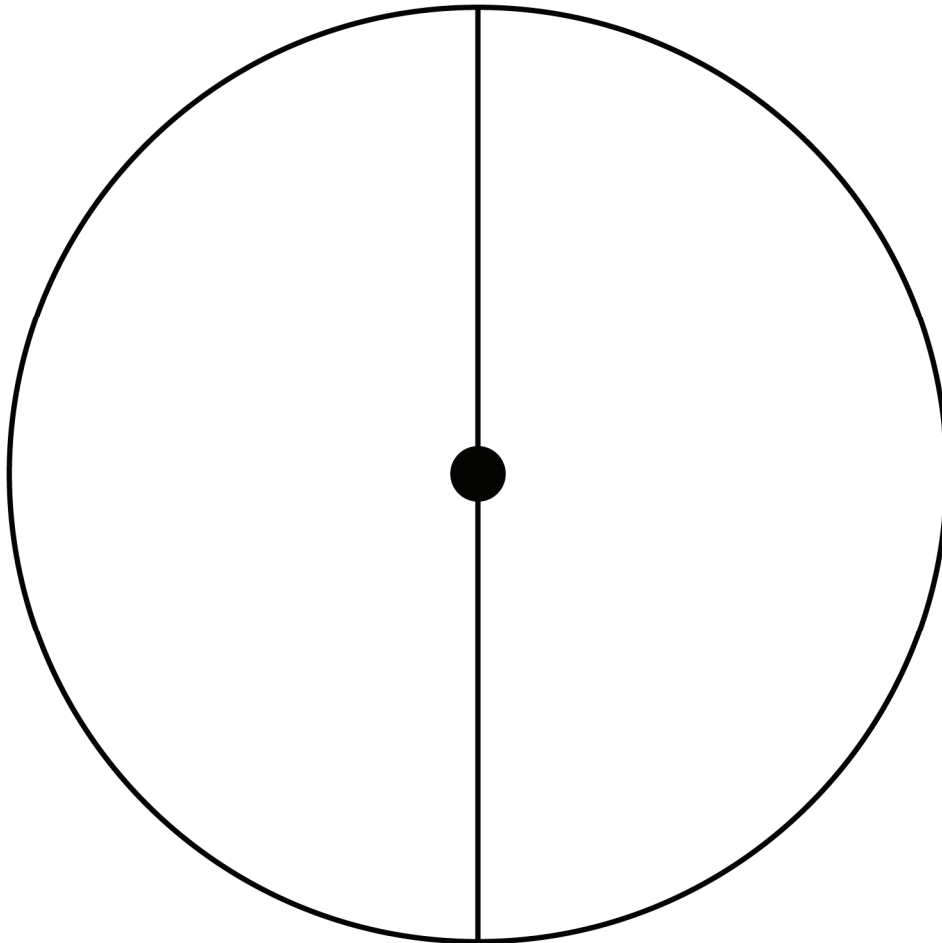
What You Need:

- 2 colours of crayons
- a paper clip and pencil to make the spinner work
- game board grid



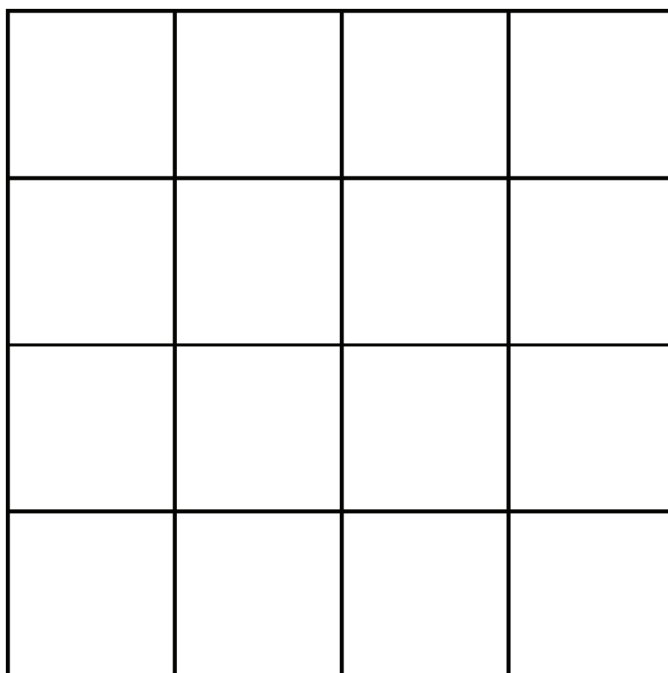
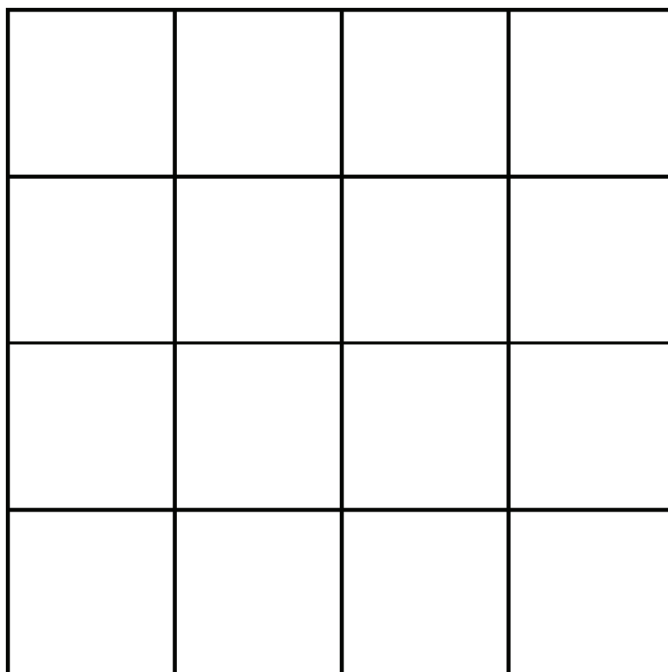
How to Play:

1. Colour each half of the spinner a different colour.
2. Choose a colour. Take turns to spin the spinner.
3. Colour a square to match the colour you spin.
4. When all squares are coloured, the round is over.
5. If 1 player's colour is on more squares, then that player scores a point.
6. Score no points if the grid is coloured fairly.



Fair Share Game Board

Line Master 10



How to Make a Fair Share

Line Master 11

Title: How to Share a _____

Materials You Need:

Steps to Take:

1. _____

Fair Share Problems

Line Master 12



Here is a half of a pancake!



What do you think the whole pancake looks like?
Draw to show what you think.



Here is a pancake!



How would you share it fairly among 4 people?
Show where you would cut it.

Here are mini muffins!



How would you share them fairly between 2 people?

Here are mini muffins!



How would you share them fairly among 4 people?

The Best Surprise

Line Master 1 (Assessment Master)

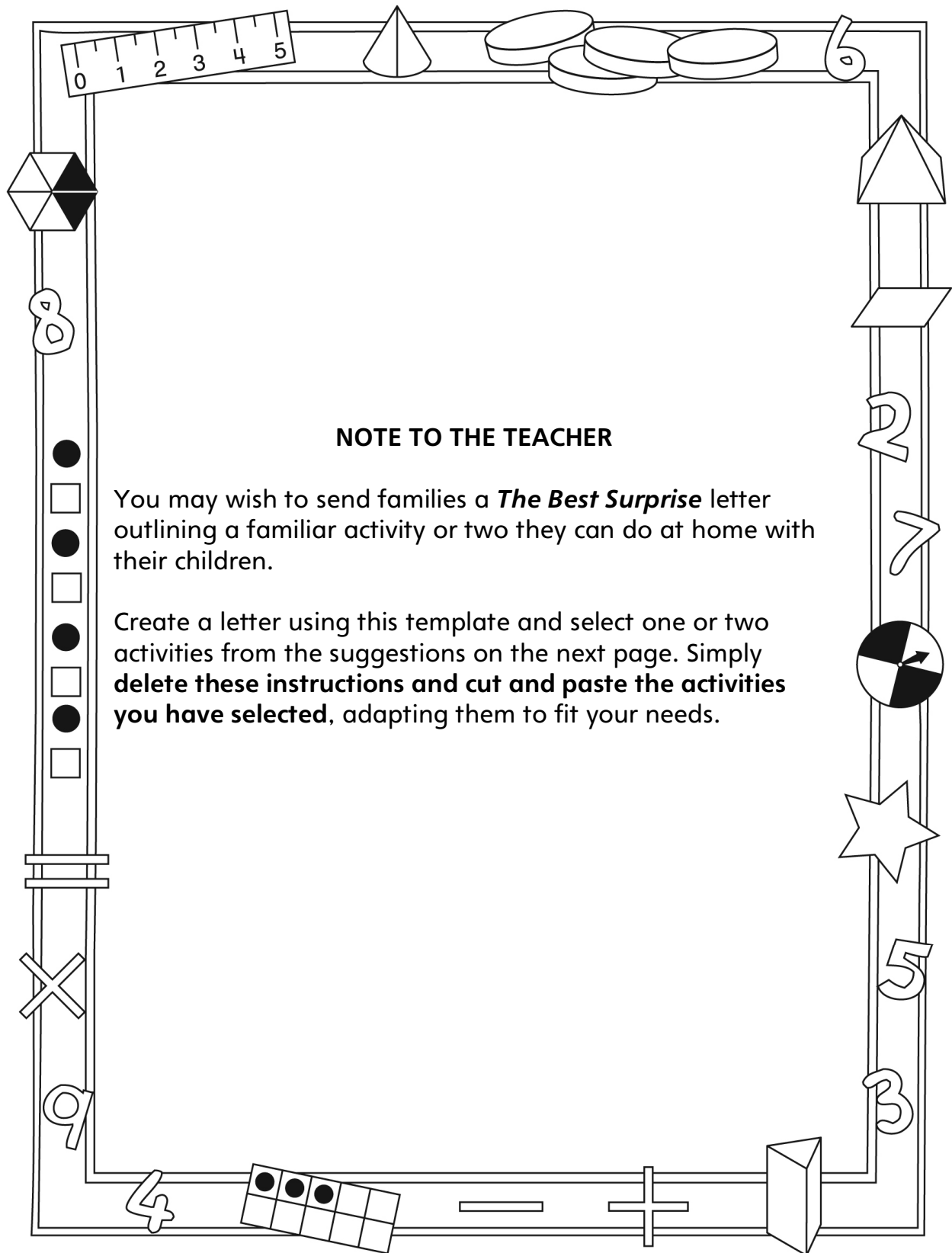
Name: _____

Explore Growing and Shrinking Patterns	Not observed	Sometimes	Consistently
Identifies and describes increasing and decreasing patterns			
Extends increasing and decreasing patterns			
Identifies missing terms			
Identifies pattern rules			
Investigate Number Patterns			
Identifies and describes number patterns			
Extends and creates number patterns			
Identifies missing terms			
Identifies pattern rules			
Makes connections to addition and subtraction			

Strengths:

Next Steps:

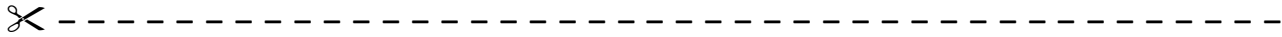
Connecting Home and School Line Master 2-1



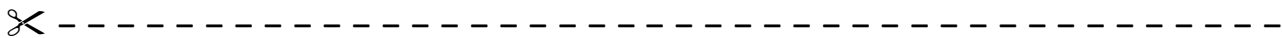
Connecting Home and School Line Master 2–2

Dear Family:

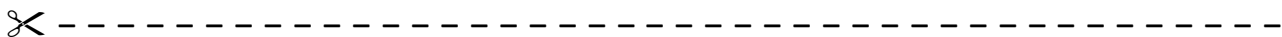
We have been working on *The Best Surprise*, which engages children in conversations, investigations, and activities that help to develop their understanding of the big math idea that “Patterns can be described mathematically.” Particular focus is placed on investigating increasing/ decreasing patterns, and investigating number patterns. Try this activity at home with your child.



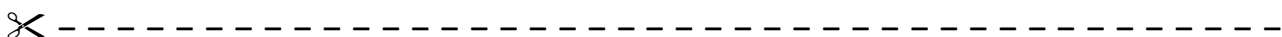
Reading the Story: As you read this story together, encourage your child to keep track of the number of tokens and tickets that Ethan and Emma receive and use as they enjoy the fair. In class, we’ve been identifying rules for how patterns grow and/or shrink. Encourage your child to look for and describe patterns in the illustrations and to identify the pattern rules.



Environmental Patterns: Addresses, apartment numbers, elevator buttons, and calendars can all be examples of number patterns in our environment. Go on number pattern searches with your child or draw his/her attention to patterns you notice. For example, as you walk, focus on house numbers. Chant the numbers aloud, and stop at intervals to ask your child to say the next upcoming house number. Alternatively, while on an elevator or looking at a calendar, cover a number. Then, ask your child to tell the number you covered and to explain how she/he knows.



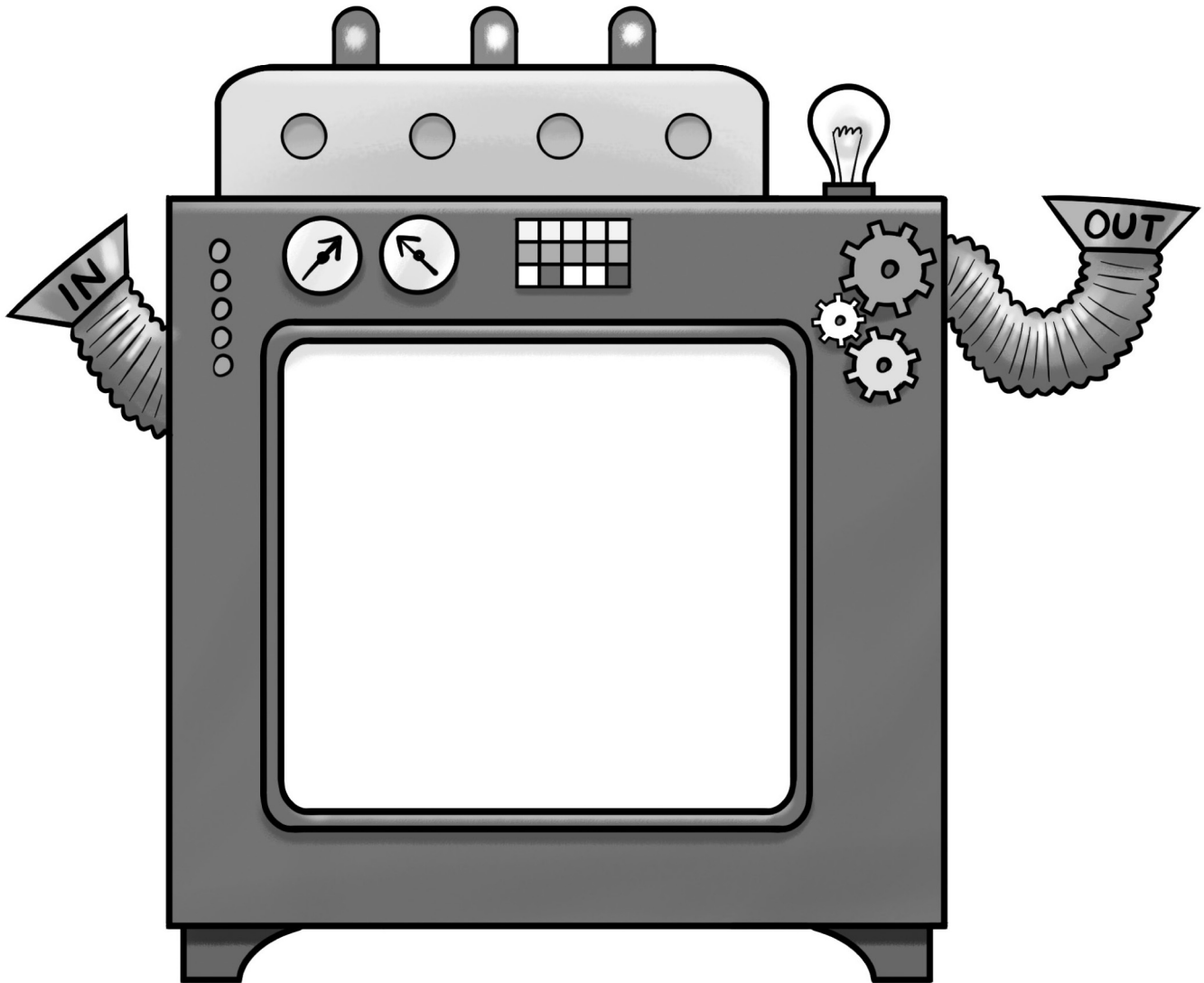
Change Machine: With your child, play a round of the game shown on page 16 of *The Best Surprise*. This game involves a machine that changes numbers according to the rule “add 4.” Say a number that is not on the board, and challenge your child to tell you what number would come out. For example, say: **Suppose 8 goes in the machine. What number comes out?** Secretly choose another change rule (e.g., subtract 2). Create an In–Out chart with at least 4 numbers going in and coming out. Invite your child to figure out the new rule. For example, say: **This time, 6 goes in the machine. What number will come out? How do you know?**



Sincerely,

The Best Surprise Math Mat

Line Master 3



Tokens and Tickets

Line Master 4

Name: _____

Tokens					Tickets				

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

Pattern Starters

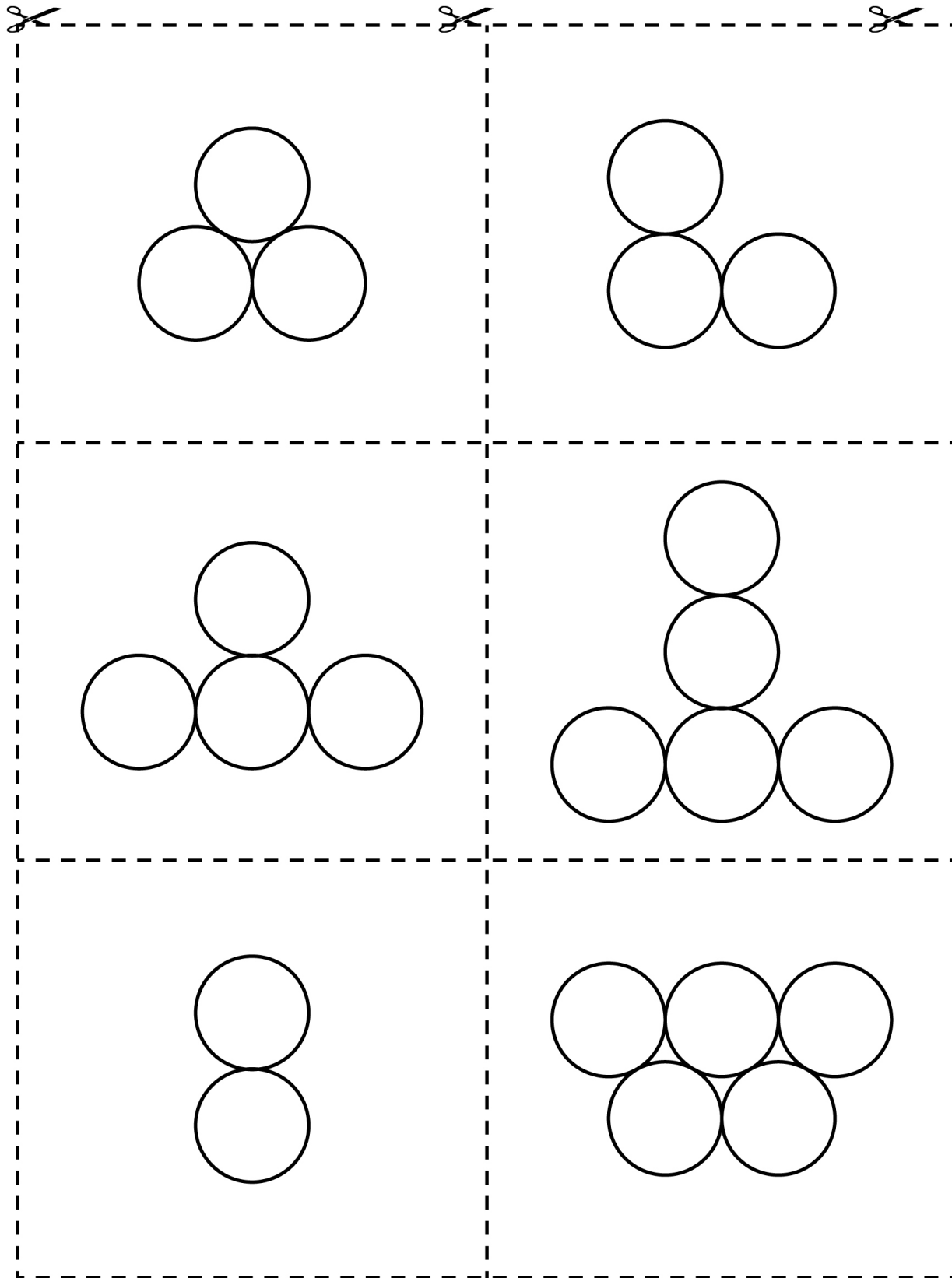
Line Master 5-1

The image shows a grid of six dashed boxes, each containing a geometric pattern. Scissors icons are placed at the top of each box to indicate where to cut. The patterns are as follows:

- Top-left: A horizontal row of three squares with two more squares attached below the center square, forming a T-shape.
- Top-right: A vertical column of three squares with one square attached to the right of the top square, and another square attached to the left of the bottom square.
- Middle-left: A horizontal row of two squares with one square attached to the top center.
- Middle-right: A horizontal row of two squares with one square attached to the left of the bottom square.
- Bottom-left: A horizontal row of two diamonds with one square attached to the bottom center.
- Bottom-right: A horizontal row of two squares with one diamond attached to the bottom center, and another horizontal row of two squares attached to the bottom of the diamond.

Pattern Starters

Line Master 5-2



Make a Change Machine

Line Master 6-1

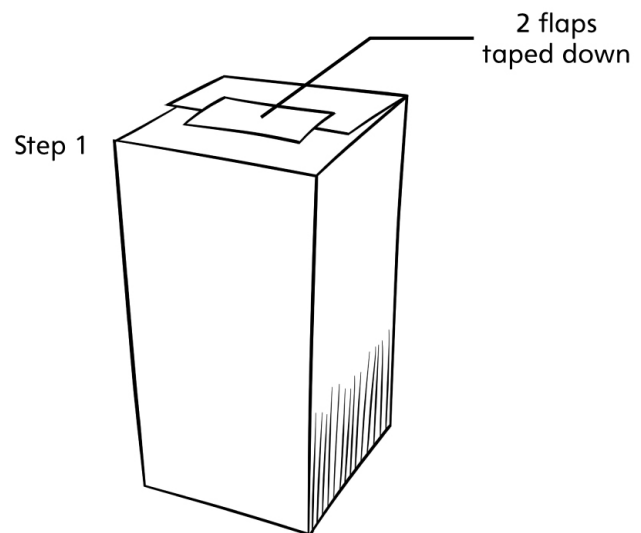
Materials

- 2 L beverage carton
- 2 cardstock or tagboard strips, one 7 cm × 28 cm and one 7 cm × 20 cm
- ruler
- masking tape or duct tape
- scissors or utility knife
- contact paper

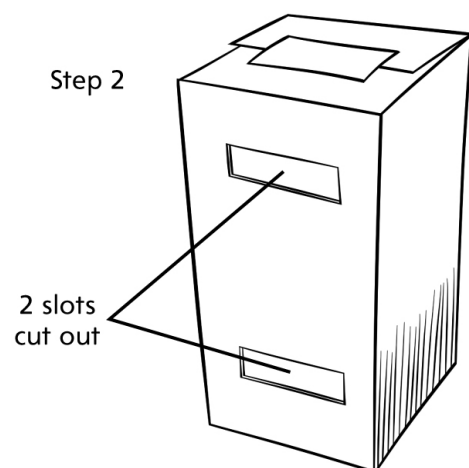
Instructions

Note: Change Machines should be made only by the teacher.

1. Cut the top of the carton open. Cut off two opposite flaps, and then tape the other two down.

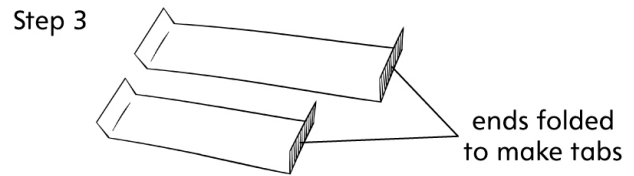


2. Draw two rectangular slots, each about 8 cm by 2 cm, about 6.5 cm apart, on one side of the carton. Cut out the slots.

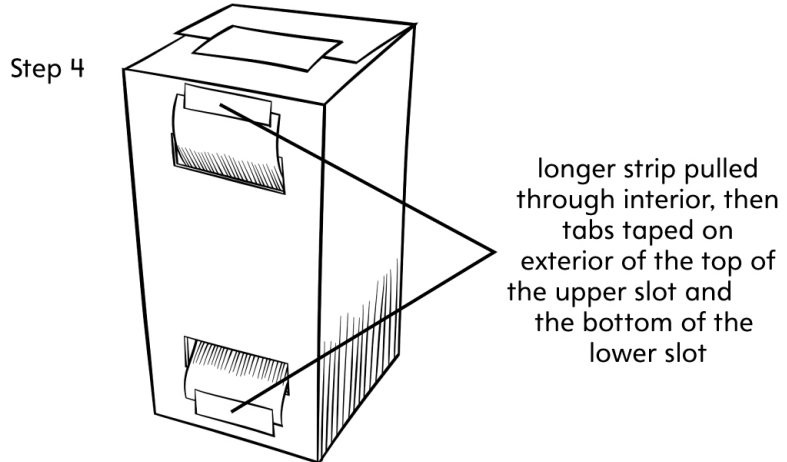


Make a Change Machine Line Master 6-2

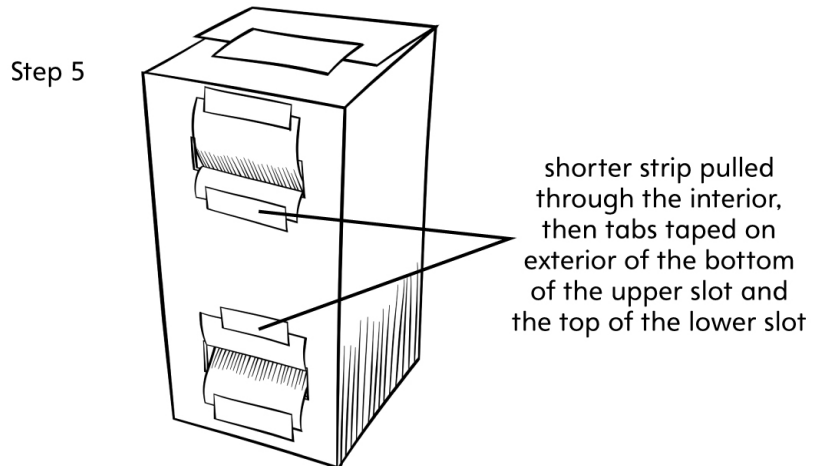
3. Fold up about 3 cm on the ends of both strips to make tabs.



4. Pull the longer strip through the slots in the carton, so that most of the strip is in the interior of the carton and the tabs are on the exterior. On the exterior of the carton, tape the tabs to the top of the upper slot and the bottom of the lower slot.



5. Pull the shorter strip through the slots of the carton, so that most of the strip is in the interior of the carton and the tabs are on the exterior. On the exterior of the carton, tape the tabs to the bottom of the upper slot and the top of the lower slot.



6. Decorate the exterior of your change machine with contact paper. Children will enjoy making decorating suggestions.

What's the Number?

Line Master 7

Start Number	Pattern Rule								
<table border="1"><tr><td>10</td><td>15</td></tr><tr><td>20</td><td>Your Choice</td></tr></table>	10	15	20	Your Choice	<table border="1"><tr><td>1</td><td>2</td></tr><tr><td>3</td><td>Your Choice</td></tr></table>	1	2	3	Your Choice
10	15								
20	Your Choice								
1	2								
3	Your Choice								

How to play:

1. Find your start number. Write it on a card.
2. Find your pattern rule. Decide if you will make your pattern grow or if you will make your pattern shrink.
3. Create 5 more cards by writing a different number that belongs to your pattern on each card.
4. Put your cards in order in a row beside your start card.
5. Ask your partner, "What's the number?"

Pattern Challenges

Line Master 8-1

✂ -----

2, 4, 6, 8, 10, 12

The pattern rule is _____ .

✂ -----

5, 10, 15, 20, 25, 30

The pattern rule is _____ .

✂ -----

13, 16, 19, 22, 25, 28

The pattern rule is _____ .

✂ -----

90, 80, 70, 60, 50, 40

The pattern rule is _____ .

✂ -----

20, 18, 16, 14, 12, 10

The pattern rule is _____ .

✂ -----

45, 40, 35, 30, 25, 20

The pattern rule is _____ .

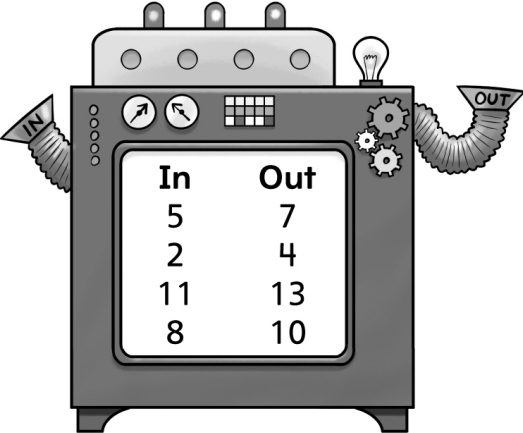
✂ -----

Pattern Challenges

Line Master 8-2

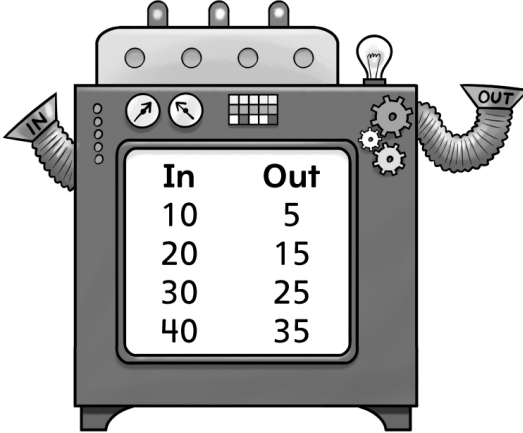
✂

6



In	Out
5	7
2	4
11	13
8	10

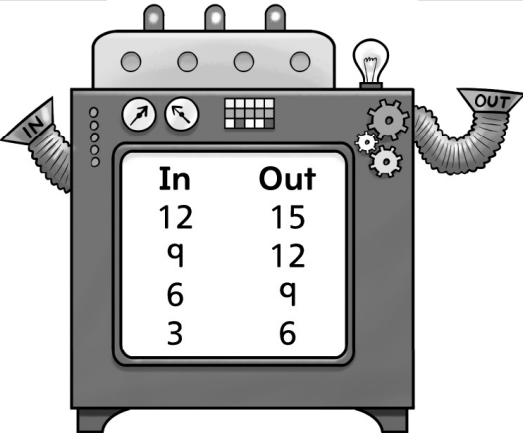
50



In	Out
10	5
20	15
30	25
40	35

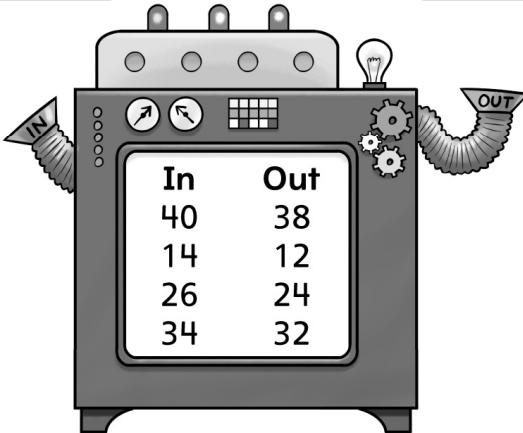
✂

15



In	Out
12	15
9	12
6	9
3	6

28

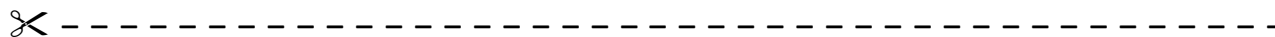


In	Out
40	38
14	12
26	24
34	32

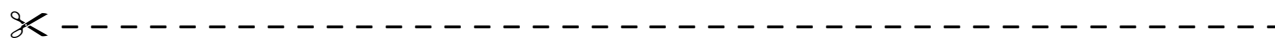
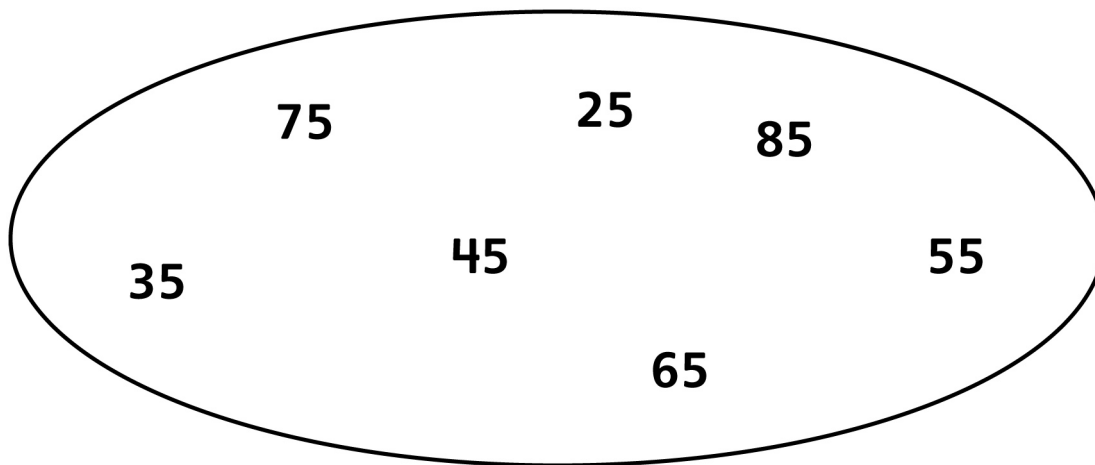
✂

Pattern Challenges

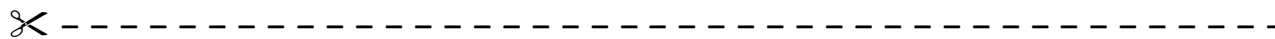
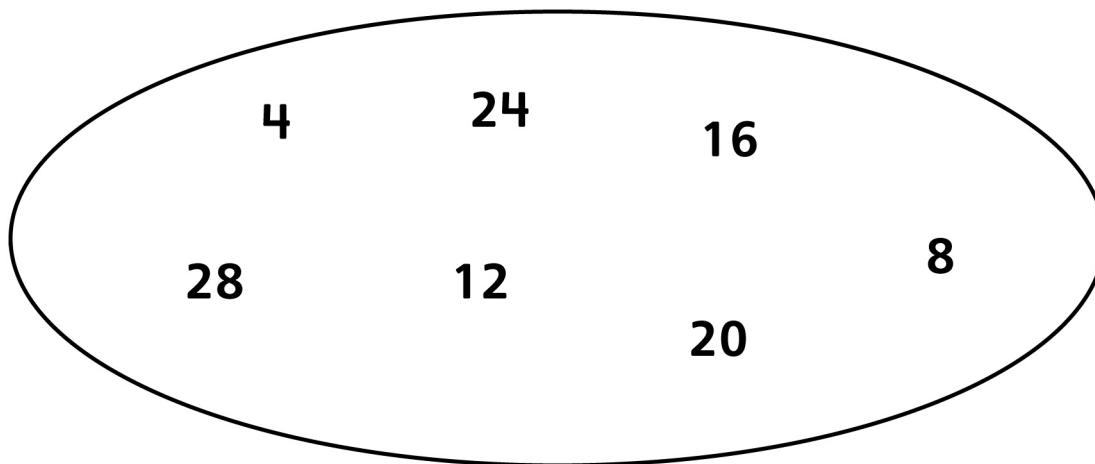
Line Master 8-4



Use the numbers to make a pattern.

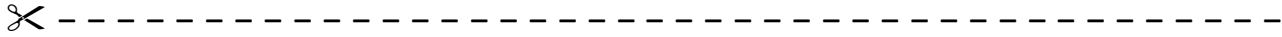


Use the numbers to make a pattern.

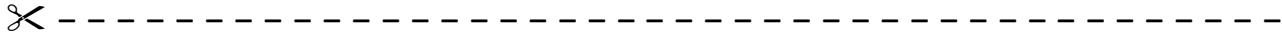
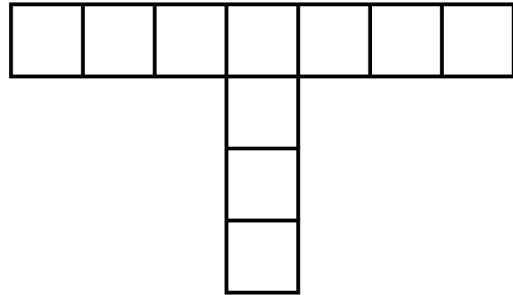
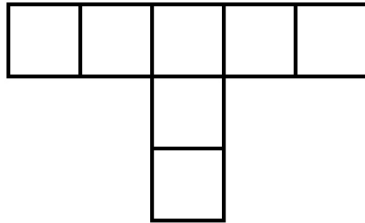
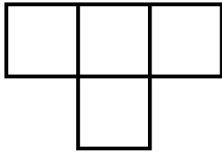


Pattern Challenges

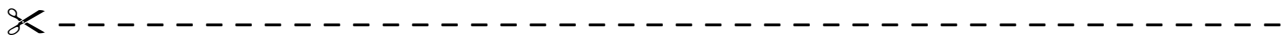
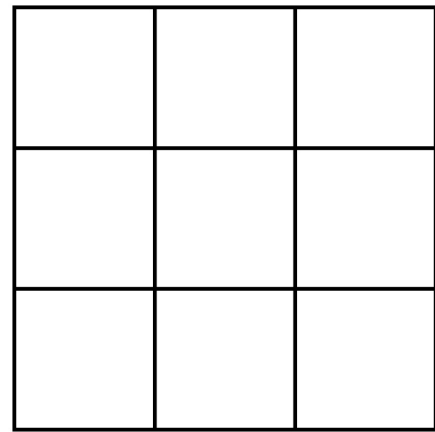
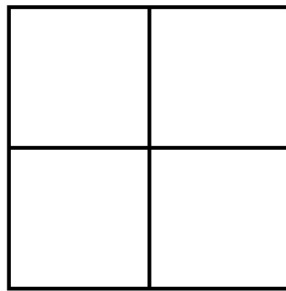
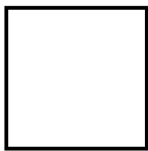
Line Master 8-5



What comes next?

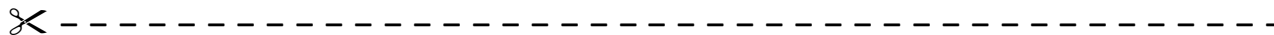


What comes next?

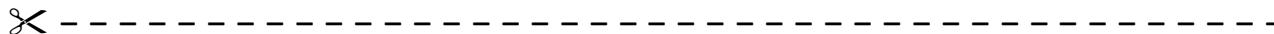
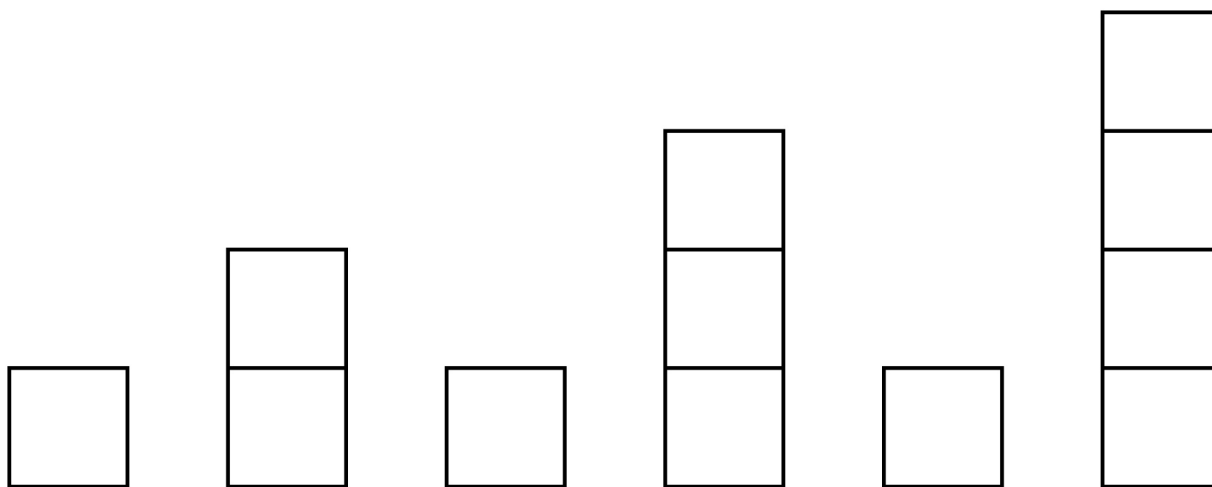


Pattern Challenges

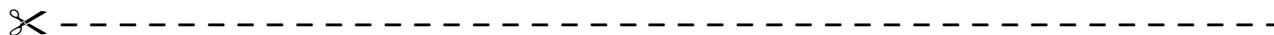
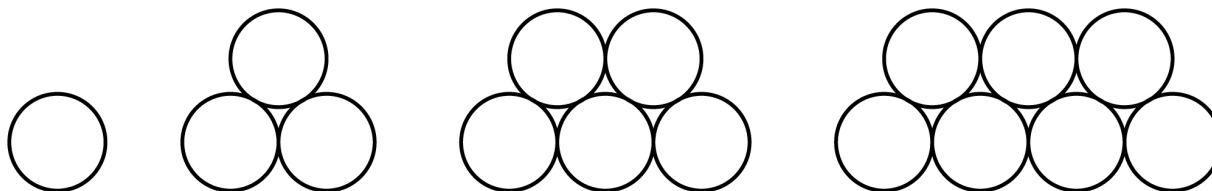
Line Master 8-6



What comes next?

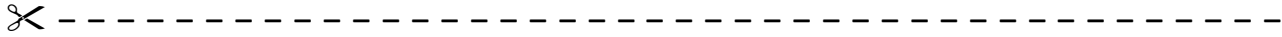


What comes next?

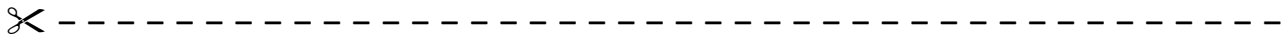
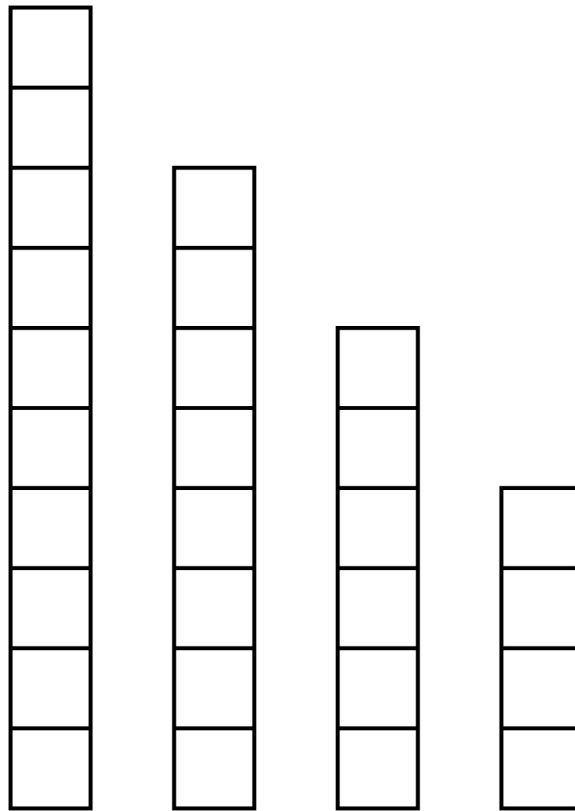


Pattern Challenges

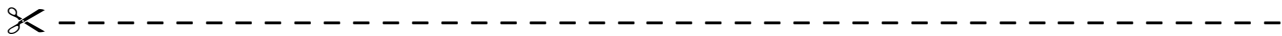
Line Master 8-7



What comes next?



What comes next?



Pattern Quest

Line Master 1 (Assessment Master)

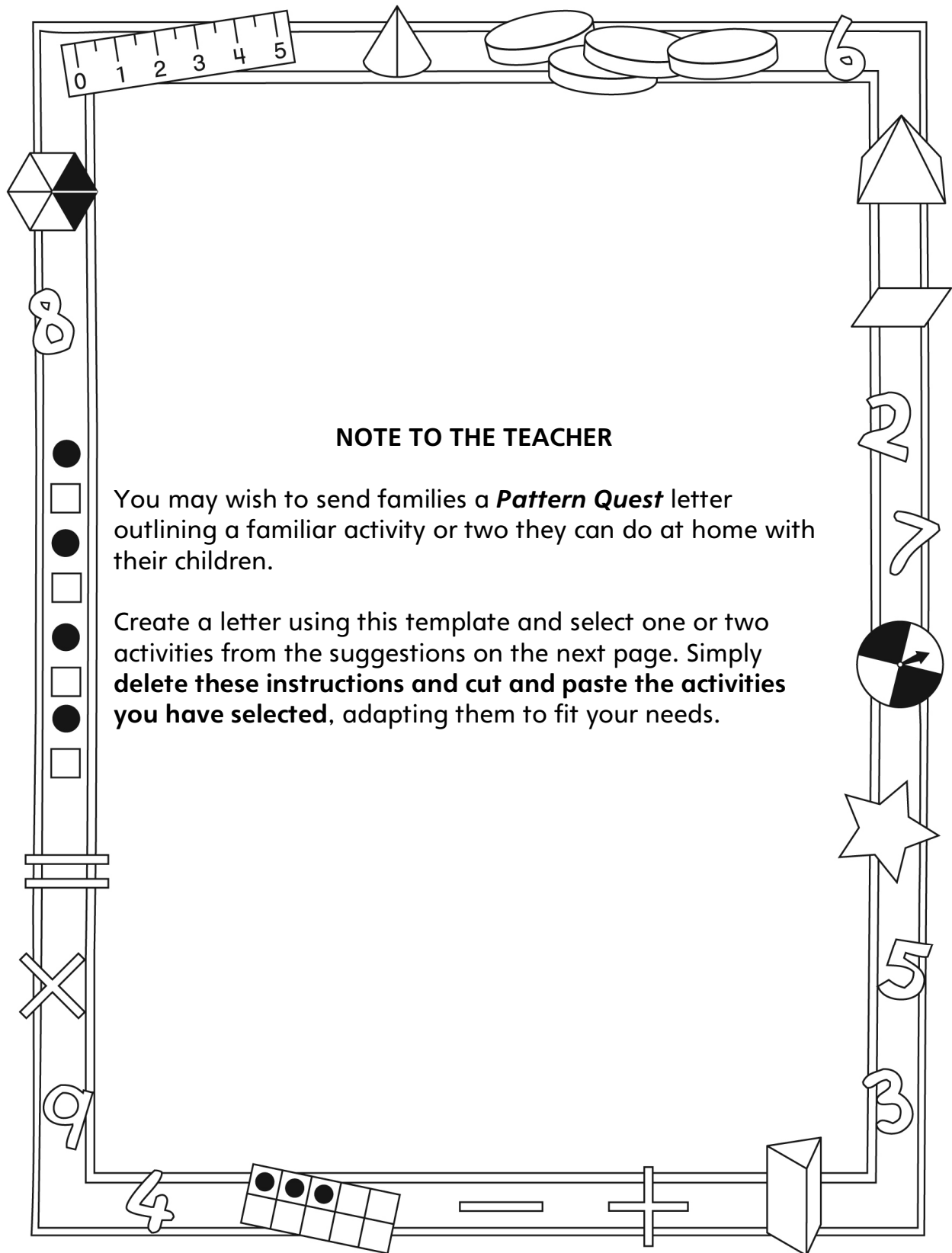
Name: _____

Investigate Repeating Patterns	Not observed	Sometimes	Consistently
Compares repeating patterns and describes how they are alike			
Recognizes, extends, and creates repeating patterns based on two or more attributes			
Identifies the core of patterns			
Investigate Growing and Shrinking Patterns			
Identifies, reproduces, and extends increasing/decreasing patterns using repeated addition or subtraction			
Creates an increasing/decreasing pattern and explains the pattern rule			

Strengths:

Next Steps:

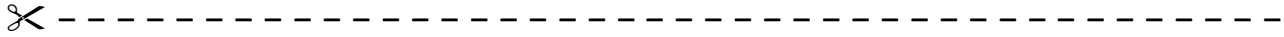
Connecting Home and School Line Master 2-1



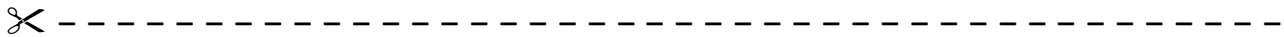
Connecting Home and School Line Master 2–2

Dear Family:

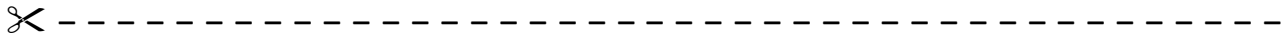
We have been working on **Pattern Quest**, which engages children in conversations, investigations, and activities that help to develop their understanding of the big math idea that “Patterns can be described mathematically.” Particular focus is placed on investigating repeating patterns, growing patterns, and shrinking patterns. Try this activity at home with your child.



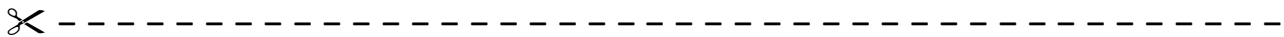
Reading the Story: As you read the story together, encourage your child to identify and describe the patterns. Together, compare the patterns throughout the story. Invite your child to identify the different types of patterns: repeating, growing, and shrinking. For repeating patterns, work with your child to find the part that repeats (pattern core).



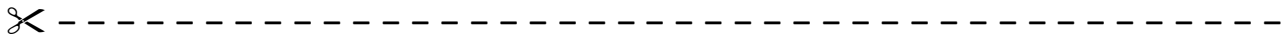
Pattern Detectives: Challenge your child to find patterns at home or on the way to school. Invite her/him to explain why the designs or sequences are patterns and to record the part of the pattern that repeats (pattern core) or the pattern rule.



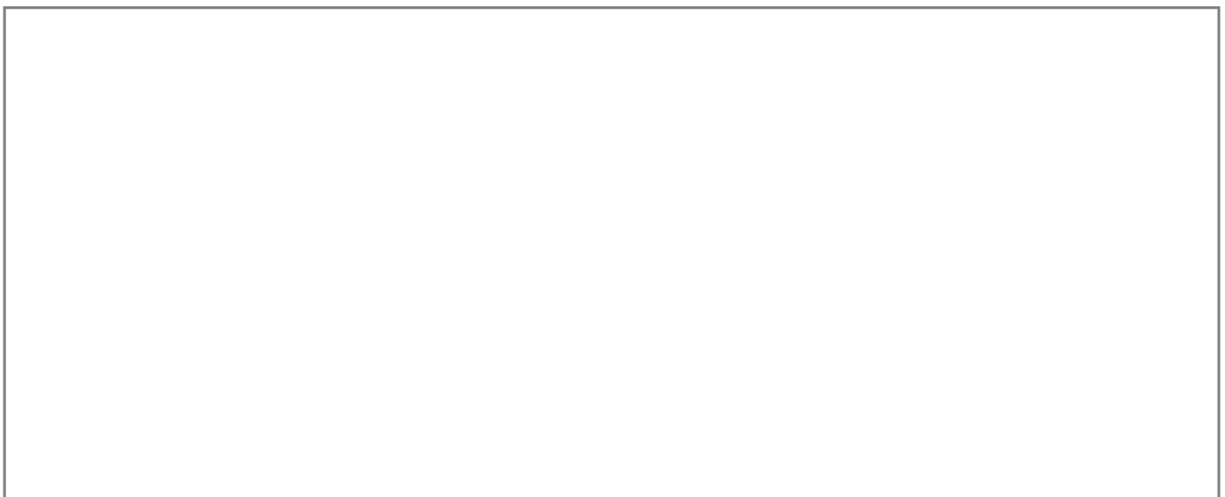
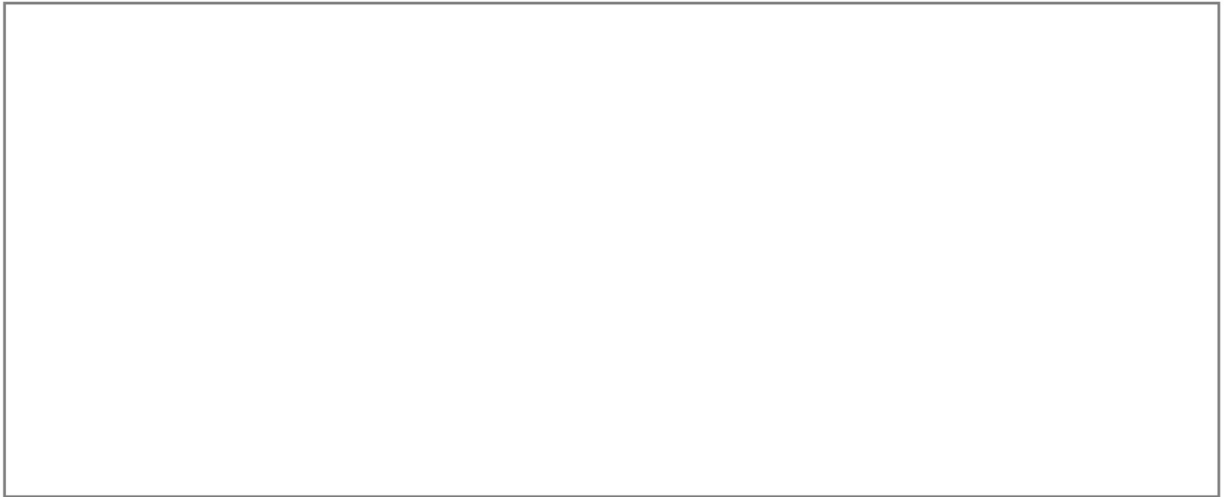
Repeating Patterns: What Comes Next? Use a minimum of 2 different attributes (e.g., shape, colour, size) to create a pattern core. Make sure the pattern core appears at least 3 times to form a repeating pattern. Invite your child to extend the pattern. Patterns can be drawn, created with concrete objects, clapped, or said aloud.



Growing/Shrinking Patterns: What Comes Next? Start a pattern using numbers that increase or decrease by the same amount each time, (e.g., 2, 4, 6 or 10, 20, 30). Invite your child to extend the pattern and identify the pattern rule. Challenge your child to start a growing or shrinking number pattern for you to extend.



Sincerely,



Pattern Attributes

Line Master 4

shape	colour
size	direction
shape	colour
size	direction

Numeral Cards

Line Master 5-1

5	10	15
20	25	30
35	40	45
50		

Numeral Cards

Line Master 5-2

55	60	65
70	75	80
85	90	95
100		

Hundred Chart

Line Master 6

Name: _____

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

Comparing Patterns

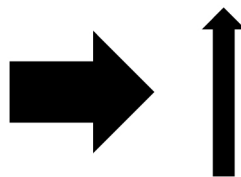
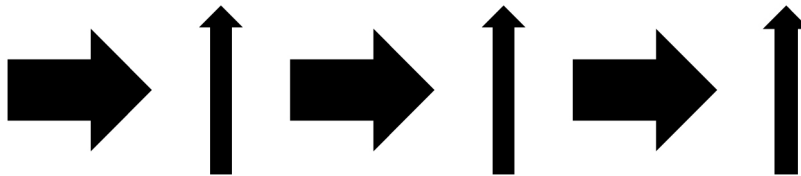
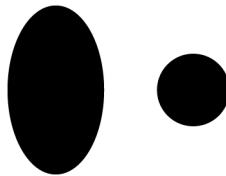
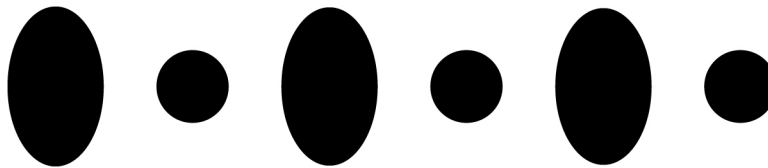
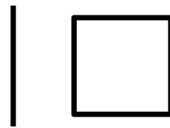
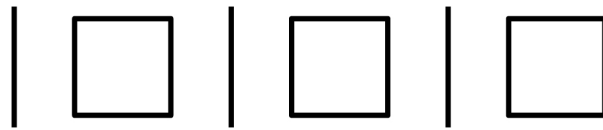
Line Master 7

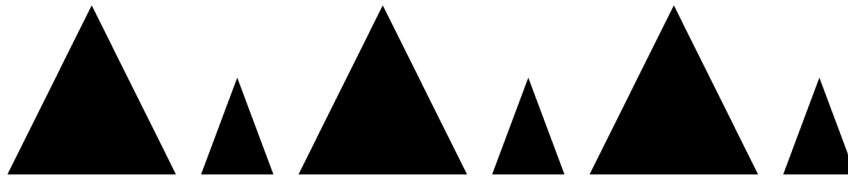
Name: _____

What is the same about our patterns?	What is different about our patterns?

Pattern Cards

Line Master 8-1

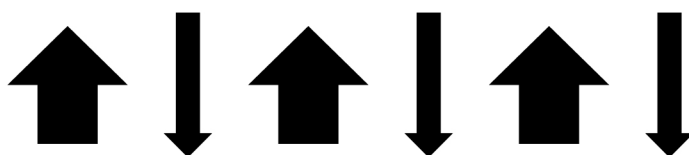




big triangle, small triangle



black line, black line, white star



wide arrow up, thin arrow down



big square, big square, small circle



black plus sign, white minus sign

2, 4, 6, 8, 10

add 2 each time

1, 2, 4, 8, 16

double the previous number each time



10, 20, 30, 40, 50

add 10 each time

100, 90, 80, 70, 60

subtract 10 each time

50, 45, 40, 35, 30

subtract 5 each time

Pattern Detectives

Line Master 9

Name: _____

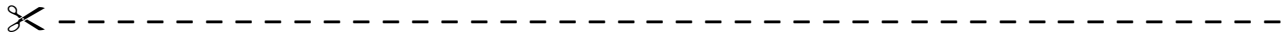
Pattern	Location	Pattern Core

Classroom Pattern Quest

Line Master 10

Name: _____

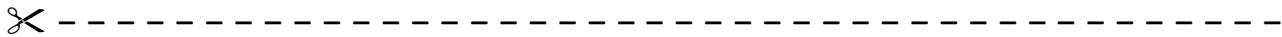
My pattern is: _____



Extend the pattern.

2, 4, 6, _____, _____, _____, _____, _____, _____

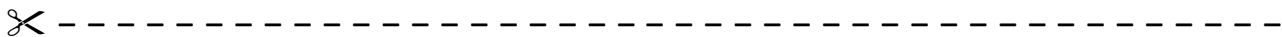
What is the pattern rule?



Extend the pattern.

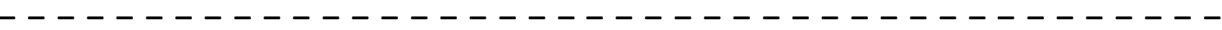
25, 50, 75, _____, _____, _____, _____, _____

What is the pattern rule?



Pattern Problems

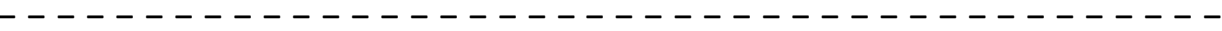
Line Master 11-2



Extend the pattern.

100, 90, 80, _____, _____, _____, _____, _____, _____, _____

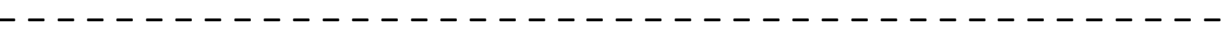
What is the pattern rule?

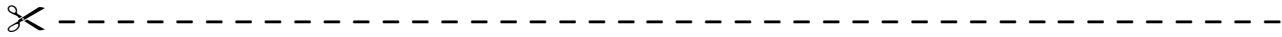


Extend the pattern.

50, 45, 40, _____, _____, _____, _____, _____, _____, _____

What is the pattern rule?



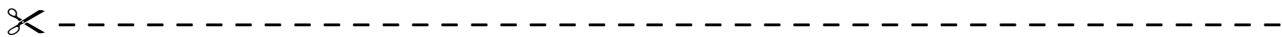


10, 20, 30, _____, _____

Which numbers extend the pattern?

- a) 35, 40
- b) 40, 50
- c) 50, 100

What is the pattern rule?

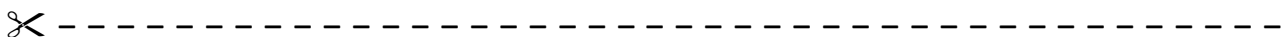


25, 20, 15, _____, _____

Which numbers extend the pattern?

- a) 10, 5
- b) 20, 25
- c) 14, 12

What is the pattern rule?



Kokum's Bannock

Line Master 1 (Assessment Master)

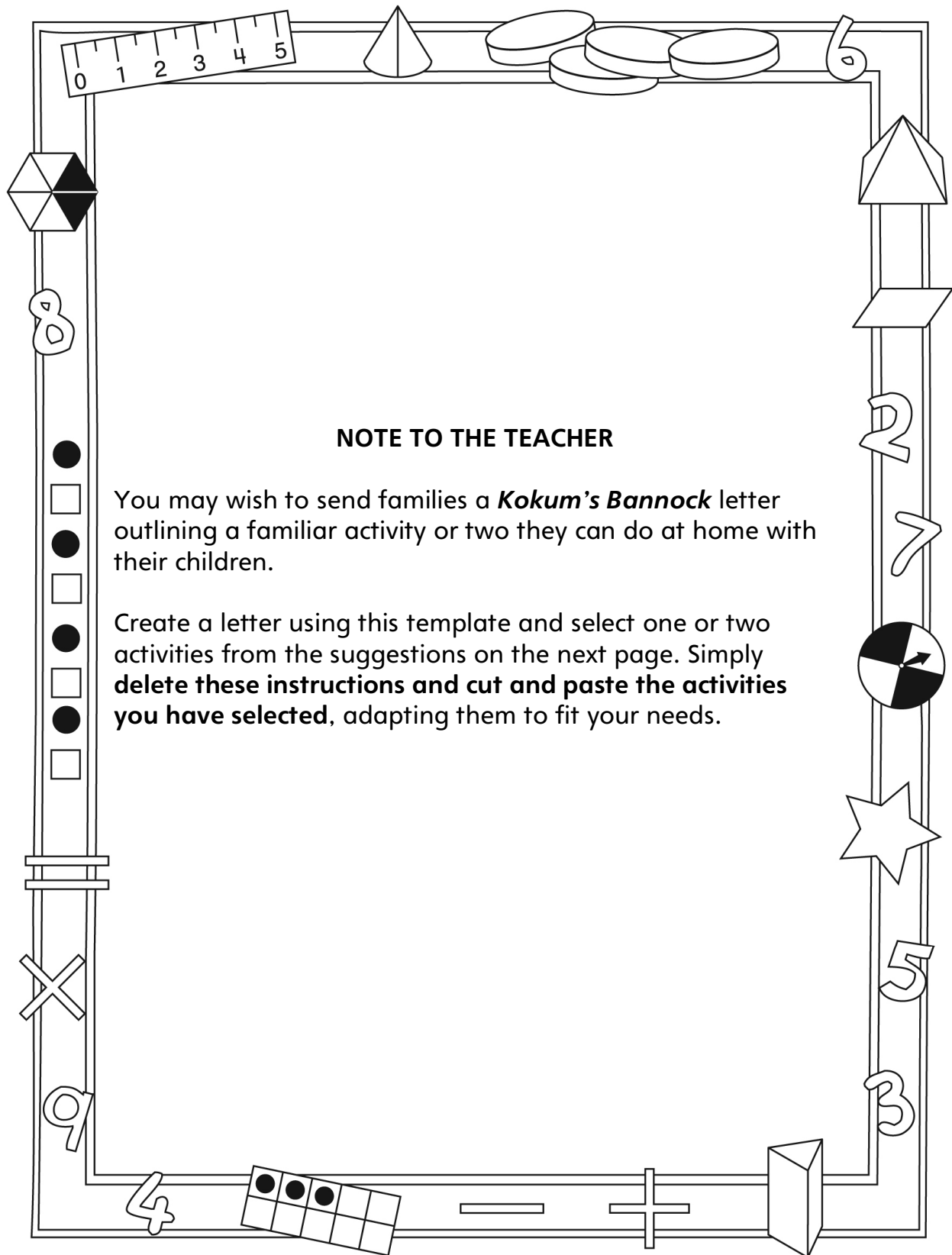
Name: _____

Model and Describe Equality and Inequality	Not observed	Sometimes	Consistently
Models and describes examples of equality (balance; the same as) and inequality (imbalance; not the same as)			
Recognizes, uses, and understands the equal (=) and not equal (\neq) symbols when comparing expressions			
Records different expressions of the same quantity as equalities			
Explore Properties of Addition and Subtraction			
Decomposes and combines numbers to write addition and subtraction equations in different forms			
Investigates addition and subtraction as inverse operations			
Explores and solves for missing addends and subtrahends			

Strengths:

Next Steps:

Connecting Home and School Line Master 2-1



NOTE TO THE TEACHER

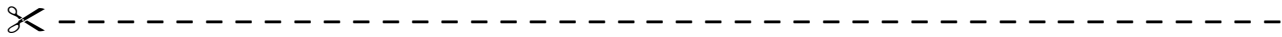
You may wish to send families a *Kokum's Bannock* letter outlining a familiar activity or two they can do at home with their children.

Create a letter using this template and select one or two activities from the suggestions on the next page. Simply **delete these instructions and cut and paste the activities you have selected**, adapting them to fit your needs.

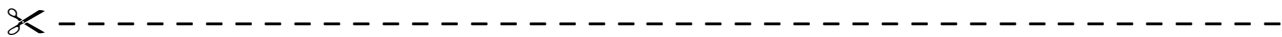
Connecting Home and School Line Master 2–2

Dear Family:

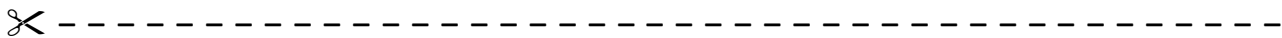
We have been working on *Kokum’s Bannock*, which engages children in conversations, investigations, and activities that help to develop their understanding of the big math idea that “Symbols and expressions can be used to represent mathematical relations.” Particular focus is placed on modelling and describing equality and inequality, and exploring properties of addition and subtraction. Try this activity at home with your child.



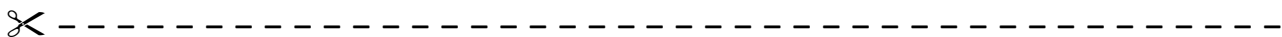
Reading the Story: As you read the story, encourage your child to identify and describe equal groups. Invite her/him to count the number of animals and compare scoops when making bannock. Model using the terms *equal/not equal*, *balanced/imbanced*, and *the same as/not the same as* when describing the story.



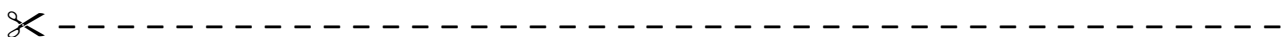
How Many Ways? Roll a number cube, select a number card, or suggest a number between 1 and 10. Challenge your child to come up with as many different ways as he/she can to make the selected number using addition and/or subtraction. Start with using 2 numbers only (e.g., $4 = 2 + 2$) and increase the amount of numbers as appropriate (e.g., $4 = 2 + 1 + 1$). Record responses to ensure there are no repeats.



Domino Pairs: Start by selecting 2 dominoes and adding them together. Challenge your child to use 2 different dominoes to make the same final answer. Replace your dominoes in the pile and take turns going first.



Equal I Spy: On your way to school or home, invite your child to play a game of I Spy to identify equal pairs. For example, if your child sees 2 black cars and 2 bicycles, he/she might say, “I spy 2 pairs of things with wheels.” Ensure that you or your child has identified both pairs before starting each round and asking the other to guess.



Sincerely,

Kokum's Bannock Math Mat

Line Master 3



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Equal or Not Equal

Line Master 4

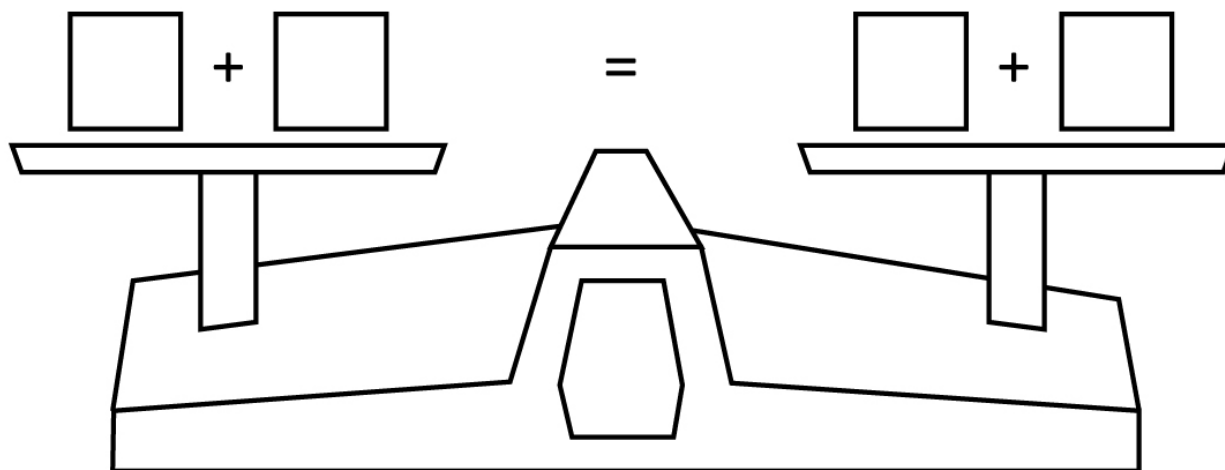
Name: _____

_____	_____	_____	_____
_____	_____	_____	_____
____ + ____	____ + ____	____ + ____	____ + ____
____ + ____	____ + ____	____ + ____	____ + ____

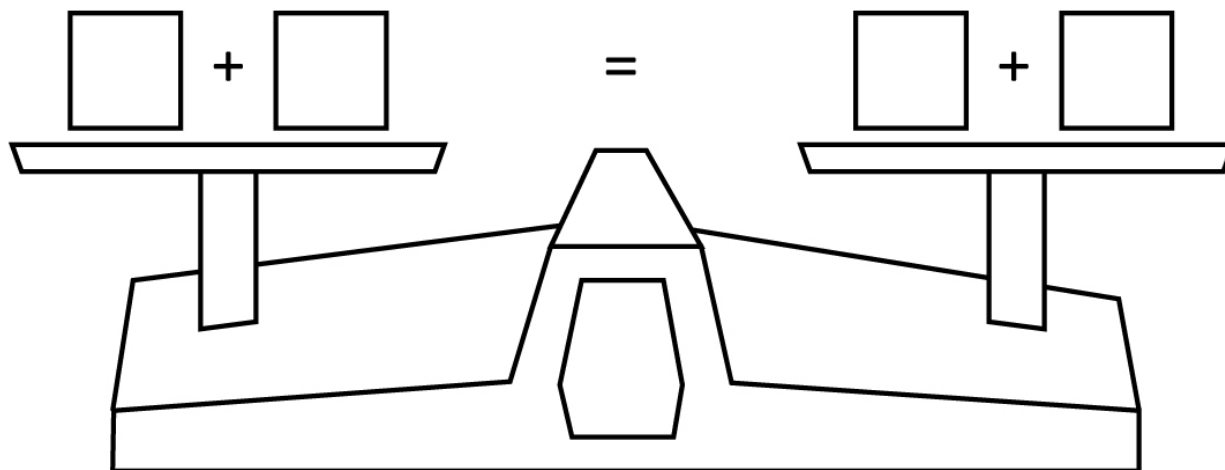
Balancing Numbers

Line Master 5

Name: _____



Name: _____



Find the Missing Number

Line Master 6




Name: _____

$5 + \underline{\quad} = 7$	$10 + \underline{\quad} = 13$
$3 + \underline{\quad} = 8$	$4 + \underline{\quad} = 8$
$2 + \underline{\quad} = 6$	$5 + \underline{\quad} = 15$
$13 = 7 + \underline{\quad}$	$20 = 9 + \underline{\quad}$
$12 = 5 + \underline{\quad}$	$11 = 6 + \underline{\quad}$

Memory Cards

Line Master 7-1



Set 1

 6	 3 + 3 
10	6 + 4
8	3 + 5
5	3 + 2
7	3 + 4

Memory Cards

Line Master 7-2

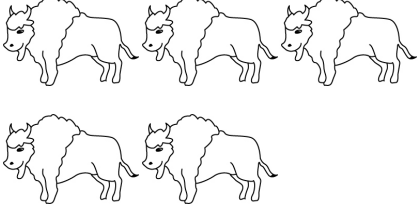
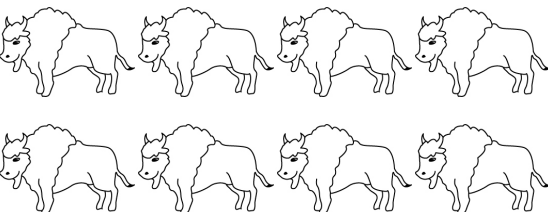

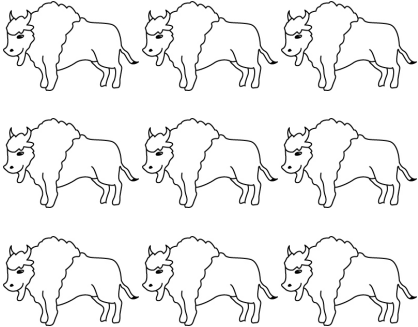
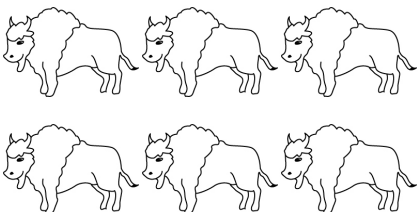
Set 2

 $6 + 1$	 $3 + 4$
$10 + 2$	$6 + 6$
$8 + 1$	$4 + 5$
$5 + 5$	$6 + 4$
$7 + 4$	$5 + 6$

Memory Cards

Line Master 7-3




Set 3

	$3 + 2$
	$6 + 2$
	$3 + 1$
	$2 + 7$
	$5 + 1$

Memory Cards

Line Master 7-4

Set 4

 $6 + 1$	 $10 - 3$ 
$10 + 2$	$14 - 2$
$8 + 1$	$15 - 6$
$5 + 5$	$20 - 10$
$7 + 4$	$15 - 4$

How Many Ways?

Line Master 8

Name: _____

My number is: _____

I can make it these ways:



Name: _____

My number is: _____

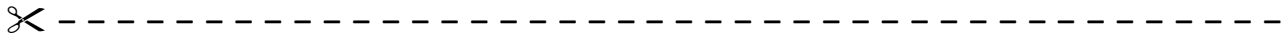
I can make it these ways:



Name: _____

--	--

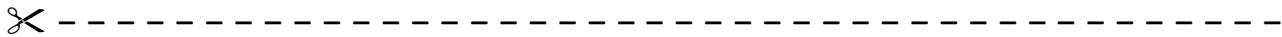
_____ Equals _____



Find the missing number.

$$8 + \underline{\quad} = 12$$

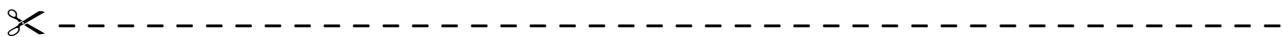
Explain how you know.

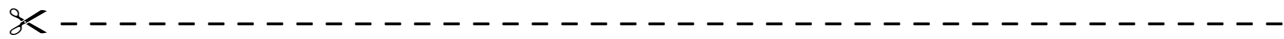


Find the missing number.

$$9 - \underline{\quad} = 5$$

Explain how you know.

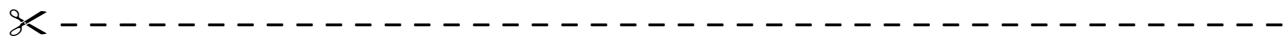




$$6 + 6 = 12$$

Write another addition sentence with the same answer.

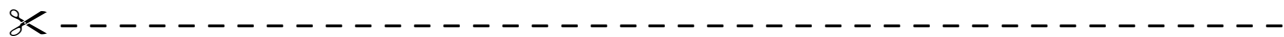
Explain how you know.



$$11 - 6 = 5$$

Write another subtraction sentence with the same answer.

Explain how you know.



Getting Ready for School

Line Master 1 (Assessment Master)

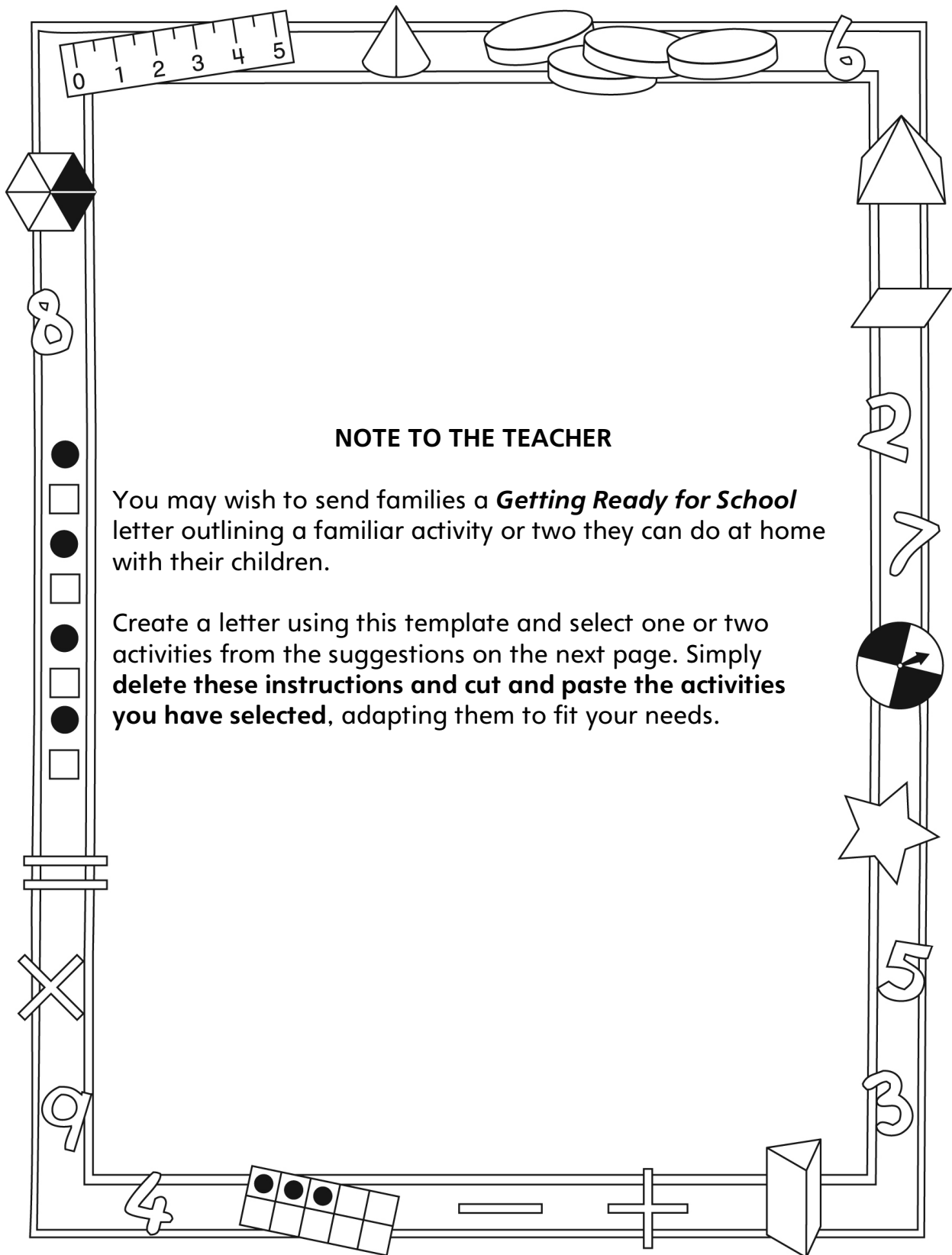
Name: _____

Estimate and Measure Length, Duration, and Distance Around	Not observed	Sometimes	Consistently
Estimates and measures length, distance, and time			
Explores time			
Uses personal and familiar referents to estimate measures			
Selects and uses appropriate measuring tools			
Compare, Order, and Describe Measures			
Compares and orders objects according to length, distance, and time			
Uses relative terms to describe length, distance around, and time			

Strengths:

Next Steps:

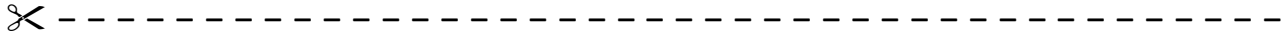
Connecting Home and School Line Master 2-1



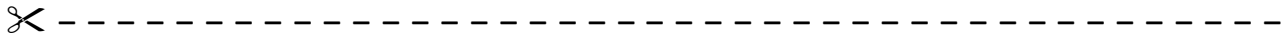
Connecting Home and School Line Master 2–2

Dear Family:

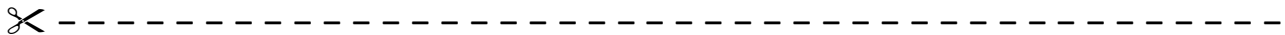
We have been working on **Getting Ready for School**, which engages children in conversations, investigations, and activities that help to develop their understanding of the big math idea that “Units can be used to measure and compare attributes.” Particular focus is placed on estimating, measuring, and comparing length, time, and distance around. Try this activity at home with your child.



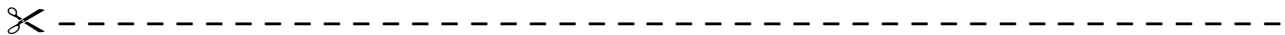
Reading the Story: As you read the story, enjoy talking about the different ways Addie measures length, height, and distance. If you have string or paper clips on hand, you can measure and compare the distance around your wrists, heads, and waists. Measure from your feet to your shoulders in hand widths. How do your measures compare with each other? How do your measures compare with Eric’s?



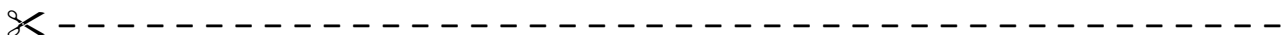
How Many Steps? Have your child measure distance by counting heel-to-toe steps or strides. Encourage comparison. For example, ask: **Do you think it takes more or fewer baby steps from the front door to the kitchen or from the kitchen to your bedroom?** Discuss a reasonable way of figuring this out and then try it. Estimate and measure other distances, always estimating the greatest and least distances before embarking on a common unit of measure.



How Long Is 1 Minute? See how well your child can sense how long 1 minute is. Set a timer, and have your child close her/his eyes. Have your child raise her/his hand when it feels like 1 minute is up. Do this several times and see whether the estimates get closer to 60 seconds with experience.



Scavenger Hunt: Look at a ruler to get a sense of how long 10 centimetres is. Trying coming up with a personal measure that will help your child estimate and measure 10 centimetres. Send your child on a scavenger hunt to find and list things that are about 10 centimetres. Use a ruler to check how close the estimates were.



Sincerely,

Getting Ready for School Math Mat

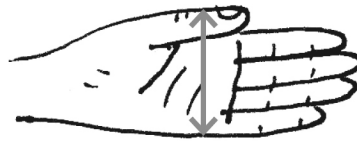
Line Master 3

an arm's length: a distance that is the same length as an arm when it is not bent

centimetre (cm): a unit of measure. (Your baby finger is about 1 cm wide.)

count by potatoes: a way to measure time in seconds. (It takes about 1 second to say "1 potato," so it takes about 3 seconds to count "1 potato, 2 potatoes, 3 potatoes.")

hand: a unit of measure that comes from the width of a hand, including the thumb. (See the picture.) This unit is used to measure the height of a horse.



heavier than a pile of bricks: a way to say that something is very heavy

heavy as a herd of elephants: a way to say that something is very, very heavy

in 2 shakes of a lamb's tail: very soon. (It takes very little time for a lamb to shake its tail twice.)

in a heartbeat: very quickly

in a jiffy: very soon. (A *jiffy* is a very short period of time.)

My Order Form

Line Master 4

Name: _____

	My estimate	My measure
Distance around wrist		
Distance around ankle		
Distance around head		
Distance around waist		

When I compare my measures, I know...

My _____ is the longest around.

My _____ is the shortest around.

My Jumps

Line Master 5

Name: _____

Jump	My estimate	My measure
1	_____	_____
2	_____	_____
3	_____	_____
4	_____	_____

I discovered...

My longest jump was...

My shortest jump was...

Measuring Different Ways

Line Master 6

Name: _____

Units	My estimate	My measure
linking cubes		
craft sticks		
straws		

What did you notice about using different units of measure?

Training Activity

Line Master 7

Name: _____

My training activity is _____.

I measured in centimetres. Here is a record of my results.

My estimate	My measure

The longest distance was _____.

The shortest distance was _____.

My closest estimate was _____.

Measuring Paths

Line Master 8

Name: _____

Paths	My estimate in centimetres	My measure in centimetres
_____	_____	_____
_____	_____	_____
_____	_____	_____

Order the paths from longest to shortest.

Longest

Shortest

My Superhero Profile

Line Master 9

My name is _____.

I am also known as _____.

I am _____ centimetres tall.

I am...

I can...

Here is my picture:

Measuring Problems

Line Master 10-1

Centimetres

Name: _____

This line is 10 centimetres long.



Use this line to picture what 100 centimetres would look like.

Cut a piece of string that you think is 100 centimetres long. Measure it. What did you discover?

Now cut another piece of string that you think is 100 centimetres long. Measure it. What did you discover?

Was your estimate closer?

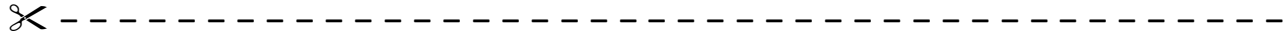
Try one more time.
Order your strings from shortest to longest.

_____ centimetres _____ centimetres _____ centimetres

Measuring Problems

Line Master 10-2

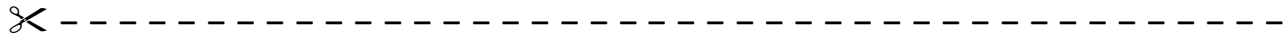
Centimetres



This line is 1 centimetre long.



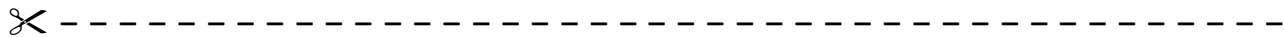
What can you find that is about 1 centimetre long?



This line is 10 centimetres long.



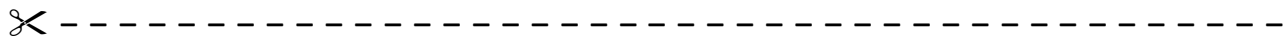
What can you find that is about 10 centimetres long?



This line is 15 centimetres long.



What can you find that is about 15 centimetres long?



Measuring Problems

Line Master 10–3

Comparing Measures

Name: _____

Addie and Eric took turns practising their kicking skills. They kicked a paper ball with their left foot and then with their right foot. They measured each kick with their strides.

Addie	Left foot	Right foot	Which kick went farther? How much farther?
Try 1	12 strides	8 strides	
Try 2	13 strides	5 strides	

Eric	Left foot	Right foot	Which kick went farther? How much farther?
Try 1	14 strides	20 strides	
Try 2	18 strides	21 strides	

What else do you notice?

Measuring Problems

Line Master 10-4

Measuring 1 Minute

Name: _____

Record 4 activities you think you can do in 1 minute.

Use a 1 minute timer to time yourself. What did you discover?

My activity	My discovery (circle)
Activity 1	less than 1 minute about 1 minute more than 1 minute
Activity 2	less than 1 minute about 1 minute more than 1 minute
Activity 3	less than 1 minute about 1 minute more than 1 minute
Activity 4	less than 1 minute about 1 minute more than 1 minute

The Discovery

Line Master 1 (Assessment Master)

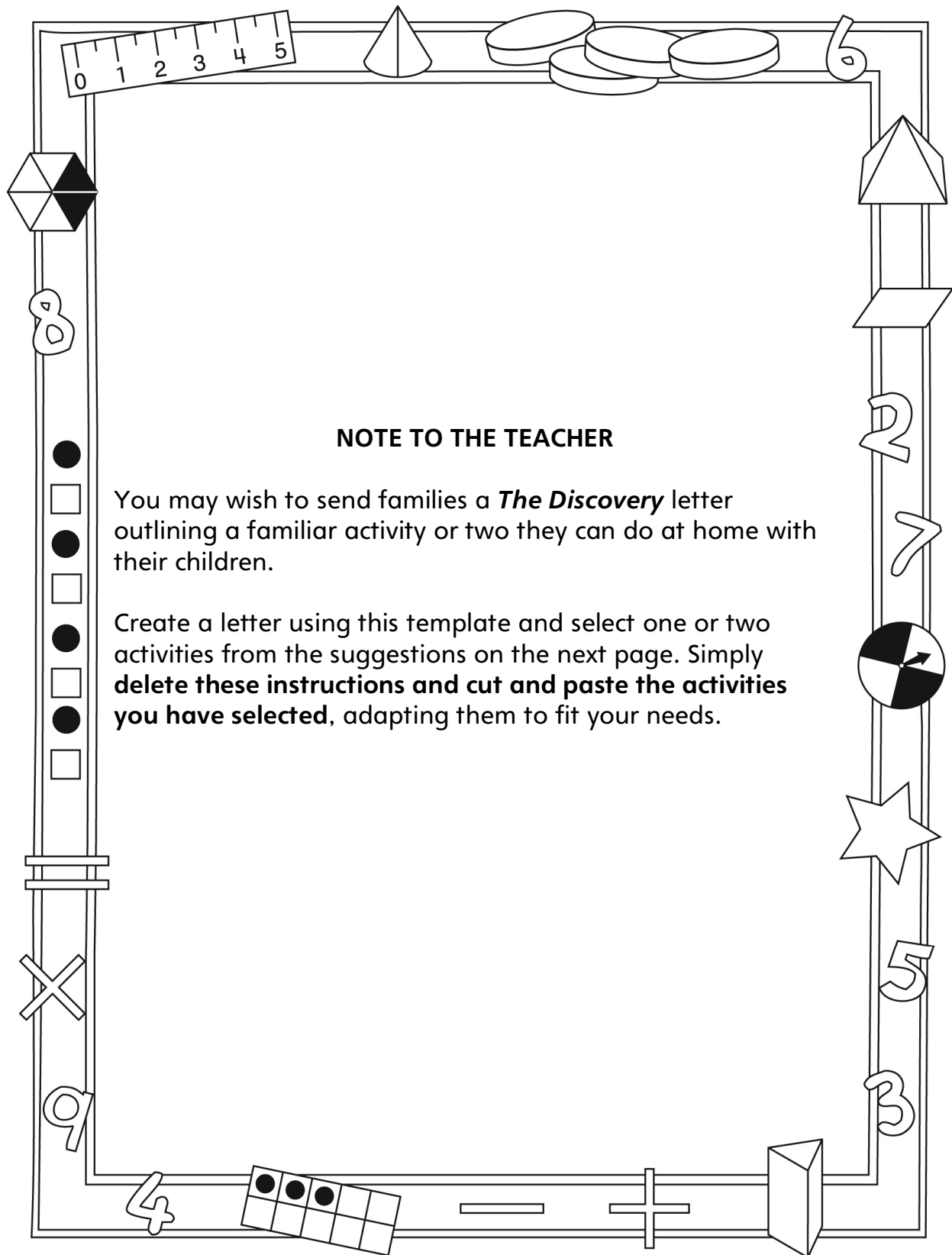
Name: _____

Estimate and Measure Length, Perimeter, and Area	Not observed	Sometimes	Consistently
Estimates and measures length			
Estimates and measures perimeter			
Estimates and measures area			
Uses personal referents and benchmarks			
Selects and uses appropriate measuring tools			
Compare and Describe Length, Perimeter, and Area			
Compares and orders objects according to length, perimeter, and area			
Uses relative terms to describe length, perimeter, and area			

Strengths:

Next Steps:

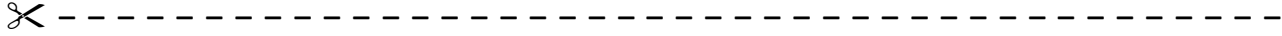
Connecting Home and School Line Master 2-1



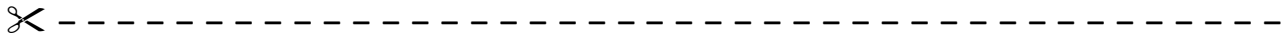
Connecting Home and School Line Master 2–2

Dear Family:

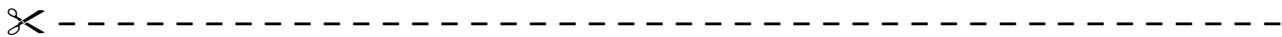
We have been working on *The Discovery*, which engages children in conversations, investigations, and activities that help to develop their understanding of the big math idea that “Units can be used to measure and compare attributes.” Particular focus is placed on estimating, measuring, and comparing length, perimeter, and area. Try this activity at home with your child.



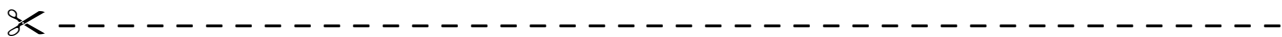
Reading the Story: As you read the story, enjoy talking about the different things the robots measure, the various methods they use, and the problems they run into. Consider acting out parts of the story. For example, pick a distance or object to measure. Use the heel-to-toe method the robots used on pages 8–9 (estimate the number of steps before measuring). What did you discover? Did you end up with a different number of steps when you both measured the same thing? Talk about why that happened. Try other distances.



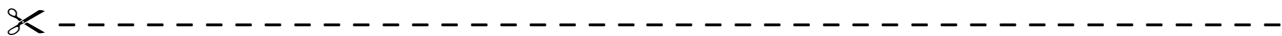
Distance Around: Ask your child how many finger-widths he/she thinks it will be to measure around this piece of paper. Help your child mark the starting point and then count aloud together as he/she measures the 4 sides. Then ask: **How many centimetres do you think it will be around the paper?** Use a ruler to check.



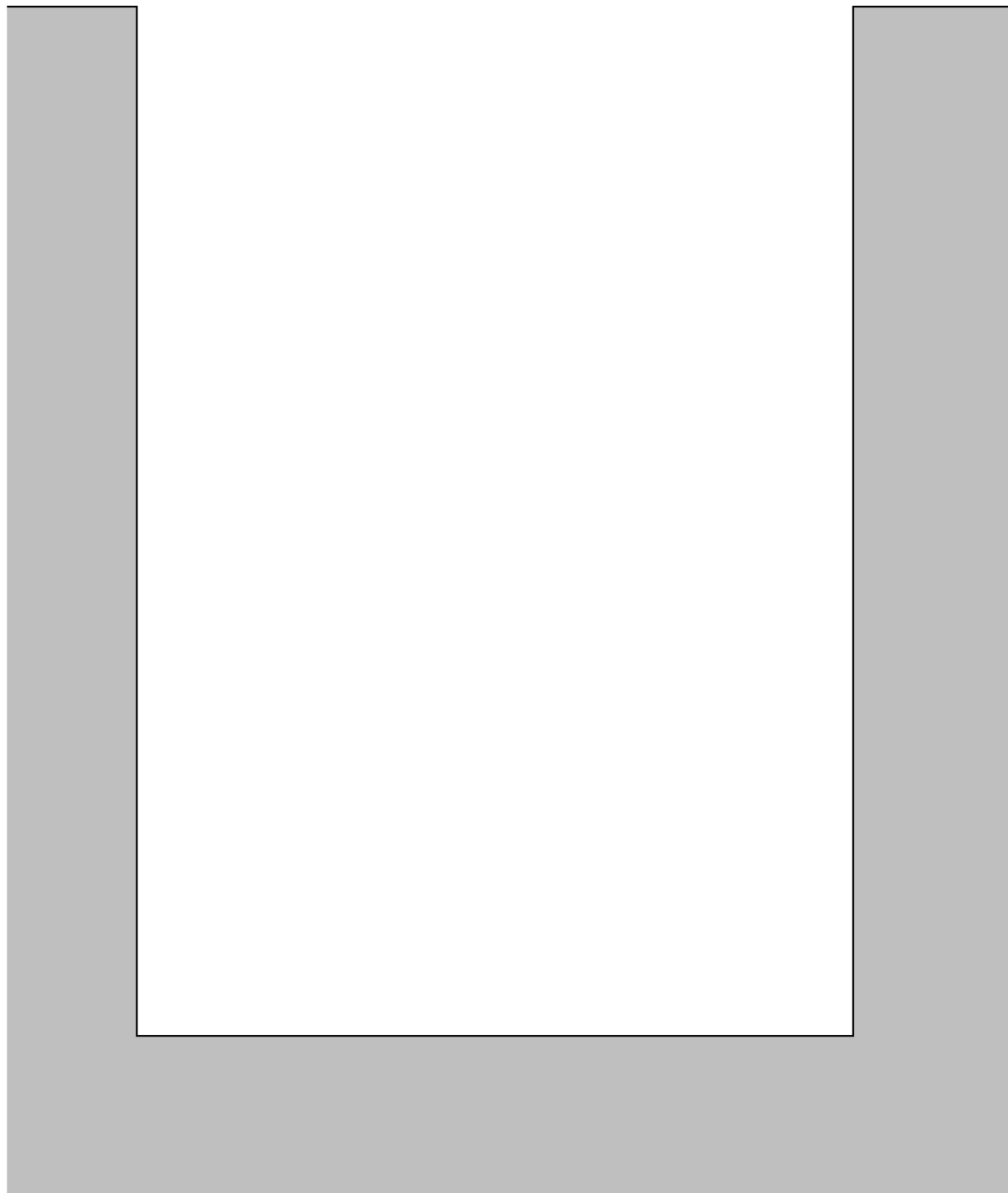
Measuring at Home: We have been talking about when and how to measure things. Sometimes we used non-standard units such as paper clips and craft sticks. Sometimes we measured in centimetres and metres. Look for measuring opportunities as they arise and elicit your child’s help. You might ask: **What are we measuring? What should we use? How will we use the ruler to measure? What do you think the measure will be? Let’s find out.**



Centimetre and Metre Search: Find things around the home and outdoors that measure—in some way—to be about 1 centimetre or 1 metre. Start a list and keep adding to it. Let us know what you find.



Sincerely,



Measuring Zap Lines

Line Master 4

Name: _____

Measuring units	Zap line 1		Zap line 2		Zap line 3	
	Estimate	Measure	Estimate	Measure	Estimate	Measure
cubes						

Compare your measures. What do you notice?

Distance Around Holes

Line Master 5

Name: _____

Draw a picture of your shapes. Include the labels.

Estimate, then measure.

What unit did you use to measure?

Our shape	Our estimate	Our measure

Which shape has the shortest distance around?

Exploring Different Units

Line Master 6-1

Exploring Centimetres

Object	Fingers		Cubes		Ruler	
	Estimate	Measure	Estimate	Measure	Estimate	Measure

Exploring Different Units

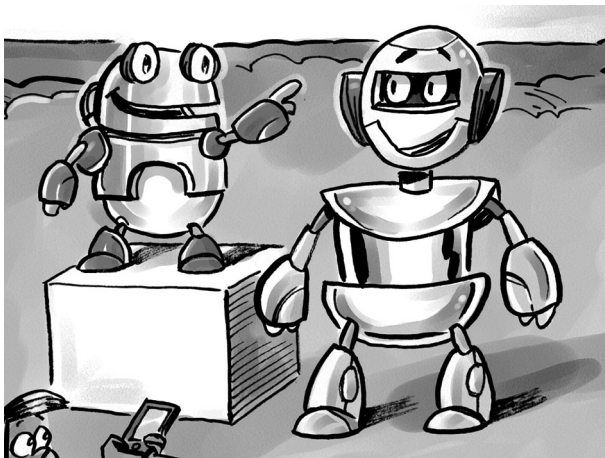
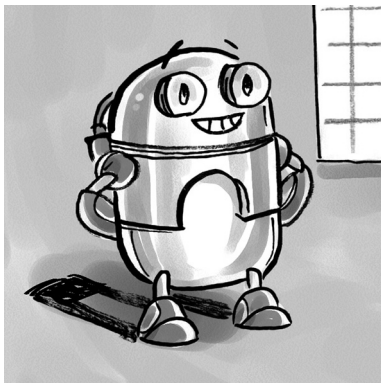
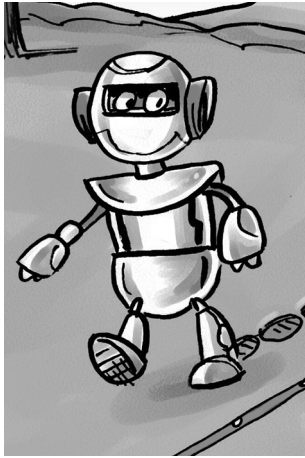
Line Master 6--2

Exploring Metres

Object	Strides		Metre stick	
	Estimate	Measure	Estimate	Measure

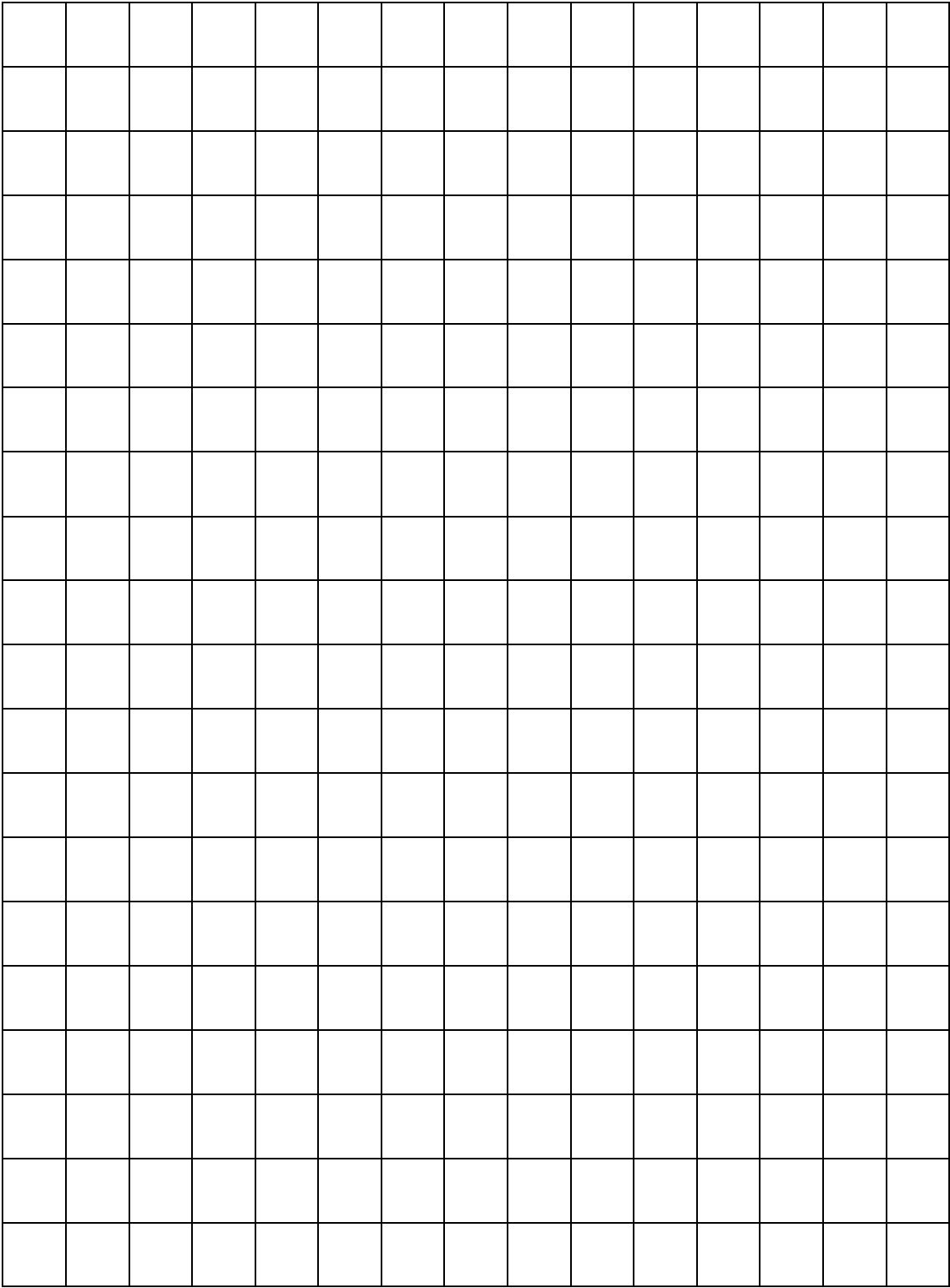
Orbo and Bot Photos

Line Master 7



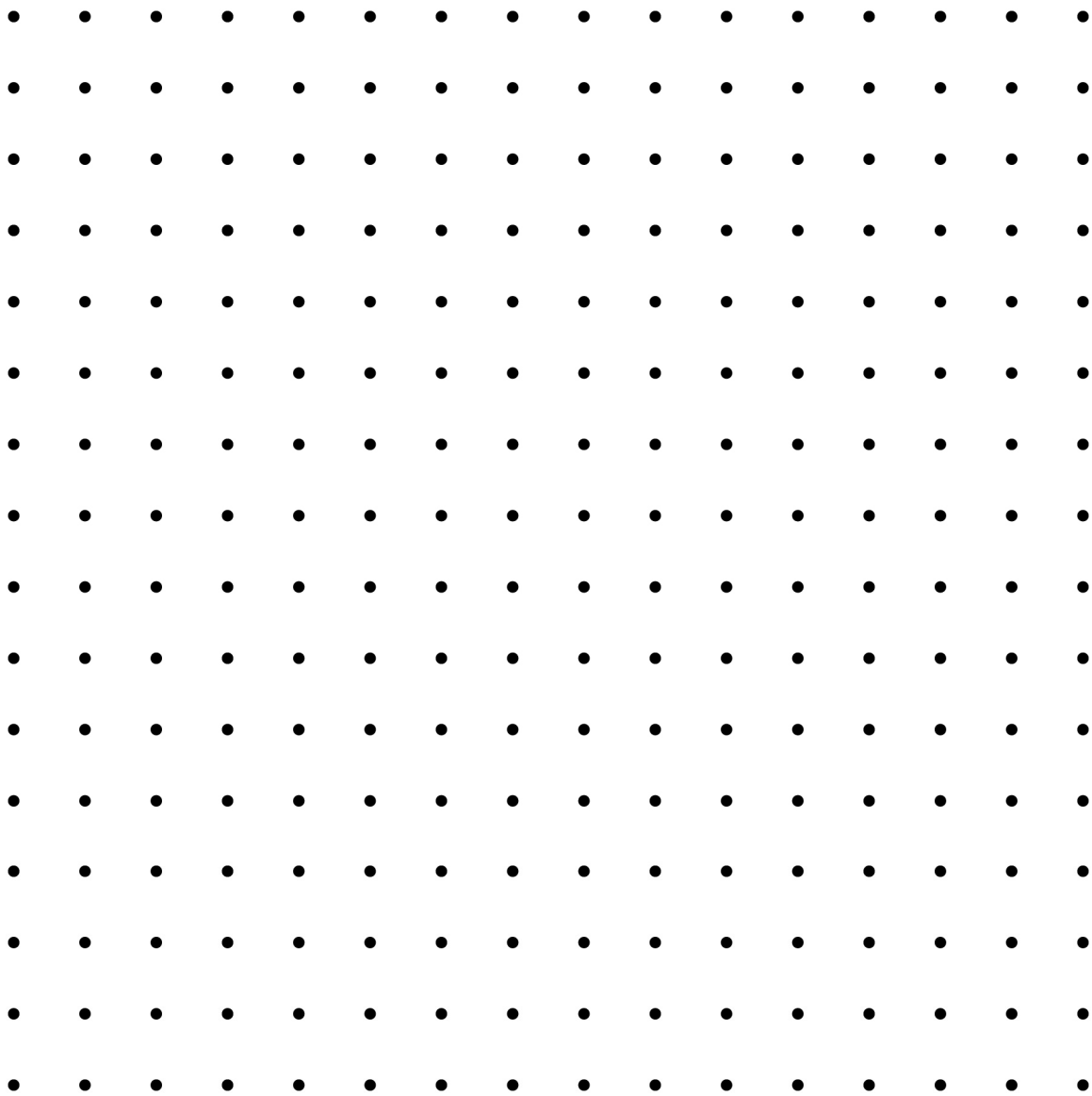
Centimetre Grid Paper

Line Master 8



Making Shapes

Line Master 9

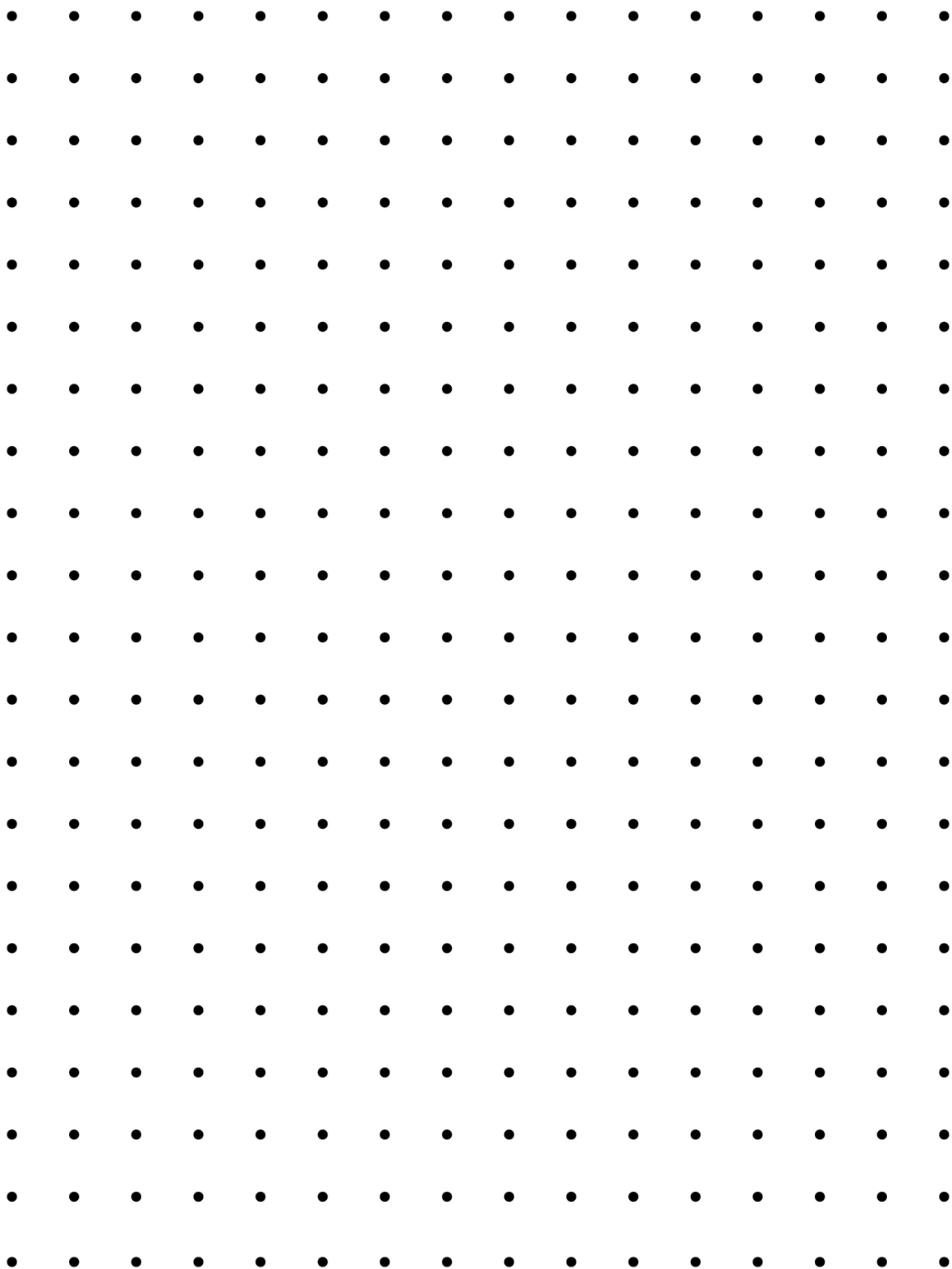


Record how many units are in all of your shapes.
The player with the greatest number of units wins!

Player 1: _____	Player 2: _____

Centimetre Dot Paper

Line Master 10



Meet My Robot

Line Master 11

Name: _____

My robot's name: _____

My robot is interesting because

It is _____ squares tall.

Part	Area
head	_____ squares
body	_____ squares
other _____	_____ squares
other _____	_____ squares

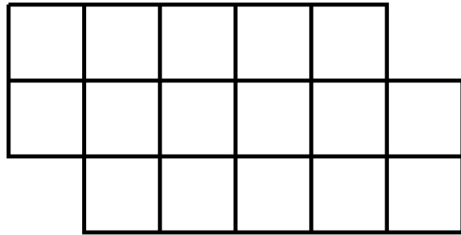
The total area of my robot is _____ squares.

Problems to Solve

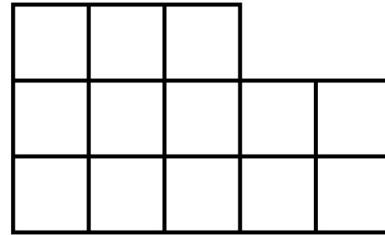
Line Master 12-1

Area 1

Circle the viewing platform that covers more space.



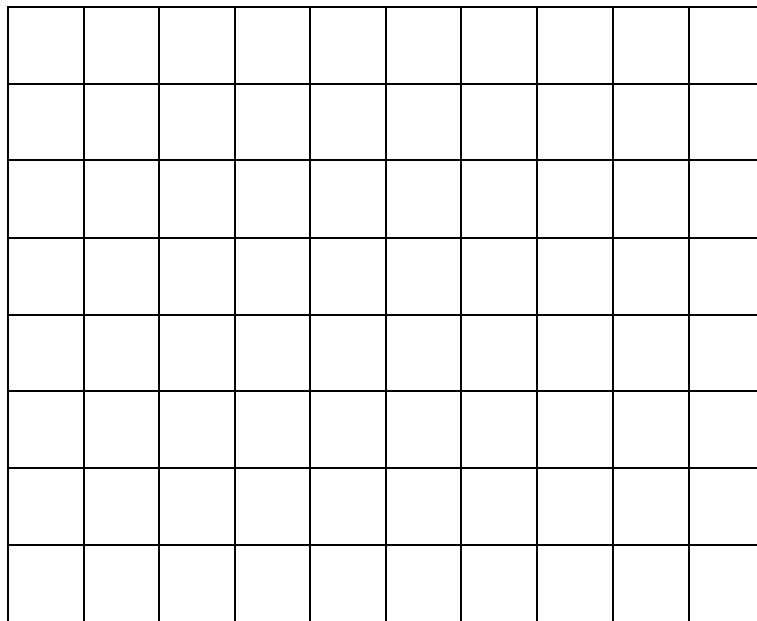
Orbo



Bot

How do you know?

Colour in your own viewing platform.



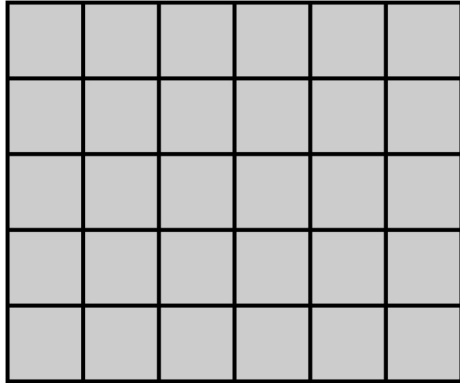
How does the area of your viewing platform compare to Bot's and Orbo's?

Problems to Solve

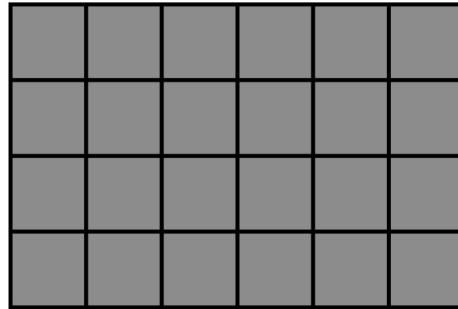
Line Master 12-2

Perimeter 2

Who needs to build a longer fence?



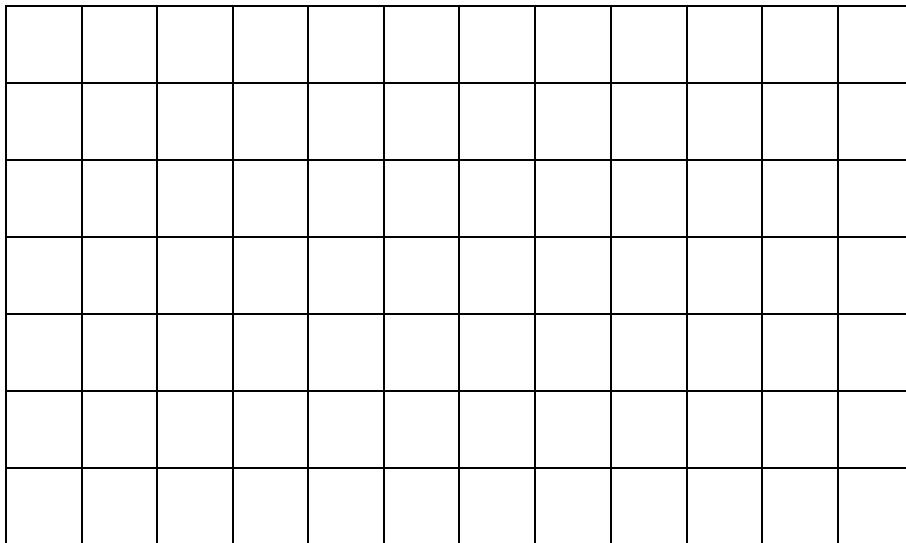
Orbo



Bot

How do you know?

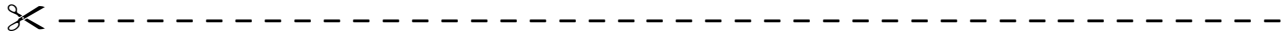
Colour in your own viewing platform.



Now who will need to build the longest fence? _____

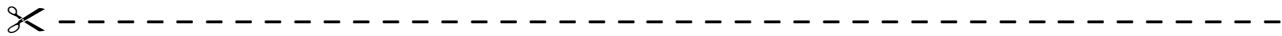
Who will build the shortest fence? _____

Area and Perimeter



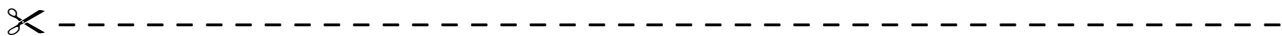
Use tiles. Design 3 different shapes with 8 tiles.
Draw your designs.

Write the area and distance around under each design.



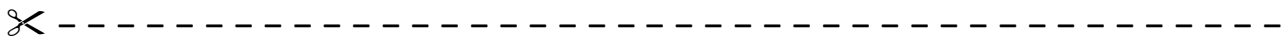
Use tiles. Design 2 different shapes with 12 tiles.
Draw your designs.

Write the area and distance around under each design.

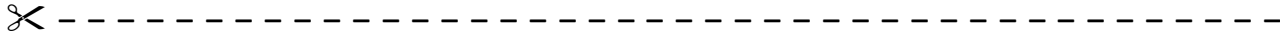


Use tiles. Design 2 different shapes with 20 tiles.
Draw your designs.

Write the area and distance around under each design.



Estimating Length



Estimate how far **6 craft sticks** will go if you line them up end to end. Mark the beginning and end with tape.

Try it! Line up 6 craft sticks.

Compare your estimate to the length.

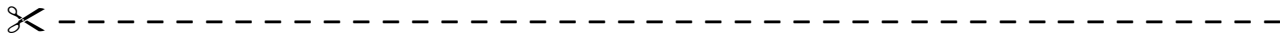
Circle: My estimate was too short too long close

Now, estimate how far **8 craft sticks** will go.

Use what you know.

Line up 8 craft sticks. Compare your estimate to the length.

Circle: My estimate was too short too long close



Estimate how far **10 linking cubes** will go if you link them in a row. Mark the beginning and end with tape.

Try it! Connect 10 linking cubes.

Compare your estimate to the length.

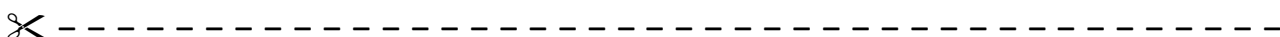
Circle: My estimate was too short too long close

Now, estimate how far **20 linking cubes** will go.

Use what you know.

Connect 20 linking cubes. Compare your estimate to the length.

Circle: My estimate was too short too long close



I Spy Awesome Buildings

Line Master 1 (Assessment Master)

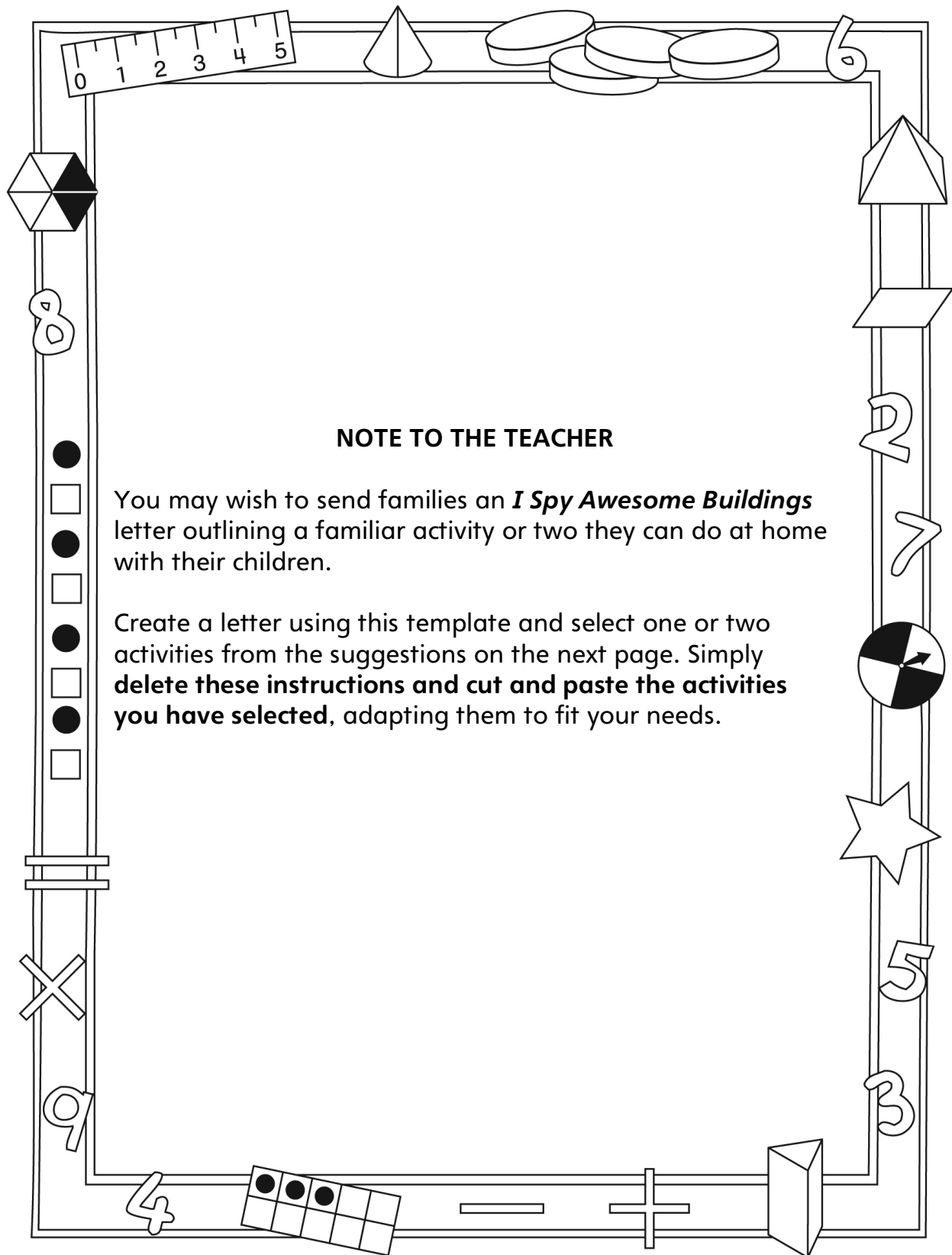
Name: _____

Find and Classify 2-D Shapes in 3-D Objects	Not observed	Sometimes	Consistently
Classifies 2-D shapes based on shared attributes (e.g., number or lengths of sides)			
Names 2-D shapes			
Classifies 2-D shapes and 3-D solids using geometric properties (e.g., a square has 4 equal sides, a cube has 6 congruent square faces)			
Names 2-D shapes and 3-D solids			
Identifies 2-D shapes as part of 3-D objects			
Investigate and Make 2-D Shapes			
Describes and compares 2-D shapes (e.g., triangles, squares, rectangles, circles)			
Constructs and compares 2-D shapes with given attributes			

Strengths:

Next Steps:

Connecting Home and School Line Master 2-1



NOTE TO THE TEACHER

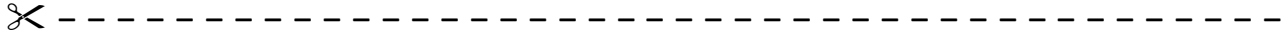
You may wish to send families an *I Spy Awesome Buildings* letter outlining a familiar activity or two they can do at home with their children.

Create a letter using this template and select one or two activities from the suggestions on the next page. Simply **delete these instructions and cut and paste the activities you have selected**, adapting them to fit your needs.

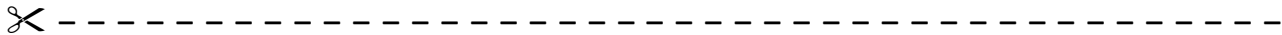
Connecting Home and School Line Master 2–2

Dear Family:

We have been working on *I Spy Awesome Buildings*, which engages children in conversations, investigations, and activities that help to develop their understanding of the big math idea that “Shapes and solids can be explored and compared based on attributes.” Particular focus is placed on identifying, describing, and comparing 2-D shapes and 3-D solids. Try this activity at home with your child.



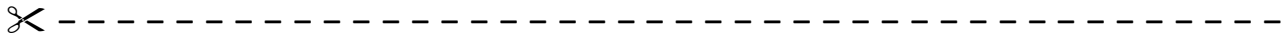
Reading the Story: As you read the story together, try to make connections to interesting buildings or structures that are around your community or that you’ve visited as a family.



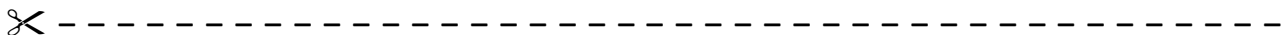
I Spy 3-D Objects Bump Game: This is a 2-player game. You will need the Math Mat (inside back cover of the book), 1 number cube, and 10 small objects for each player to use as counters (e.g., 2 colours of tiddlywinks or 2 types of dried beans and/or pasta). Attach a label with the name of a 3-D solid to each side of the number cube [i.e., cube, sphere, cylinder, prism (rectangular or triangular), pyramid, and cone].

Decide who goes first. That player rolls the cube and then tries to find an example of that solid in the room or in a picture in the book. If the solid is found, the player records it by placing his/her counter on that solid on the Math Mat. If the player can’t find the solid, he/she loses the turn. The second player then rolls and play continues.

If a player rolls a solid that the other player already has a counter on, and can find a different example of that solid, he/she bumps the counter off that object. If a player rolls a solid that he/she already has a counter on, and can find a second, different example of that solid, that player places a second counter on the Math Mat, which “locks down” the solid. The first person to lock down 3 solids wins.



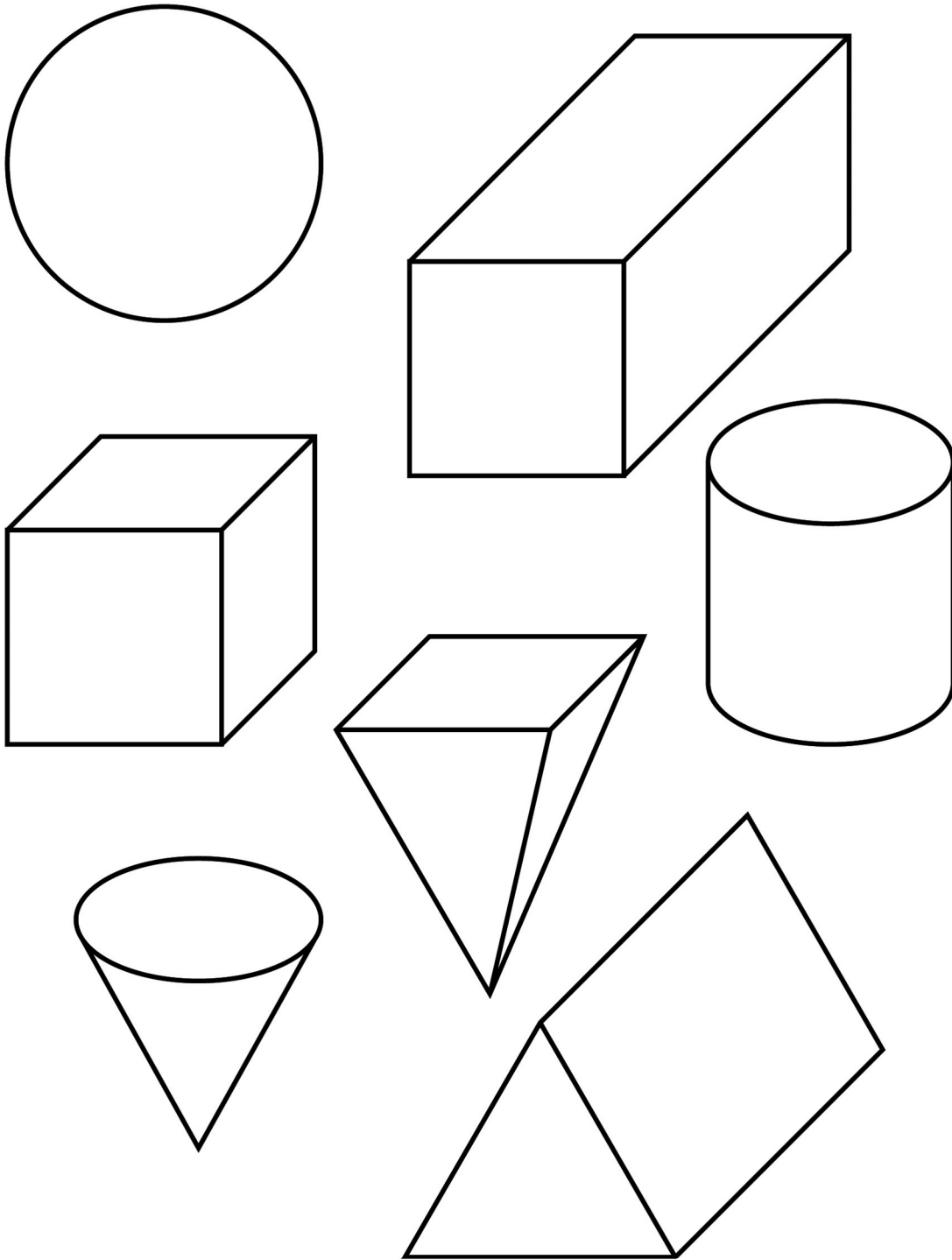
Toothpick and Marshmallow Shapes: Using toothpicks for sides or edges and marshmallows for vertices, try to create all the 2-D shapes and 3-D solids found in the book.



Sincerely,

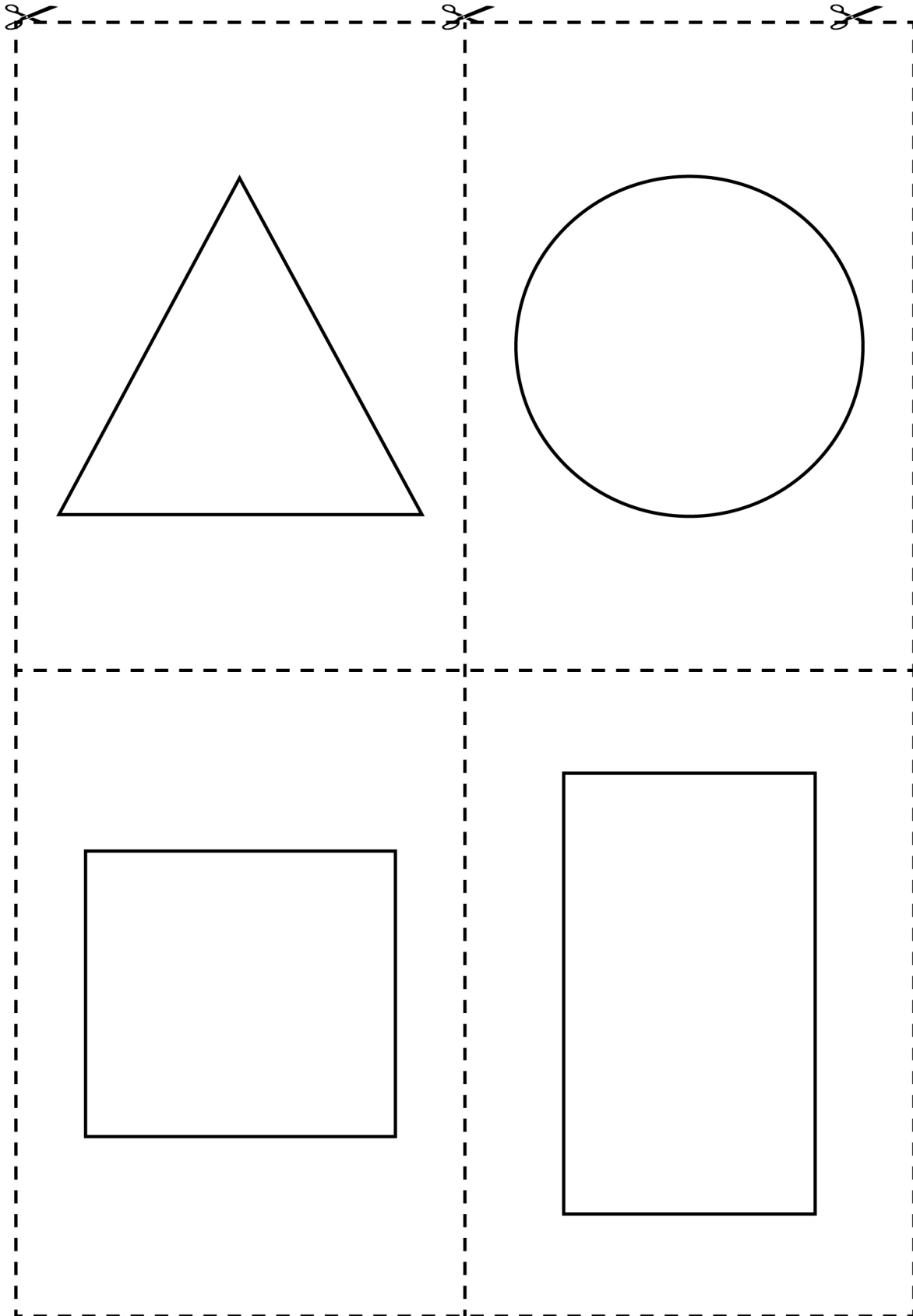
I Spy Awesome Buildings Math Mat

Line Master 3



2-D Shape Cards

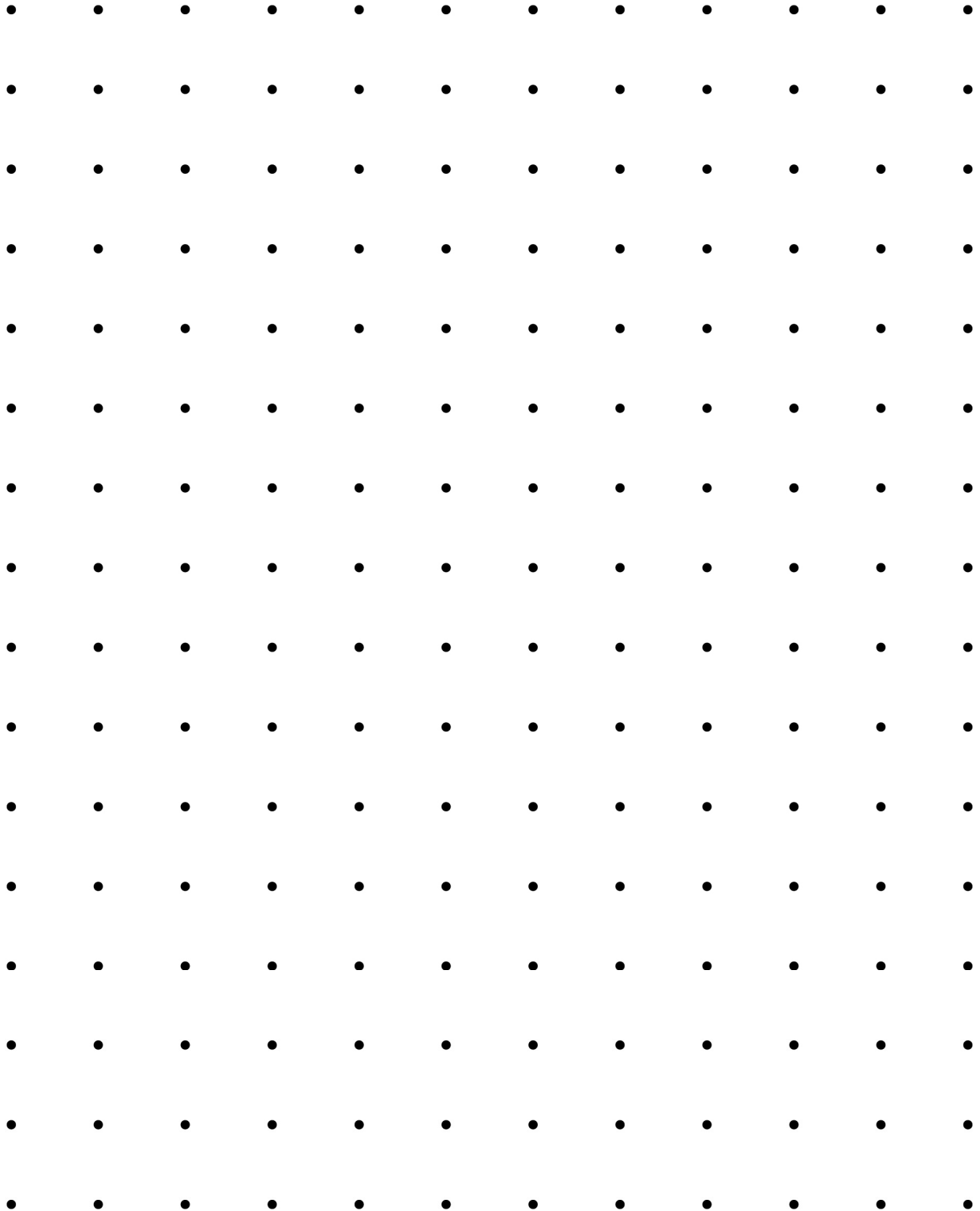
Line Master 4



Dot Paper

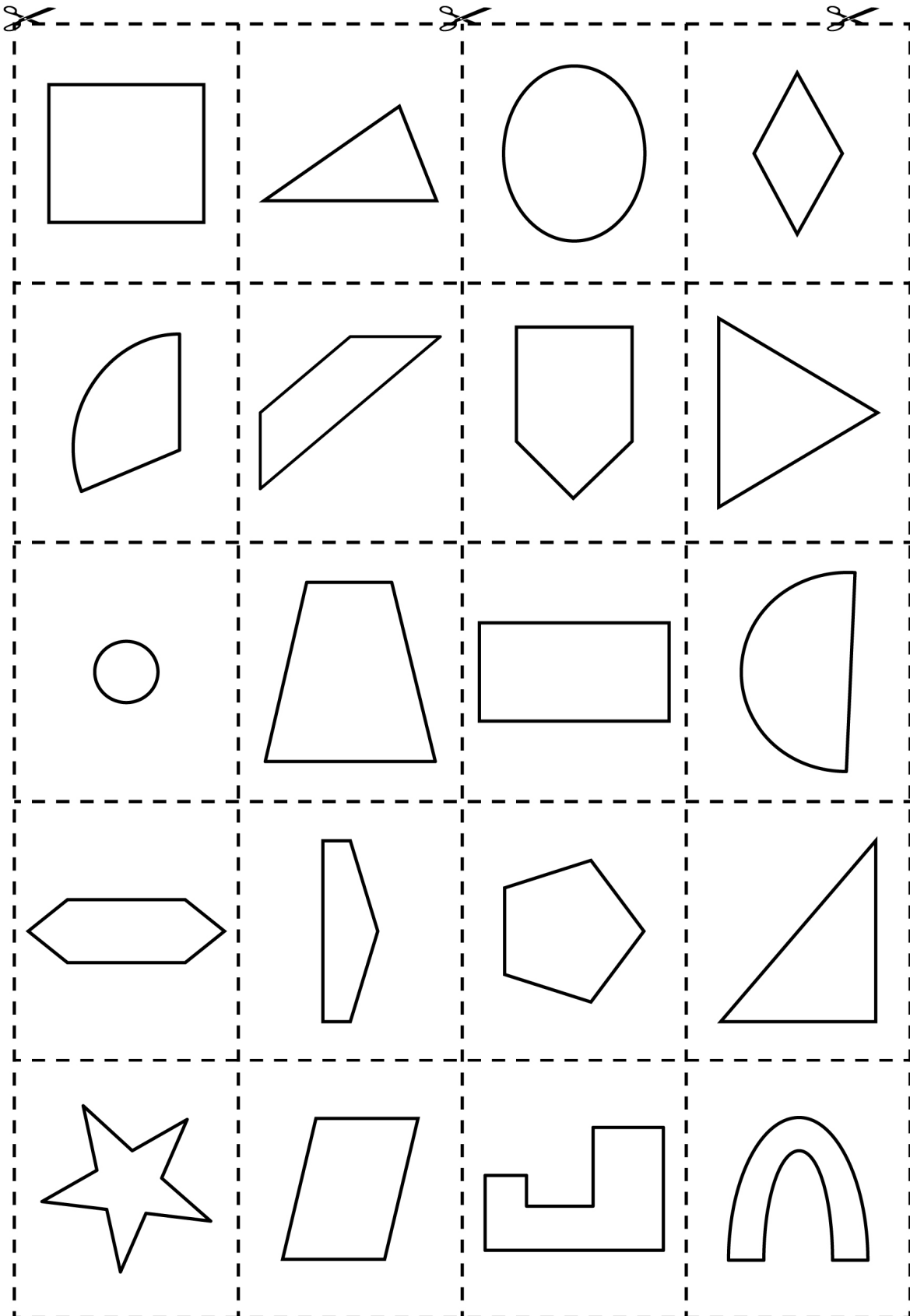
Line Master 6

Name: _____



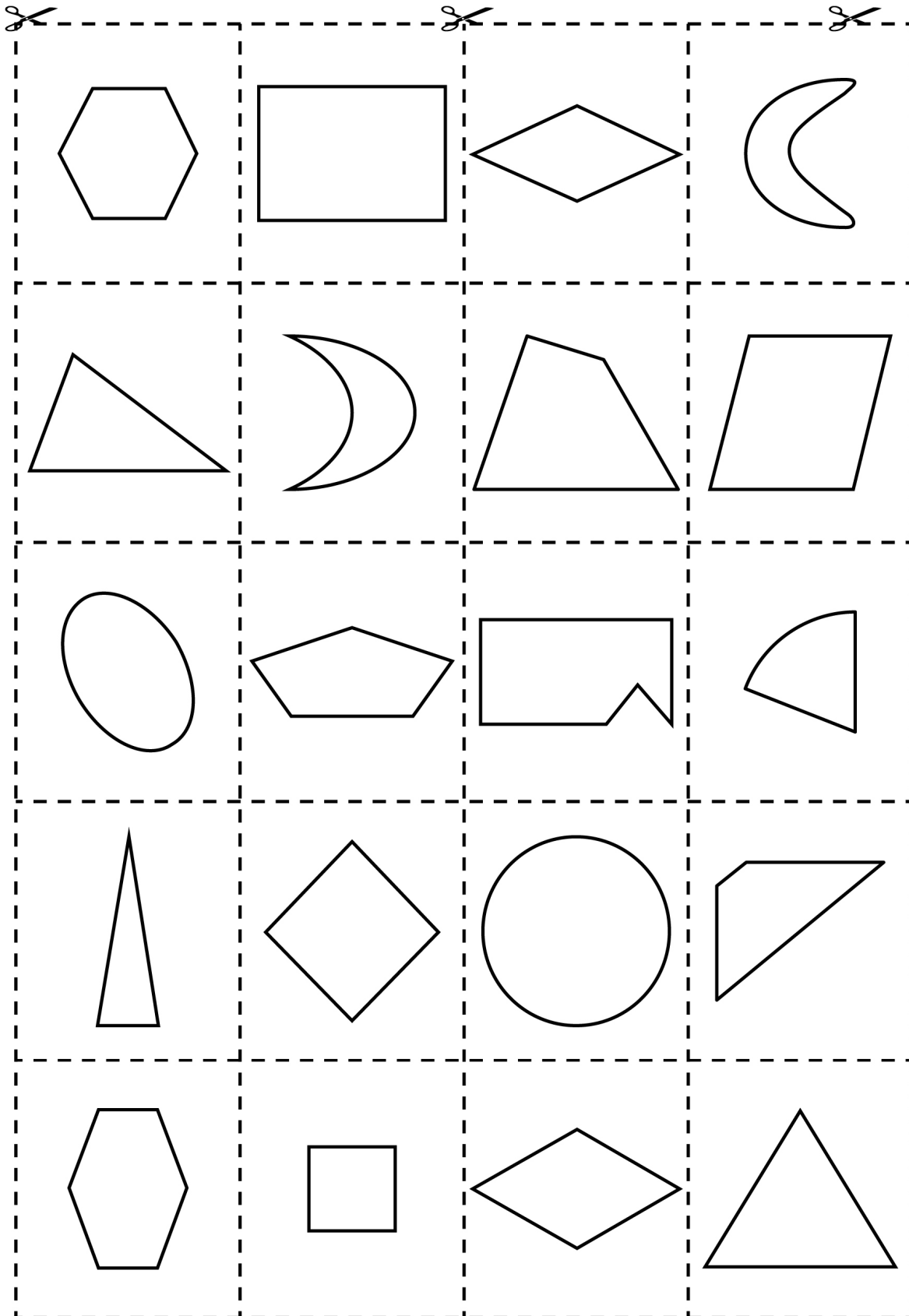
Secret Shapes

Line Master 7-1





Secret Shapes

Line Master 7-2






Task Cards

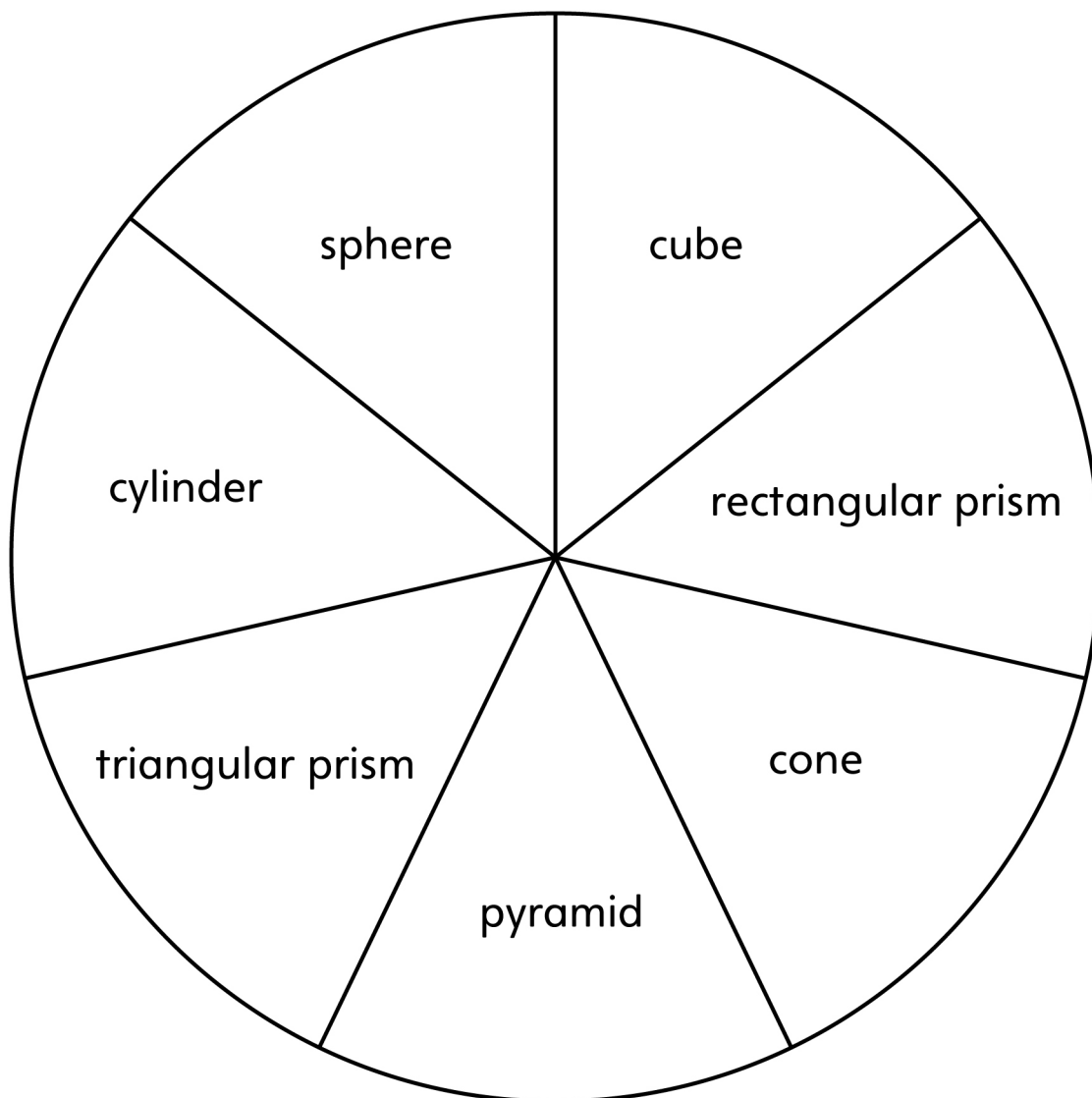
Line Master 8-1

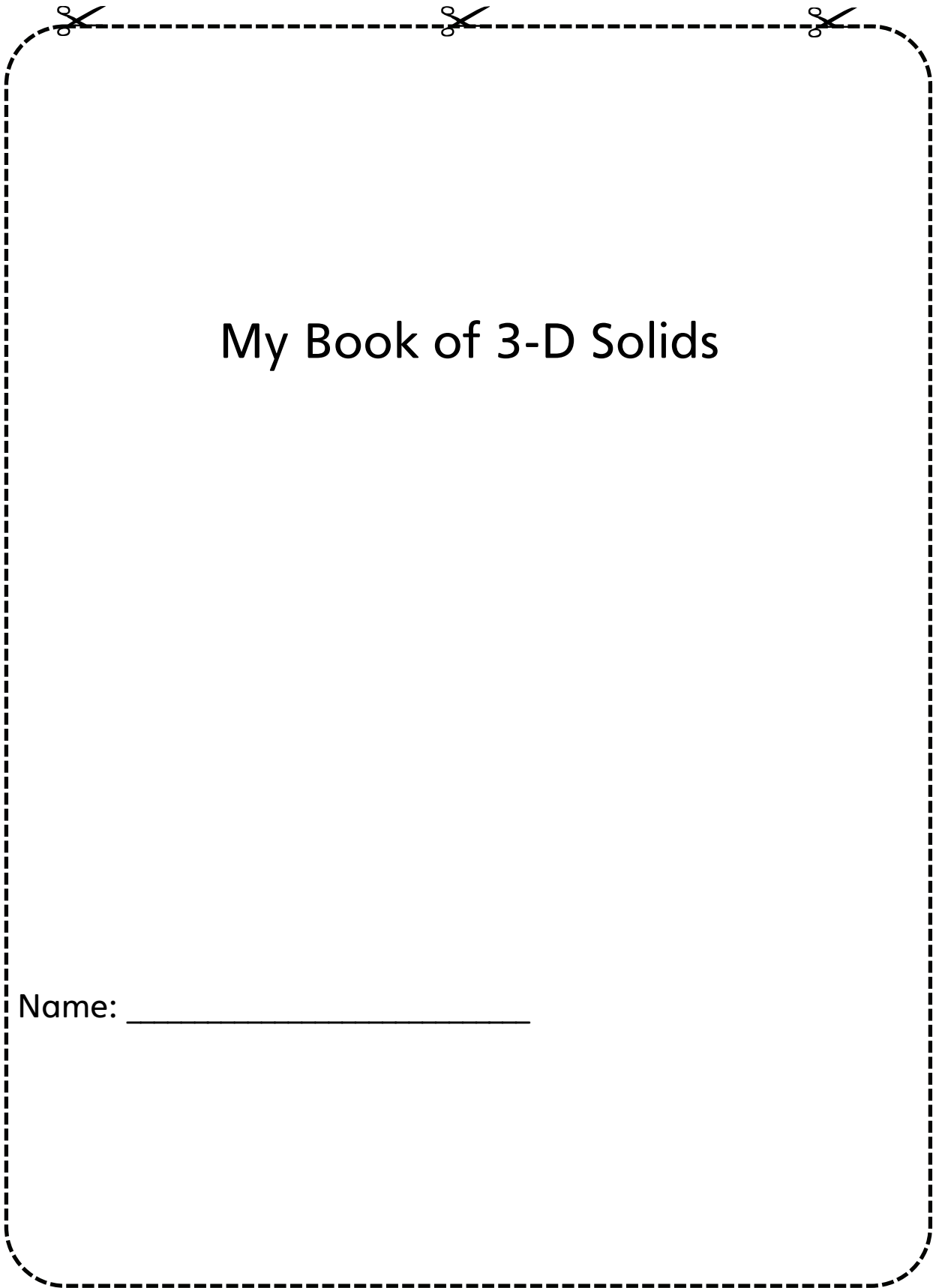
 Make a shape with 3 sides.	 Make a shape with 4 sides.
Make a shape with 3 vertices.	Make a shape with 4 vertices.
Make a square.	Make a triangle.

Task Cards

Line Master 8-2

 Make a 4-sided shape that has 2 sides of different lengths.	 Make a triangle with 2 sides of equal length. 
Make 2 squares of different sizes.	Make a shape with more than 4 sides.
Make your own shape. How many vertices does it have?	Make your own shape. How many sides does it have?





My Book of 3-D Solids

Name: _____

Mini-Book Template

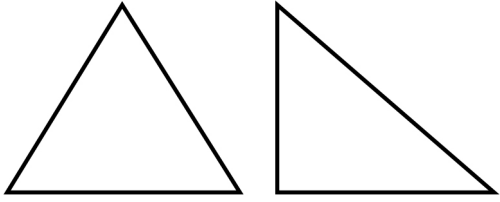
Line Master 10-2

✂ ✂ ✂

This 3-D solid is called a _____ .

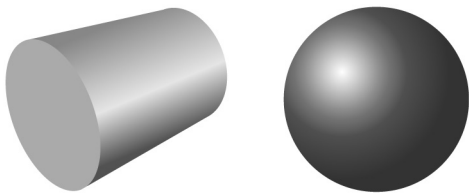
It has _____ faces, _____ edges, and _____ vertices.

The 2-D shape or shapes of the faces are called _____ .

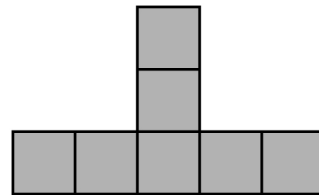
<p>You are making a book about yourself. Draw a shape for the cover that tells something about you. Write about why you chose that shape.</p>	 <p>How are these shapes alike?</p> <p>How are they different?</p>
<p>Choose a type of shape. Describe as many attributes of that shape as you can.</p>	<p>A shape makes you think of a rectangle, but it is not a rectangle. What shape could it be? Why?</p>

A shape makes you think of a circle, but it is not a circle. What shape could it be? Why?

Use words, numbers, and/or symbols to describe a cube.



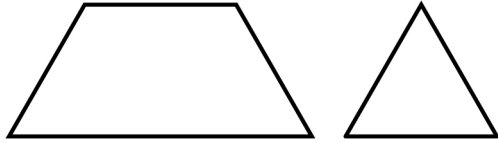
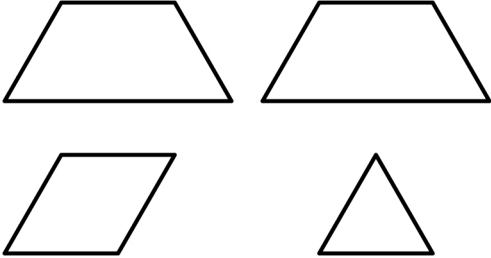
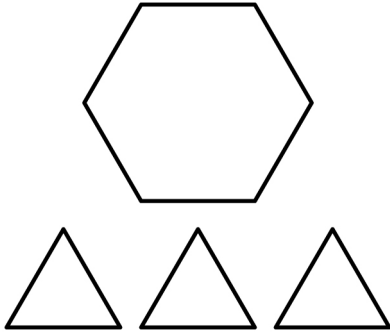
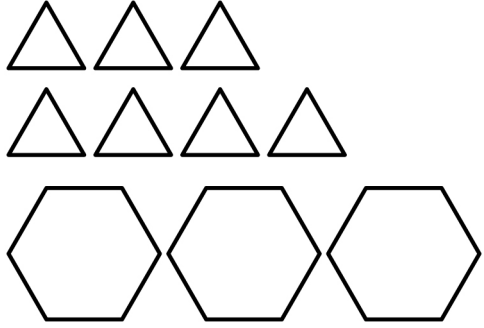
How are these two 3-D solids alike? How are they different?



This shows one side of a structure that was built with linking cubes. How many linking cubes were used to build this structure? Is there more than one way to build it? (Hint: Use linking cubes to test your ideas!)

Pattern Block Challenge

Line Master 12-1

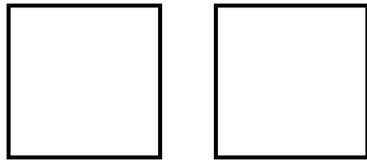
<p>Create a triangle with these pattern blocks.</p> 	<p>Create a triangle with these pattern blocks.</p> 
<p>Create a triangle with these pattern blocks.</p> 	<p>Create a triangle with these pattern blocks.</p> 

Pattern Block Challenge

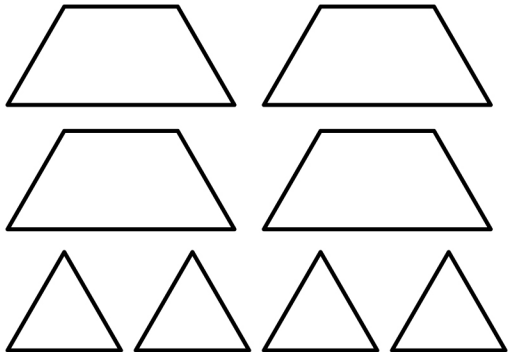
Line Master 12-2

Scissors icons at the top of each dashed box indicate where to cut.

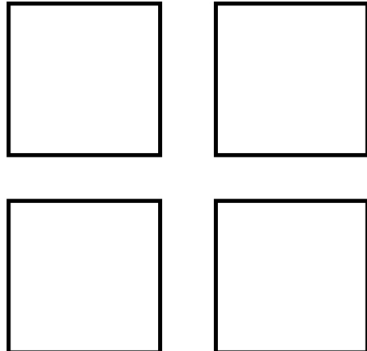
Top Left: Create a rectangle with these pattern blocks.



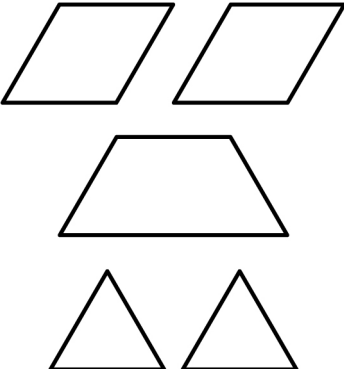
Top Right: Create a triangle with these pattern blocks.



Bottom Left: Create a square with these pattern blocks.



Bottom Right: Create a triangle with these pattern blocks.



Sharing Our Stories

Line Master 1 (Assessment Master)

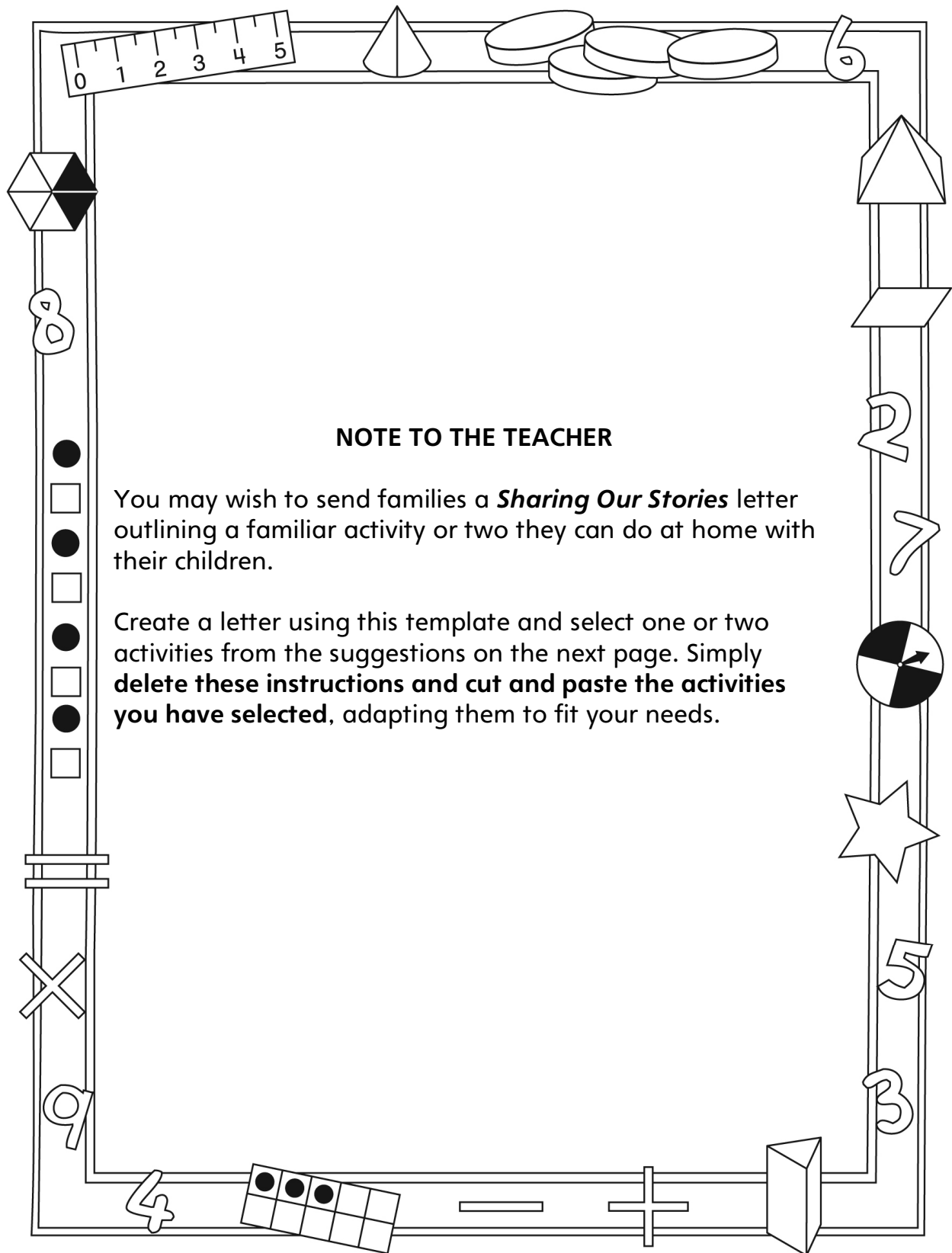
Name: _____

Explore lines of symmetry in 2-D shapes	Not observed	Sometimes	Consistently
Can explain what it means for a shape or design to be symmetrical			
Distinguishes between symmetrical and asymmetrical shapes			
Can identify the line(s) of symmetry on a 2-D shape			
Can construct a symmetrical design			
Can complete a symmetrical design			
Explore 2-D shapes			
Identifies and describes various shapes according to geometric properties			
Recognizes and identifies 2-D shapes embedded in 3-D objects			
Connects 2-D shapes to 3-D solids			

Strengths:

Next Steps:

Connecting Home and School Line Master 2-1



NOTE TO THE TEACHER

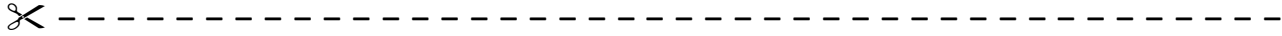
You may wish to send families a *Sharing Our Stories* letter outlining a familiar activity or two they can do at home with their children.

Create a letter using this template and select one or two activities from the suggestions on the next page. Simply **delete these instructions and cut and paste the activities you have selected**, adapting them to fit your needs.

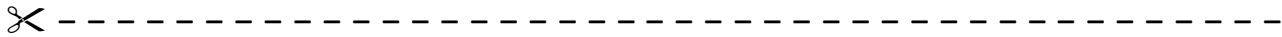
Connecting Home and School Line Master 2–2

Dear Family:

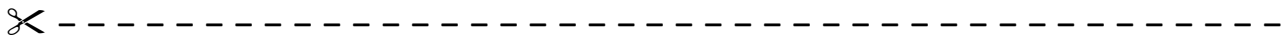
We have been reading *Sharing Our Stories*, which engages children in conversations, investigations, and activities to help develop understanding of the big math idea that “Shapes and solids can be transformed in many ways.” We have been exploring 2-D shapes and lines of symmetry on shapes. Try this activity at home with your child.



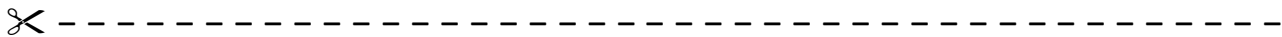
Reading the Story: As you read the story, encourage your child to identify and describe the 2-D shapes she/he see. Invite him/her to count the number of sides and vertices (corners) each shape has and to determine if the shape is symmetrical. Discuss what it means for a shape to be symmetrical and look for examples of symmetry throughout the book.



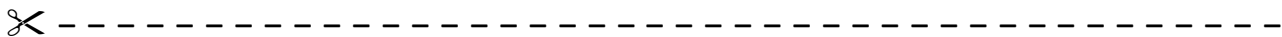
Shape Treasure Hunt: Encourage your child to look for shapes around your home and on the way to school, and to record what she/he finds using words and drawings. Challenge your child to find 2-D shapes on 3-D solids and record them as well (e.g., the rectangular side of a toaster, the square on the bottom of a milk carton). Invite your child to bring his/her findings to school and share them with the class.



Symmetrical Designs: Invite your child to create a symmetrical design. Provide her/him with a blank sheet of paper or grid paper and draw a line down the middle (either horizontally or vertically). Remind your child that both sides/halves of the paper have to match (same shapes, same colours, same design).



Shape I Spy: Invite your child to identify 2-D shapes through a game of I Spy. For example, if your child sees a triangle, he/she might say, “I spy a shape with 3 sides.” Encourage him/her to give increasingly detailed clues that include lines of symmetry (e.g., “I spy a shape with 4 vertices (corners) and 2 lines of symmetry”).

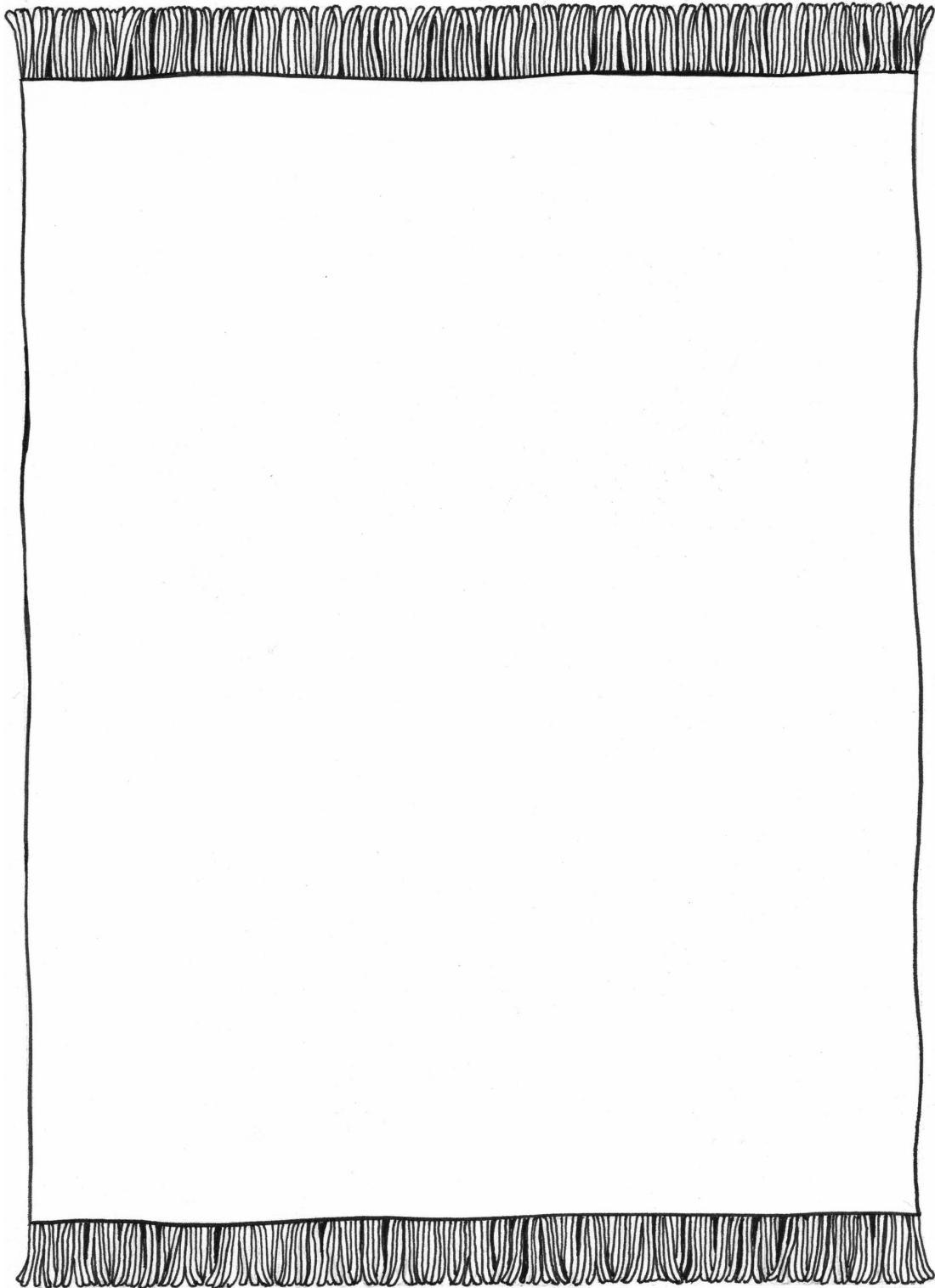


Sincerely,

Sharing Our Stories

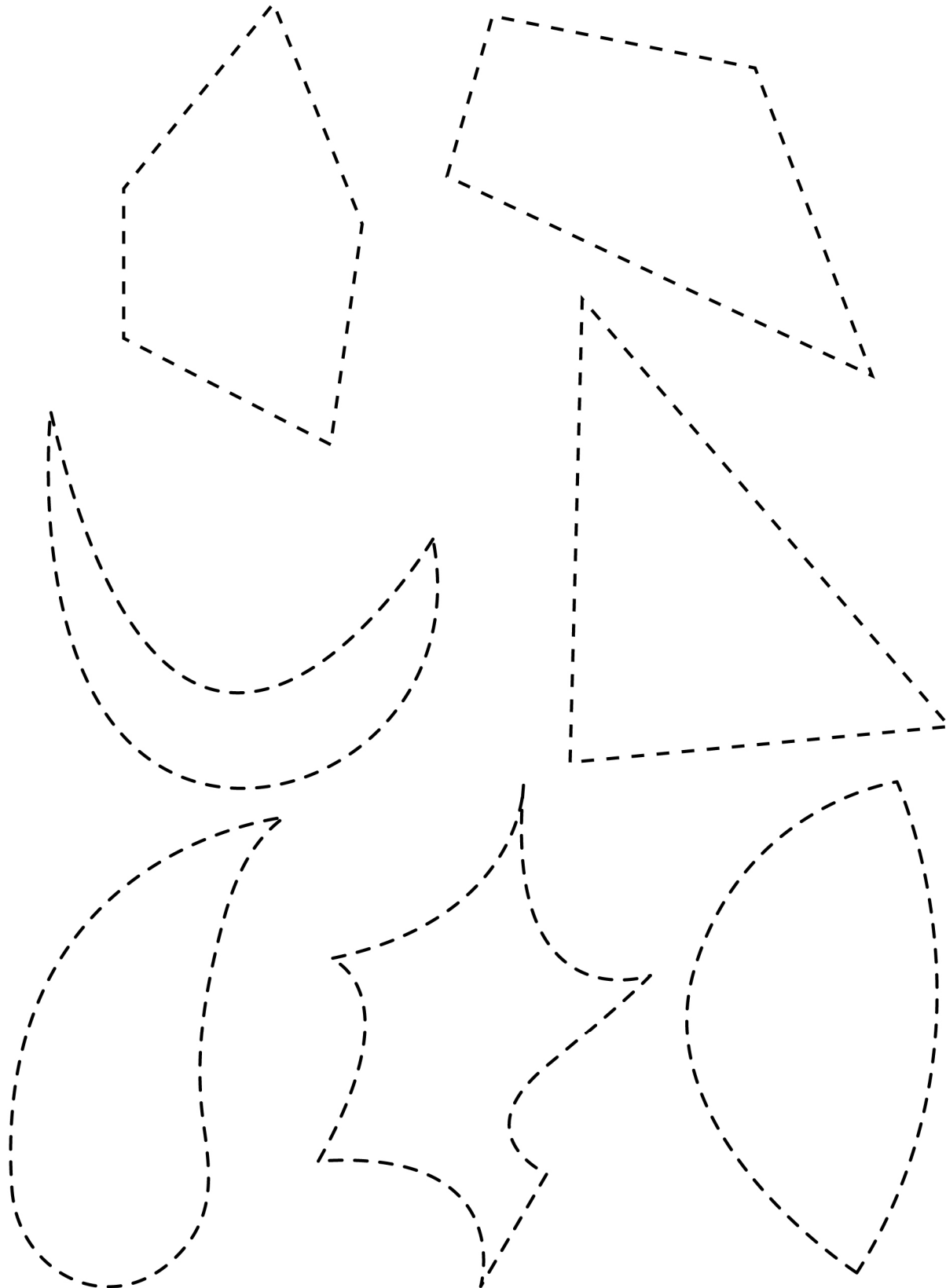
Math Mat

Line Master 3



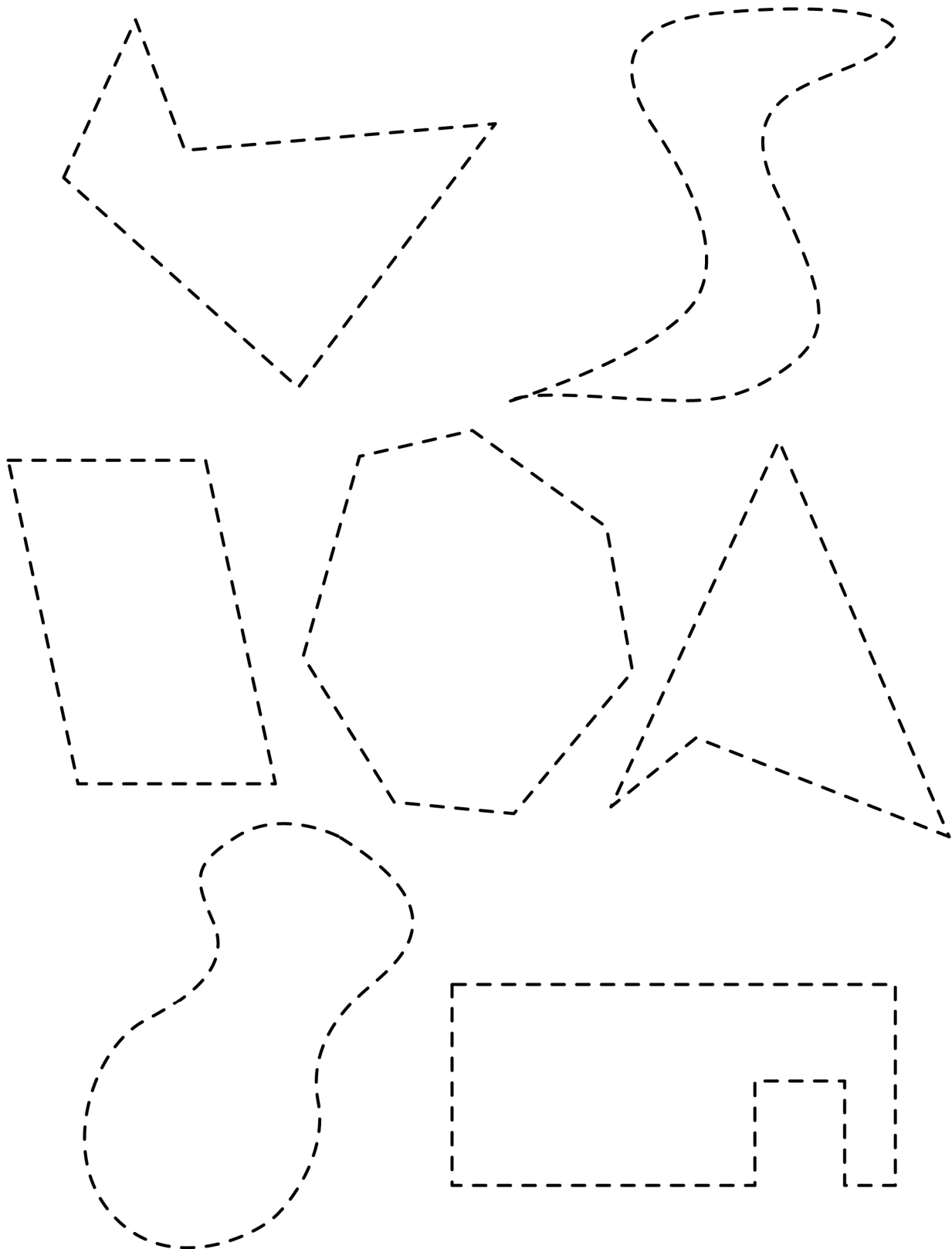
Symmetrical and Asymmetrical Shapes

Line Master 4-1



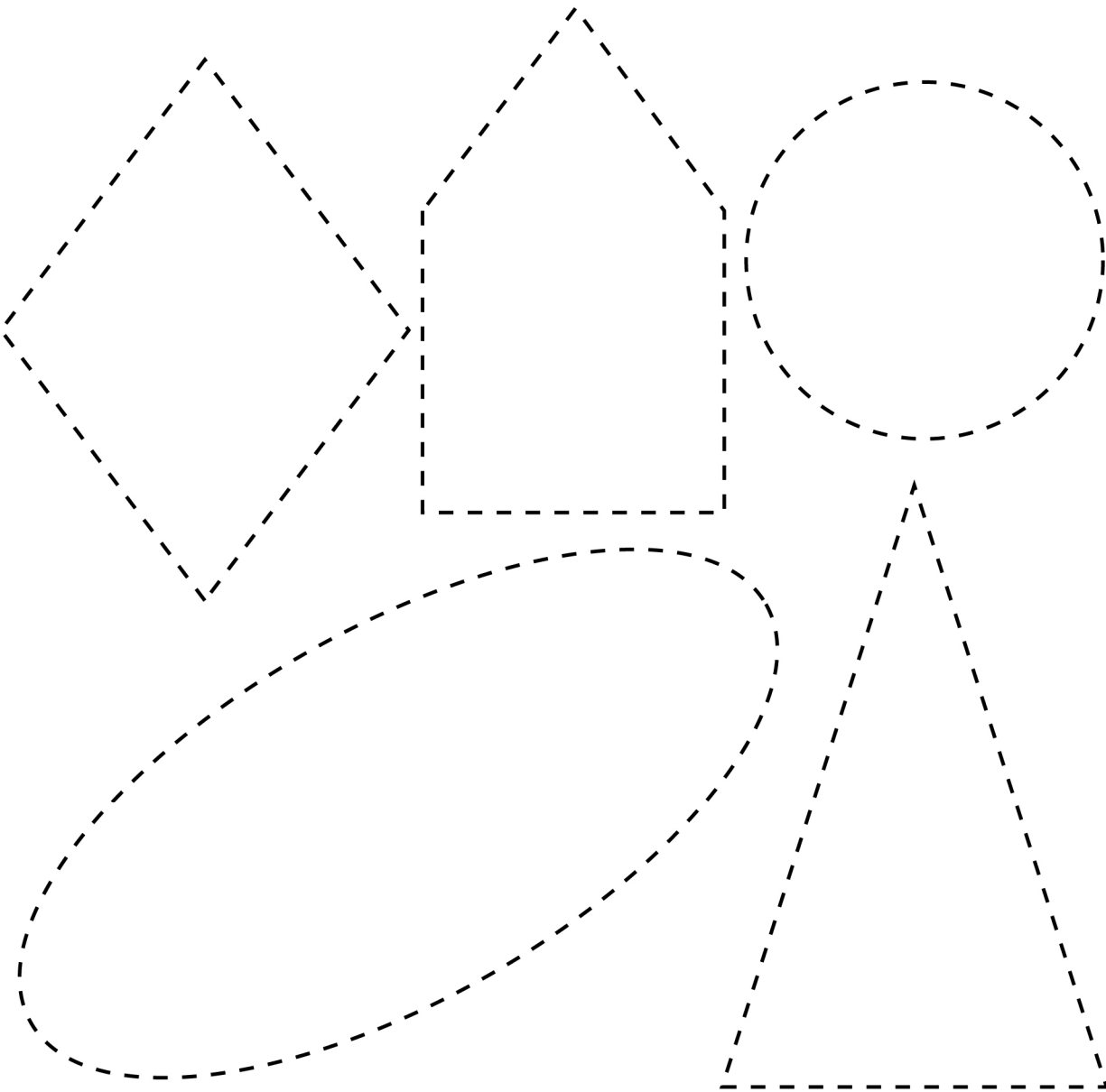
Symmetrical and Asymmetrical Shapes

Line Master 4-2



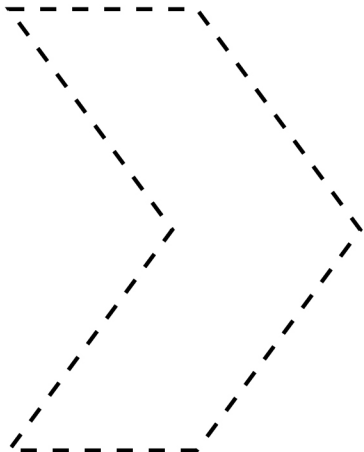
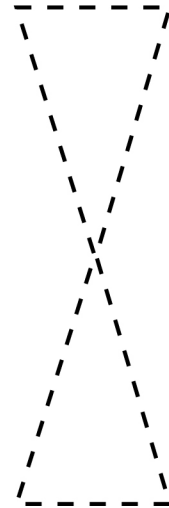
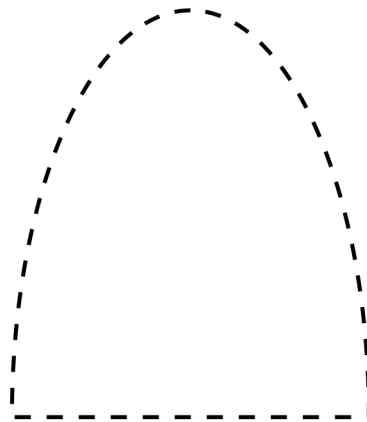
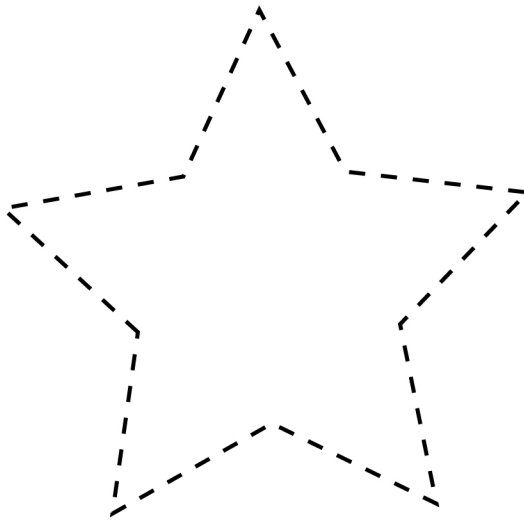
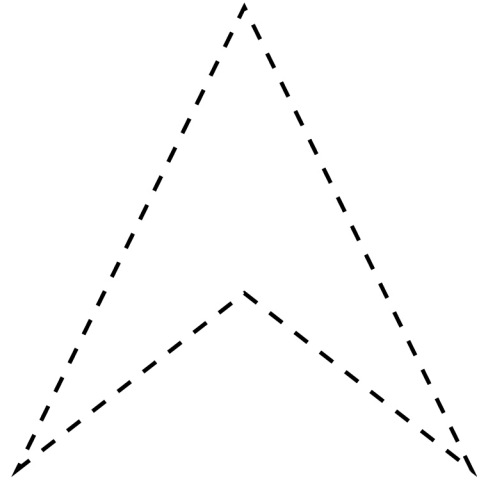
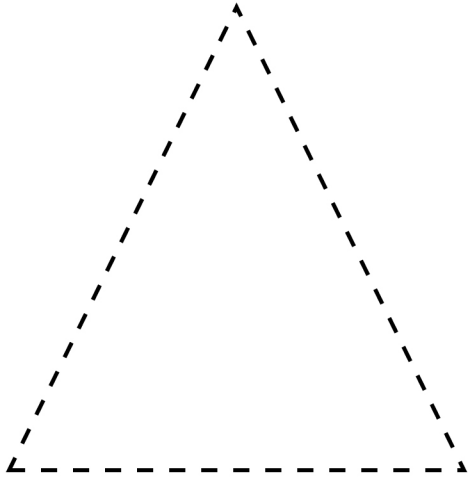
Symmetrical and Asymmetrical Shapes

Line Master 4-3



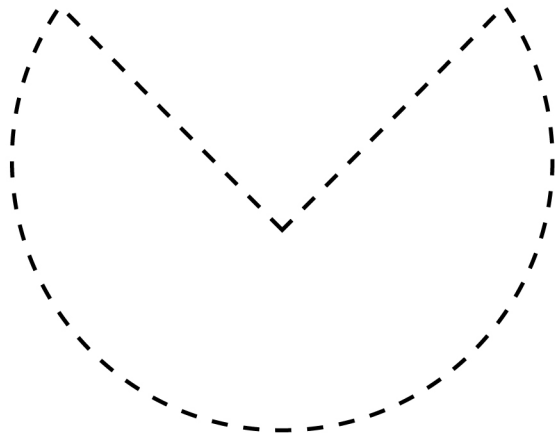
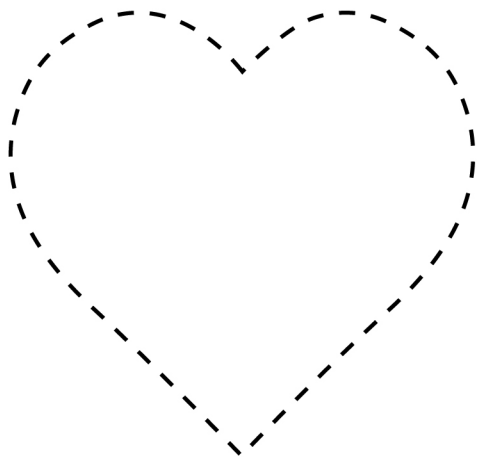
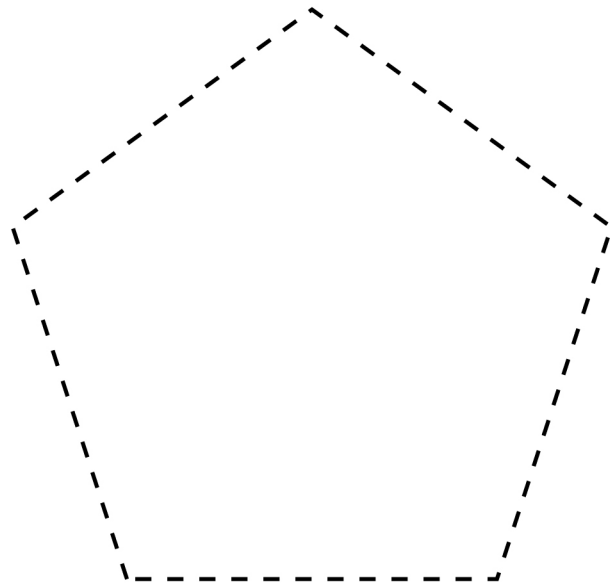
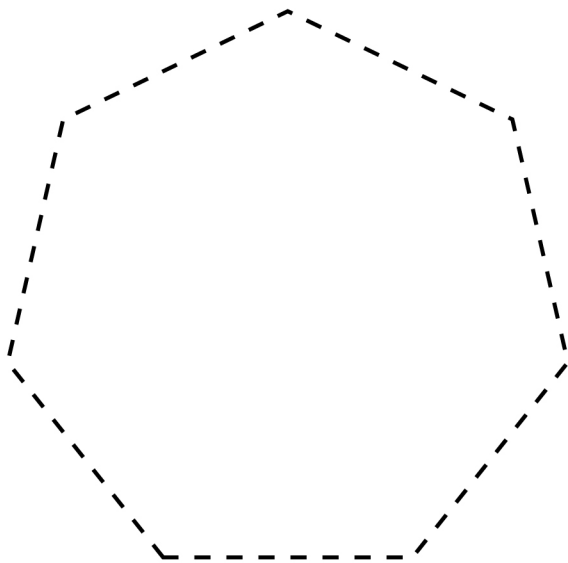
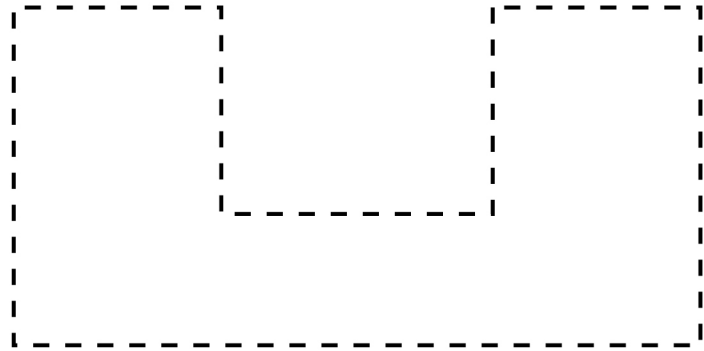
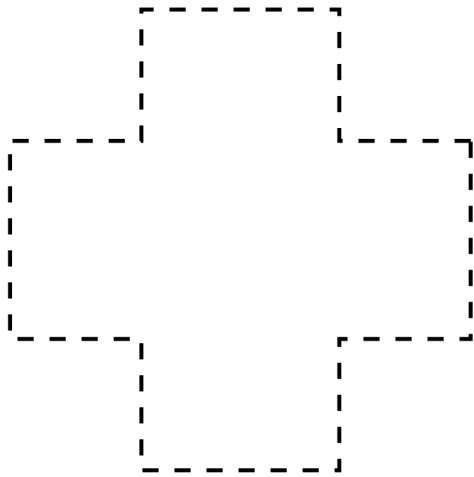
Symmetrical and Asymmetrical Shapes

Line Master 4-4



Symmetrical and Asymmetrical Shapes

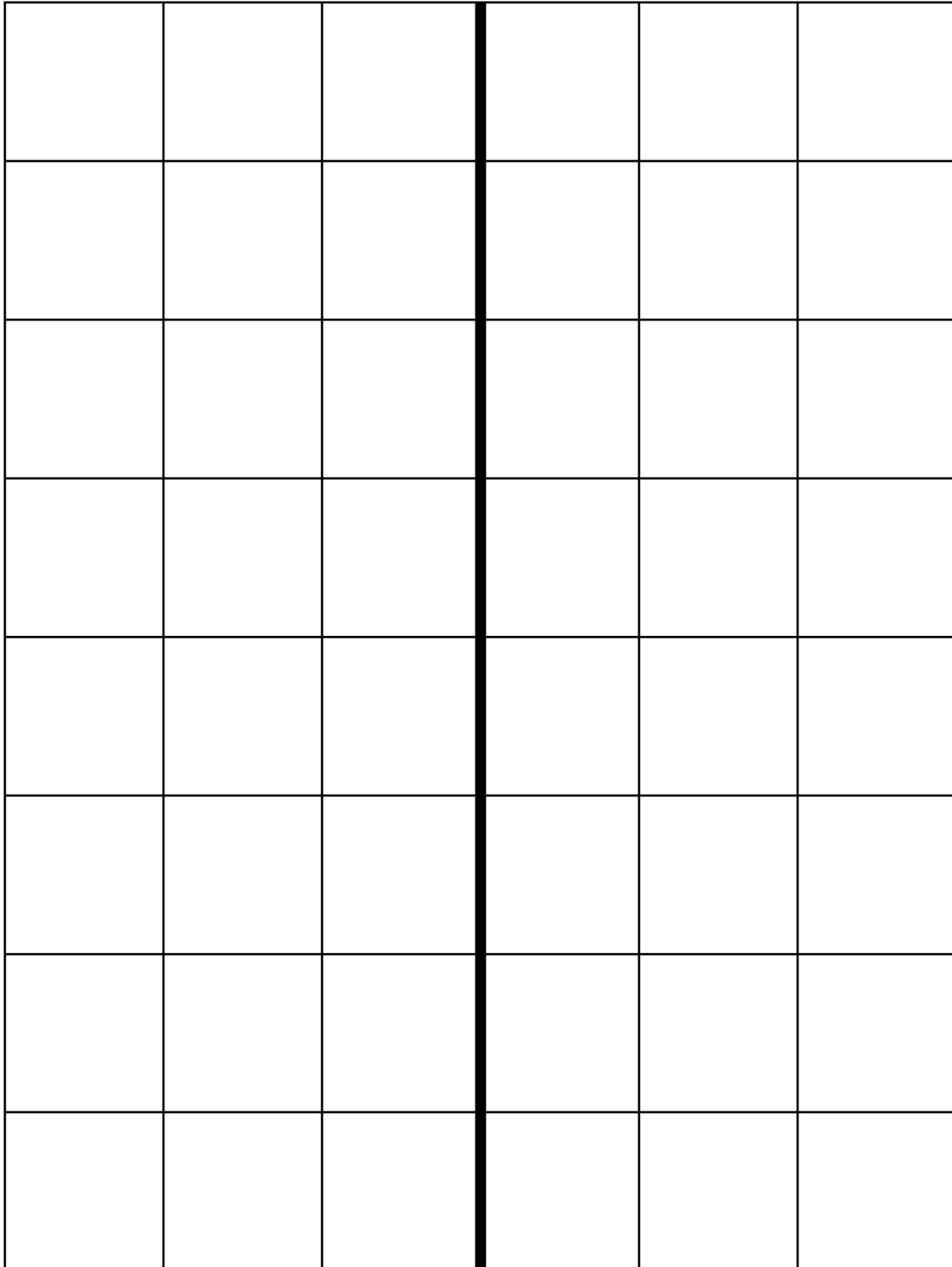
Line Master 4-5



Symmetry Grid

Line Master 5-1

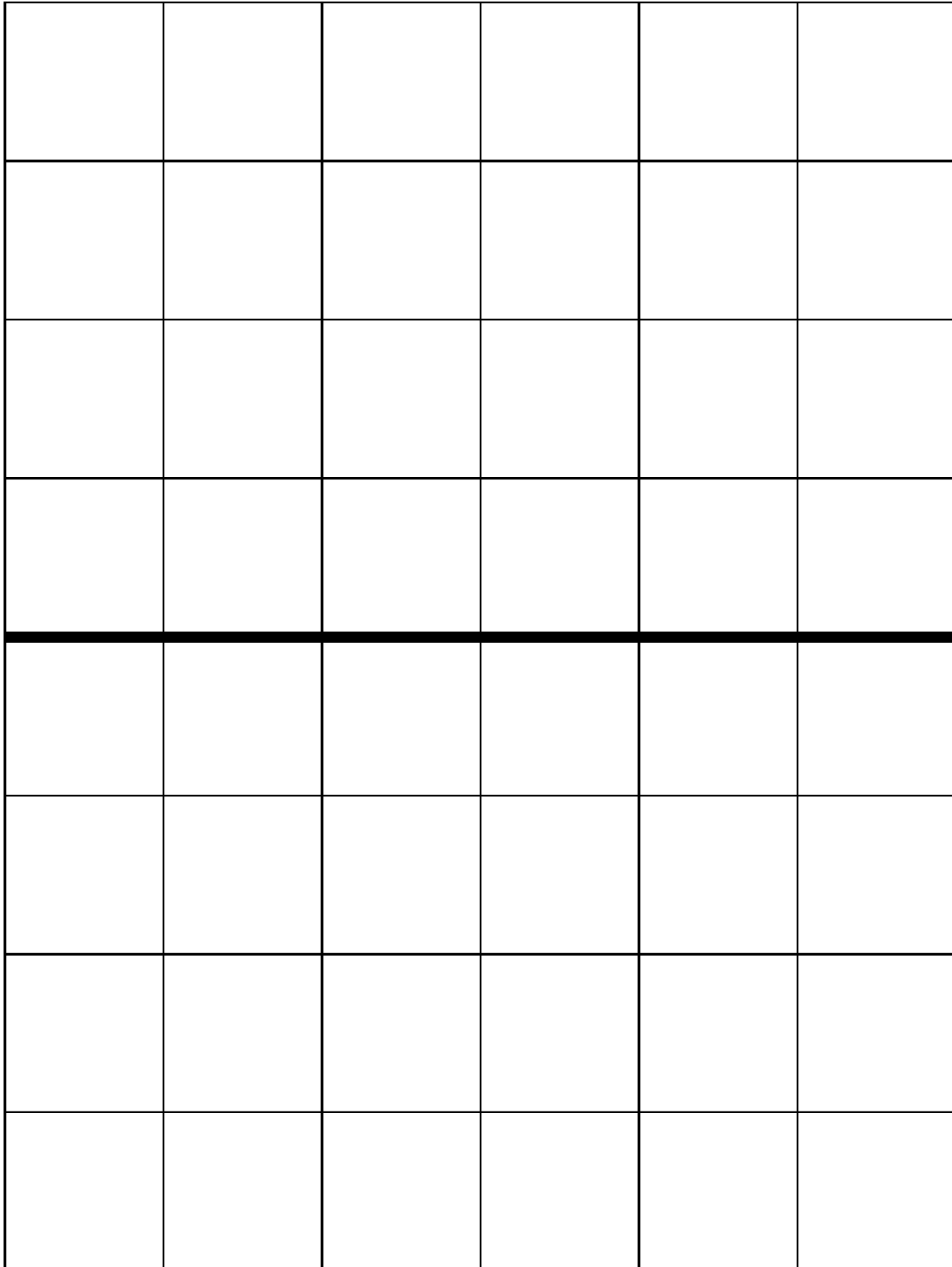
Name: _____



Symmetry Grid

Line Master 5-2

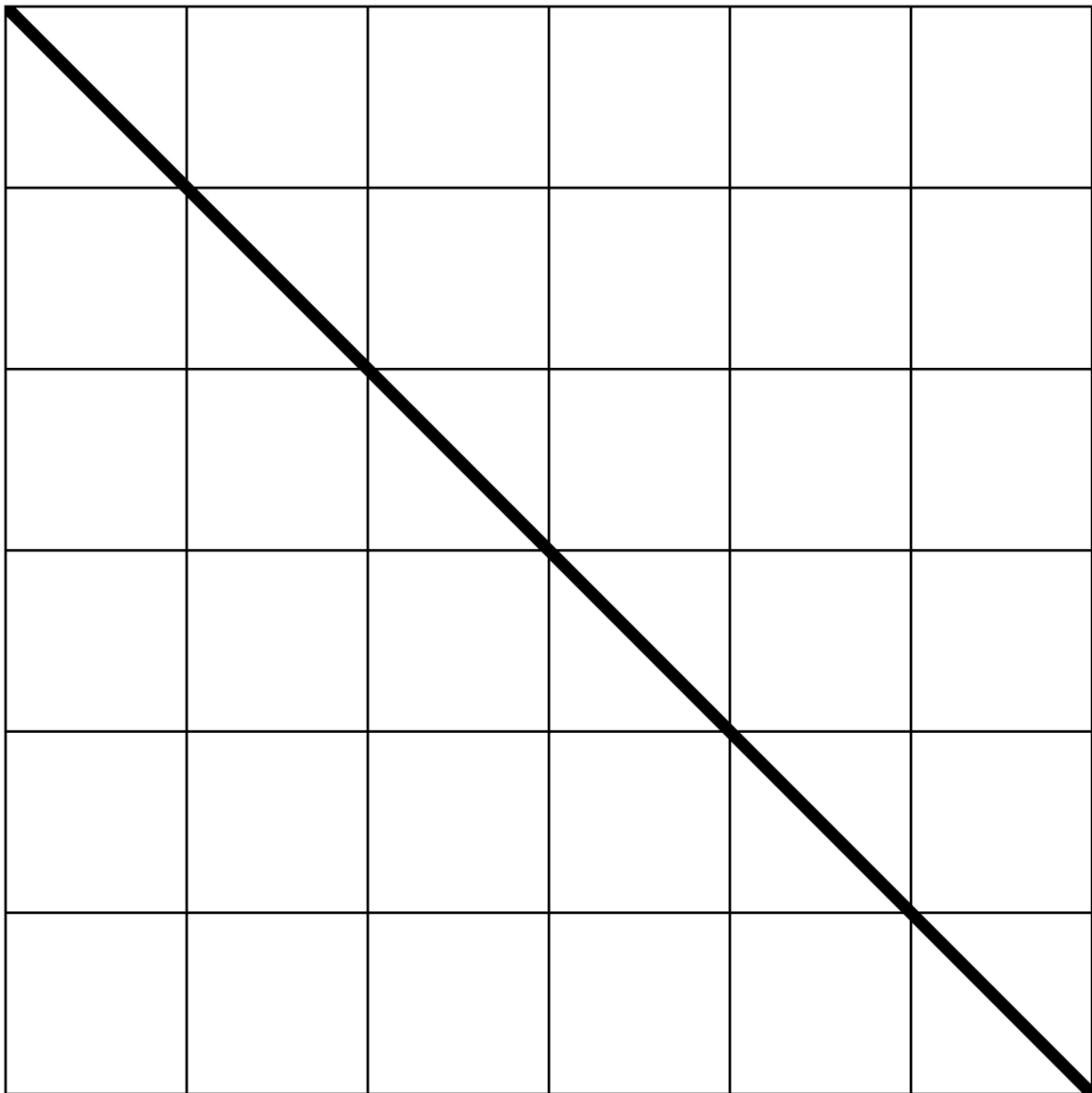
Name: _____



Symmetry Grid

Line Master 5-3

Name: _____



Shape Story Template

Line Master 6-1



My Shape Story

By _____

Shape Story Template

Line Master 6--2

The image shows a large rectangular area enclosed by a dashed line, indicating it is a template to be cut out. The area is divided into two columns by a solid vertical line. Each column contains three horizontal lines for writing.

Treasure Hunt

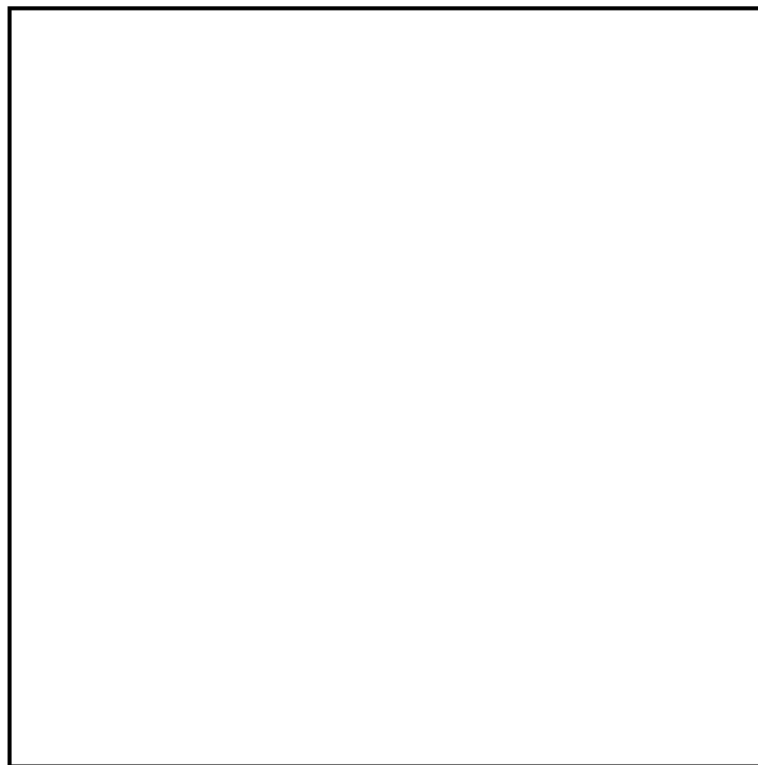
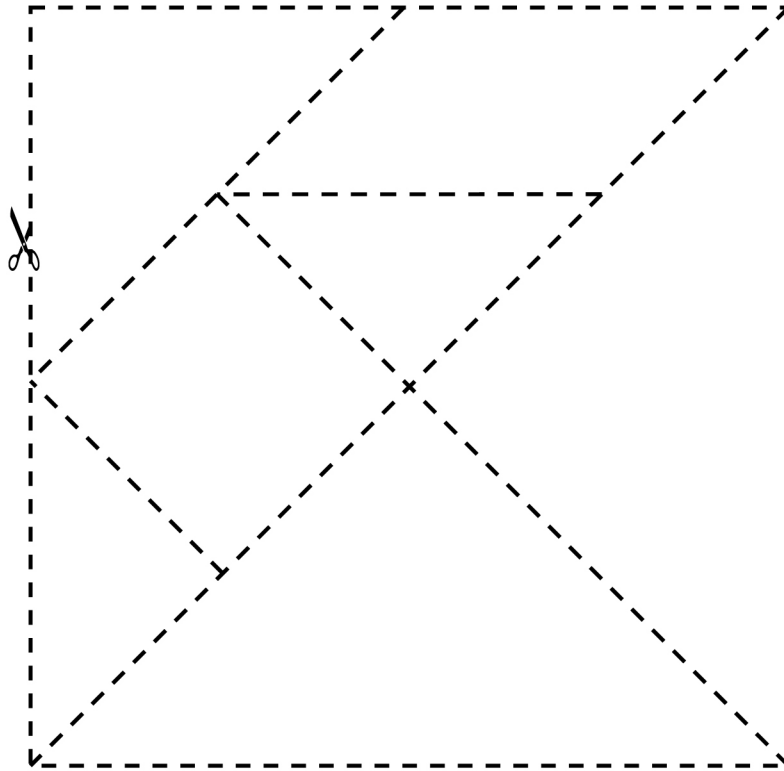
Line Master 7

Name: _____

Object	Shape	What I Know About the Shape

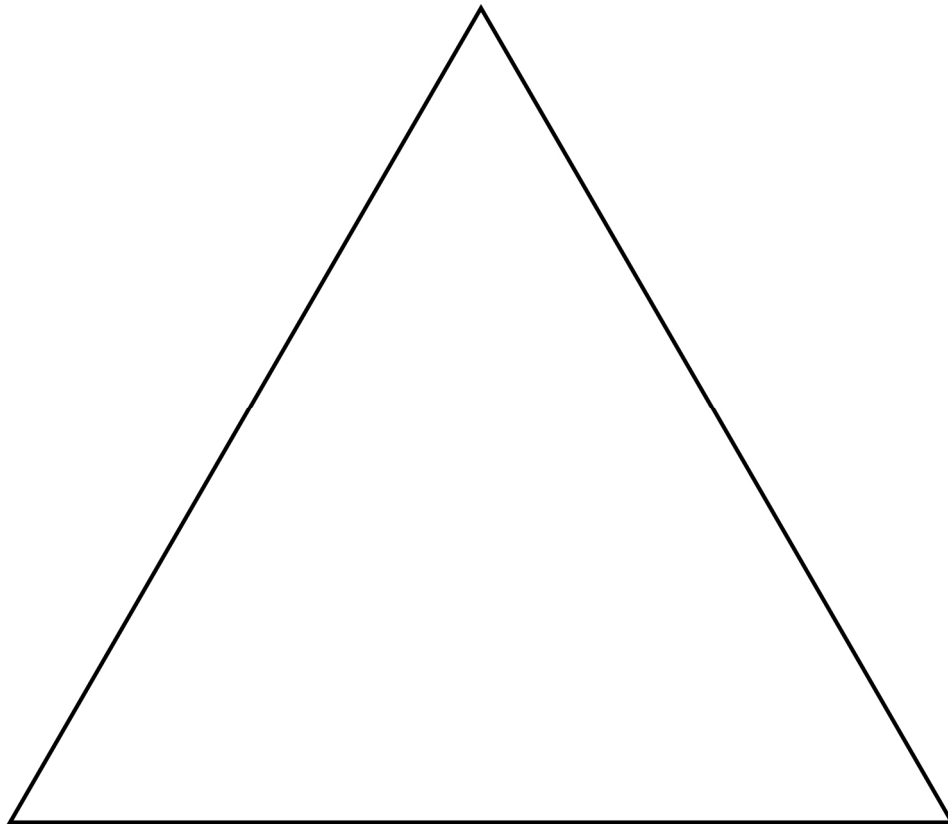
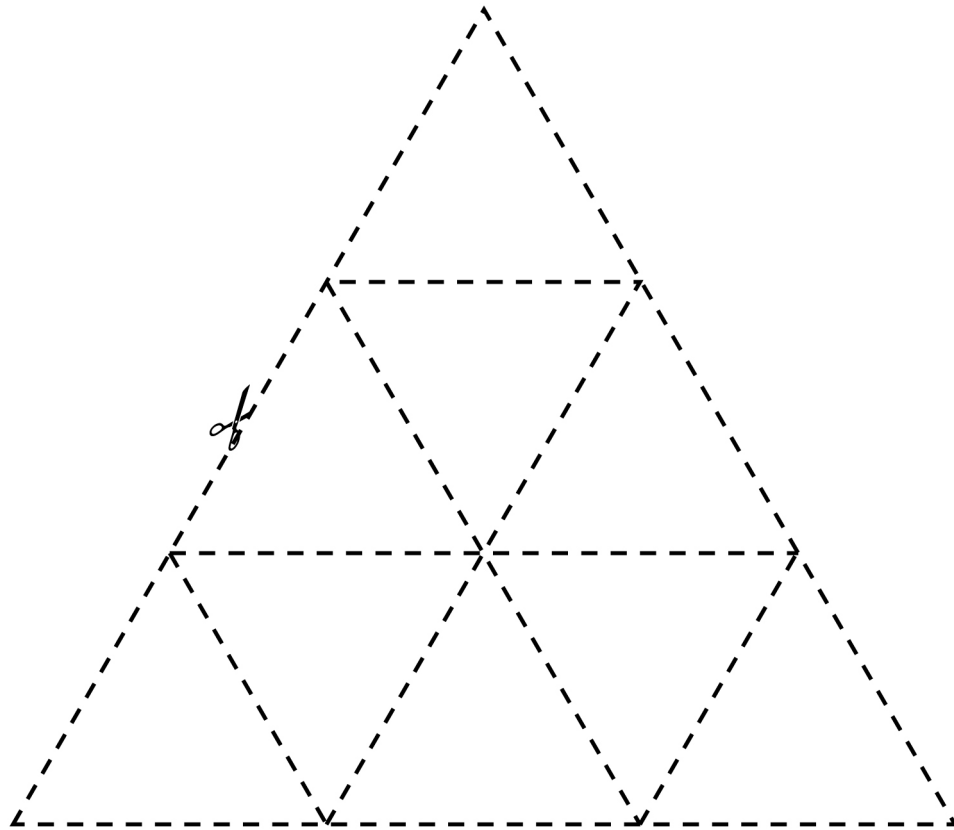
Shape Puzzles

Line Master 8-1



Shape Puzzles

Line Master 8-2



Search for Symmetry

Line Master 9

Name: _____

Shape	Number of Lines of Symmetry

Shape Profile

Line Master 10

Name: _____

Shape: _____



My shape has _____ sides.

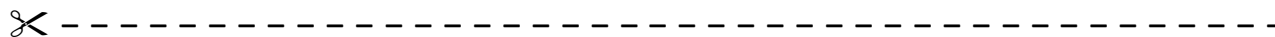
My shape has _____ vertices.

My shape has _____ lines of symmetry.

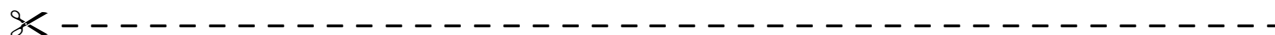
Interesting fact: _____

Symmetry Problems

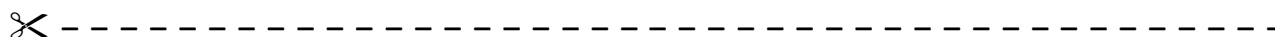
Line Master 11-1



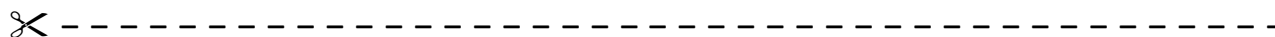
Draw a shape that has 1 line of symmetry.



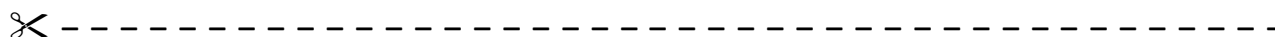
Draw a shape that has more than 1 line of symmetry.



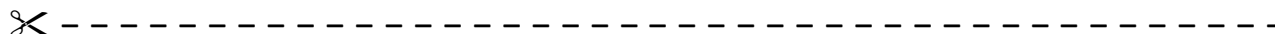
Draw a shape that has no lines of symmetry.



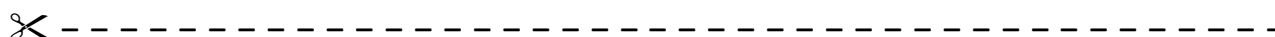
Draw a symmetrical shape that has 3 sides.



Draw a symmetrical shape that has 4 sides.

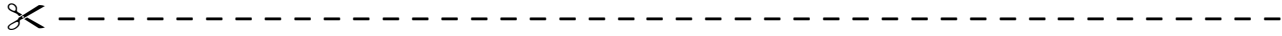


Draw a shape that has 3 sides and no lines of symmetry.

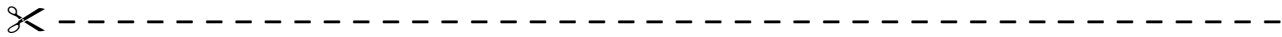
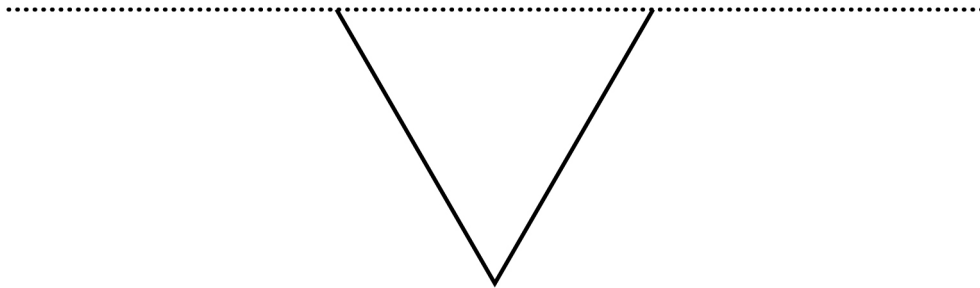


Symmetry Problems

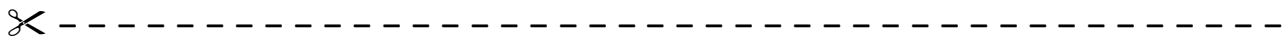
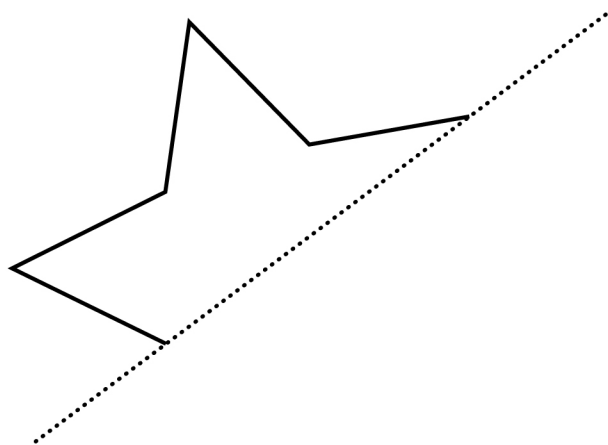
Line Master 11-2



Complete the symmetrical shape.

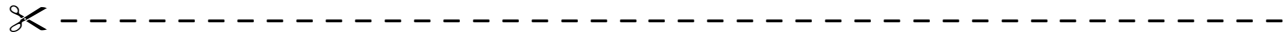


Complete the symmetrical shape.



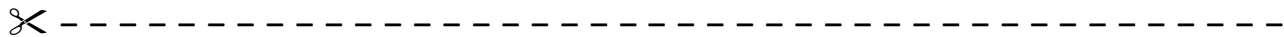
Symmetry Problems

Line Master 11–3



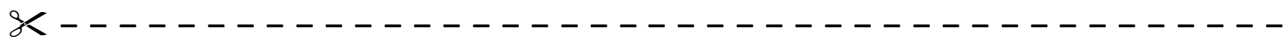
I have 4 sides and 2 lines of symmetry. What shape am I?

Show how you know.



I have 5 sides and 1 line of symmetry. What shape am I?

Show how you know.



Robo

Line Master 1 (Assessment Master)

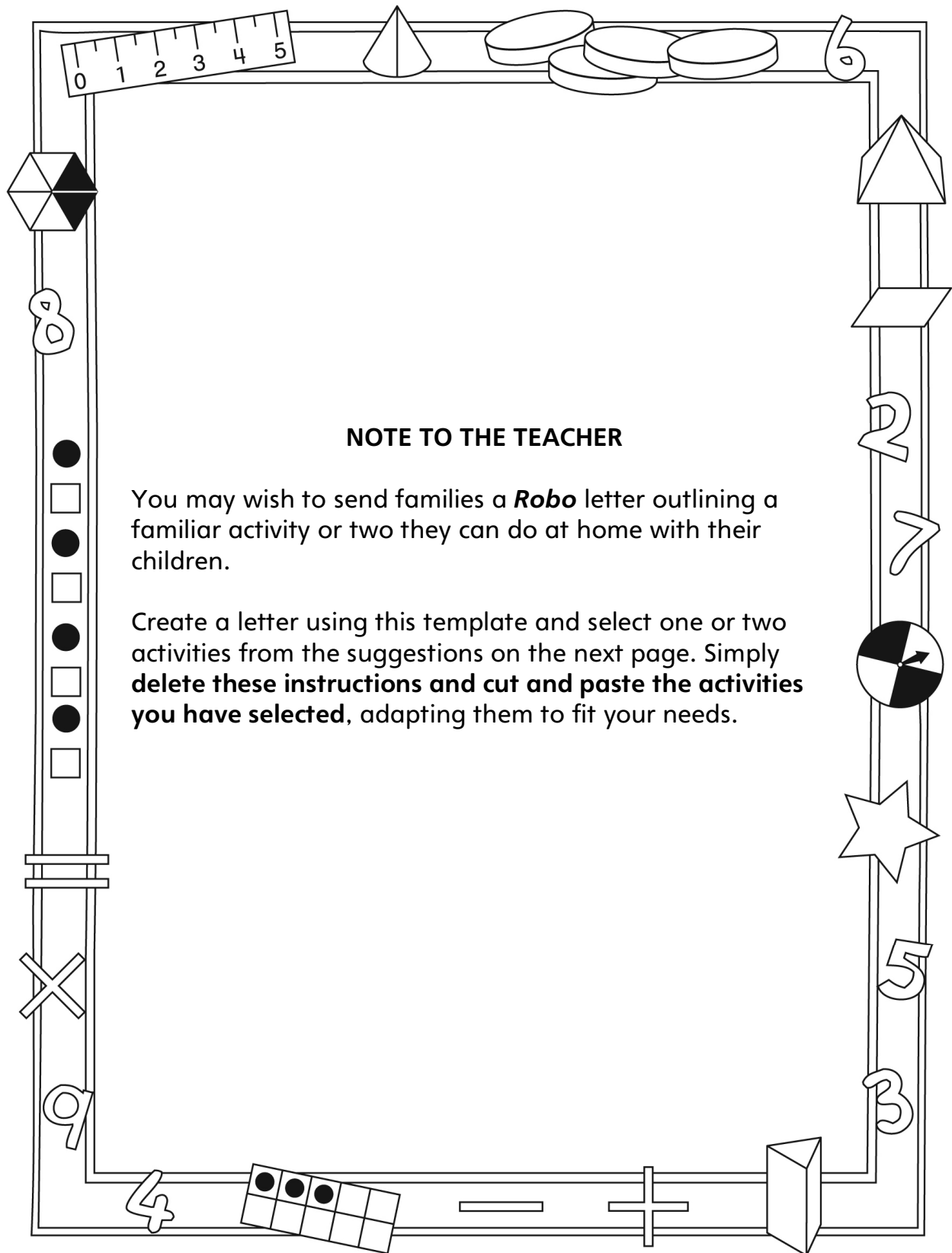
Name: _____

Describe the Location of Objects	Not observed	Sometimes	Consistently
Provides instructions to locate an object in the environment			
Visualizes and creates 2-D representations (e.g., top/front/side views) of 3-D objects			
Explore and Describe the Movement of Objects			
Uses positional language (e.g., through, around, between, across, along, up, down, over) to describe the movement of objects			
Uses a map to describe the path by which an object moves from one location to another			
Uses words and/or gestures to show directions			

Strengths:

Next Steps:

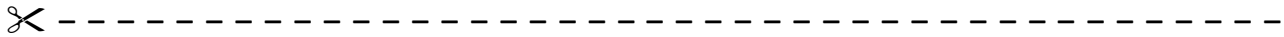
Connecting Home and School Line Master 2-1



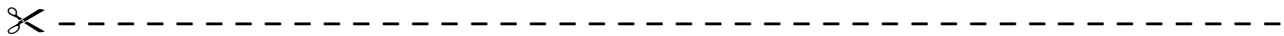
Connecting Home and School Line Master 2–2

Dear Family:

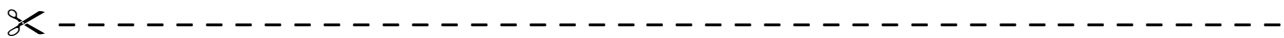
We have been working on **Robo**, which engages children in conversations, investigations, and activities that help to develop their understanding of the big math idea that “Objects can be located in space and looked at from different perspectives.” Particular focus is placed on describing the location of objects and exploring and describing the movement of objects. Try this activity at home with your child.



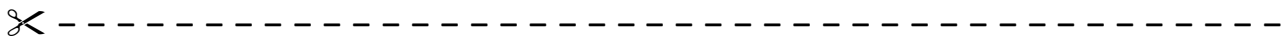
Reading the Story: As you read the story, talk about how some robots move and how they need the instructions of their human owners to tell them which way to go to complete a task. After you read, you might use the mat on the inside back cover to re-create some of the different situations from the story.



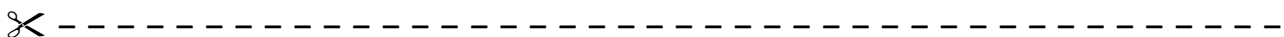
Robo Navigator: Use the mat on the inside back cover as a game board and a small object to represent Robo. Take turns choosing a starting point and a destination for Robo (e.g., kitchen, family room), and then saying the directions to get there. The other player moves the object (robot) according to the instructions. This activity can be extended to include places in the home. For example, what instructions would Robo follow to get from your kitchen to your child’s bedroom?



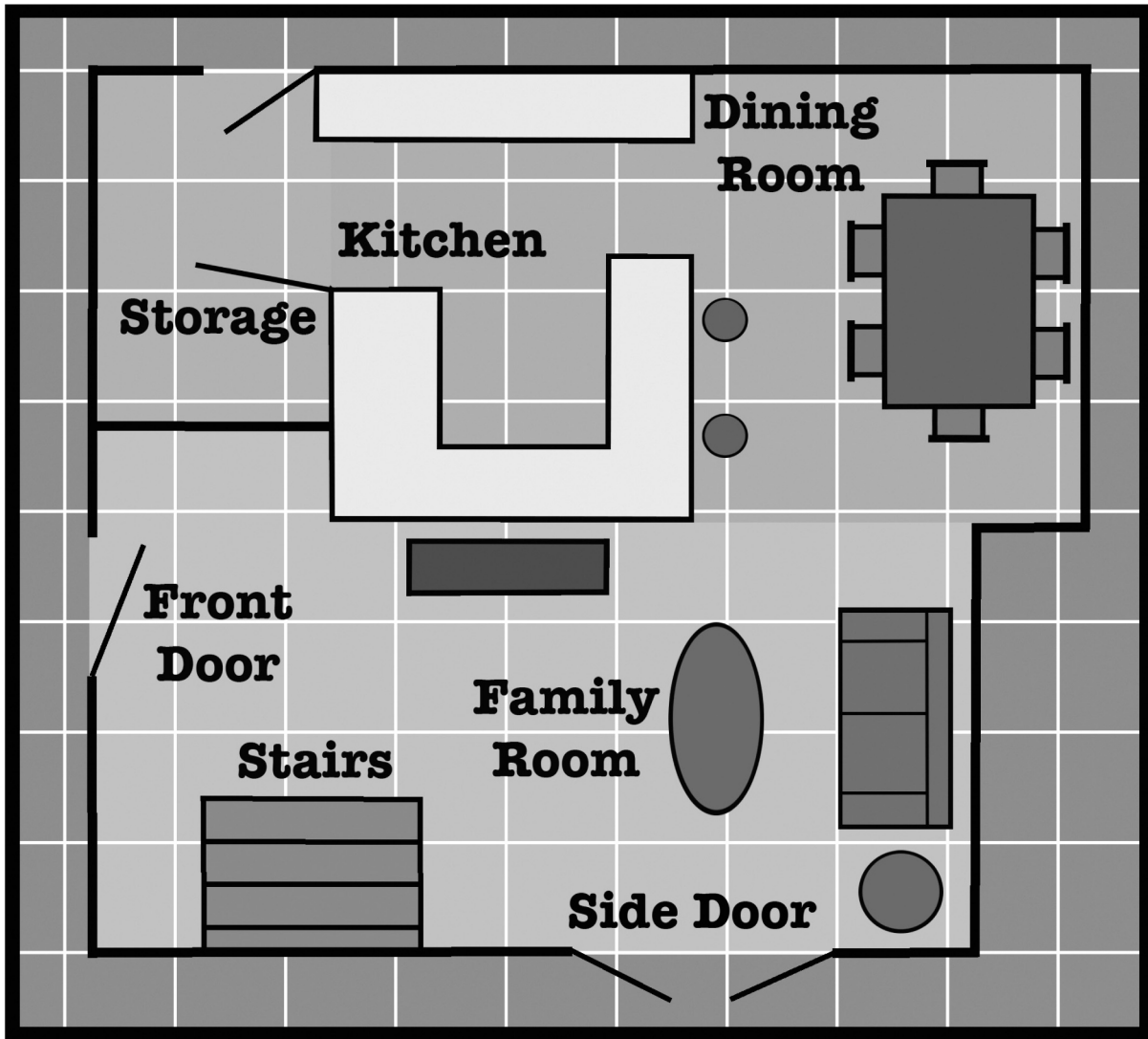
Directional Hide and Seek: One person hides a small object such as a toy and provides step-by-step instructions to lead the other person to it (e.g., go forward 4 steps; turn right; go forward 5 steps; reach down to the floor and pick up the box of crayons).



Neighbourhood Maps: Together, draw a simple map of your neighbourhood. Take turns imagining you have hidden an object somewhere in the neighbourhood. The person who is guessing asks questions using direction words, such as *right*, *left*, *up*, and *down*, to find the location.

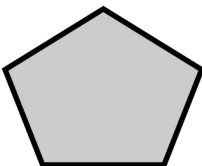
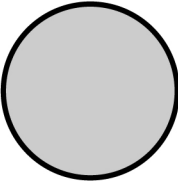
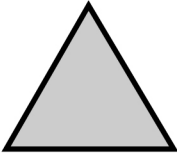

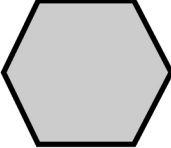
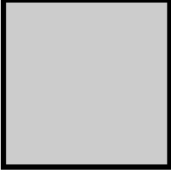


Sincerely,



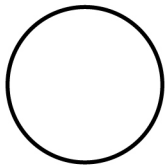
Game Path

Line Master 4-1

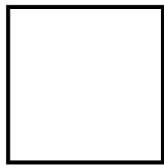
				Finish
				
				
				
Start				

Game Path

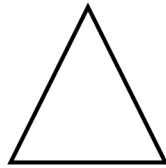
Line Master 4-2



circle



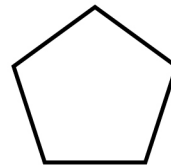
square



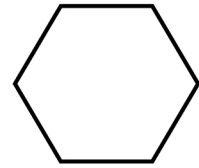
triangle



rectangle



pentagon



hexagon

Describe your path. Write shape names to complete the sentences.

My path goes to the **right** of the _____.

My path goes to the **left** of the _____.

My path goes **over** the _____.

My path goes **under** the _____.

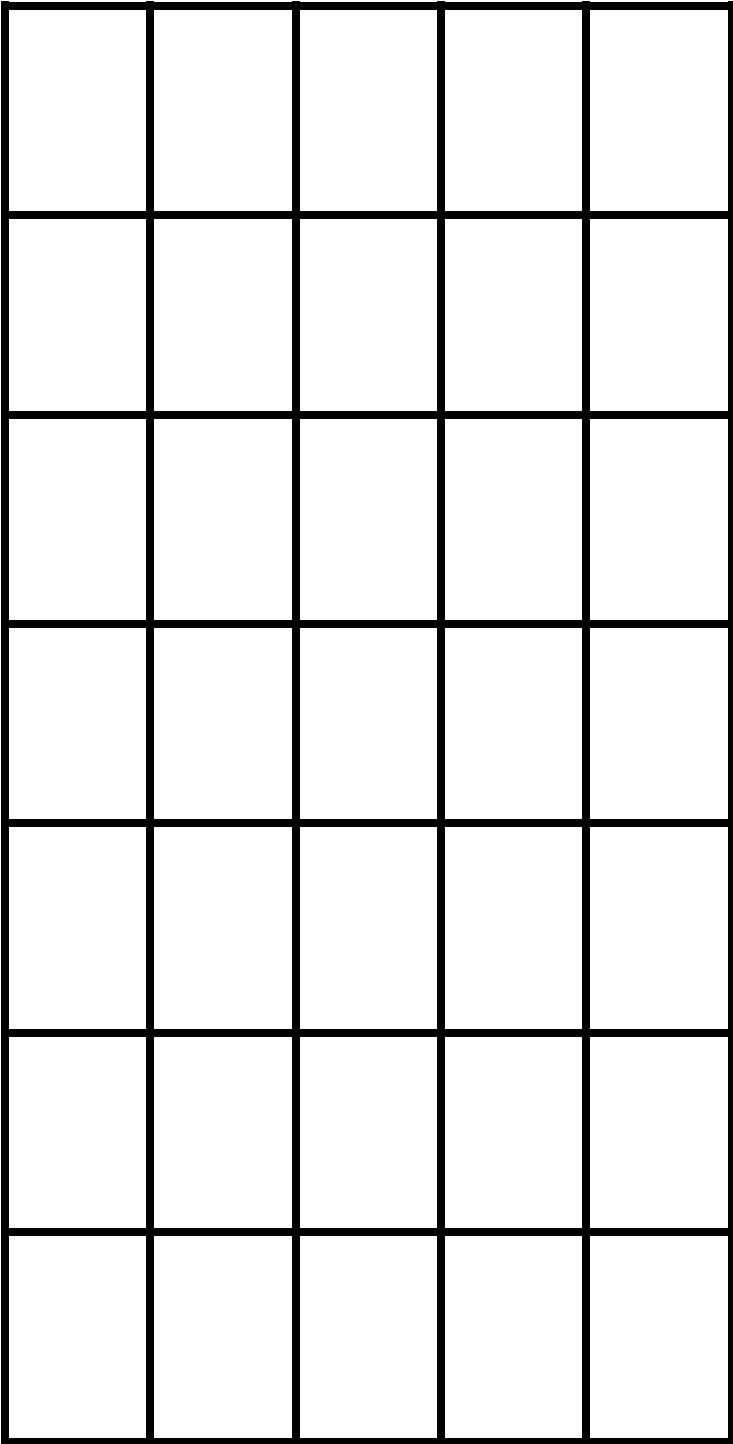
My path goes **between** the _____

and the _____.

Can you think of any more ways to describe your path? You might use words, numbers, or drawings. Write your answer below.

Barrier Game

Line Master 5



Direction Game Board













Line Master 6

Name: _____

					Finish
Start					

Direction Cards

Line Master 7

Go left 	Go left 	Go left 
Go right 	Go right 	Go right 
Go up	Go up	Go up
Go down	Go down	Go down
Go left 	Go left 	Go left 
Go down	Go down	Go down
Go up	Go up	Go up
Go right 	Go right 	Go right 

I Spy

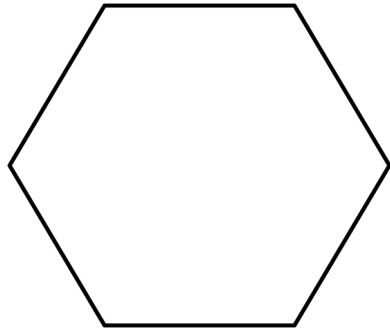
Line Master 8

Player 1	Player 2
Questions asked: Guesses made: Was one of my guesses correct? Yes No	Questions asked: Guesses made: Was one of my guesses correct? Yes No
Questions asked: Guesses made: Was one of my guesses correct? Yes No	Questions asked: Guesses made: Was one of my guesses correct? Yes No
Questions asked: Guesses made: Was one of my guesses correct? Yes No	Questions asked: Guesses made: Was one of my guesses correct? Yes No
Questions asked: Guesses made: Was one of my guesses correct? Yes No	Questions asked: Guesses made: Was one of my guesses correct? Yes No

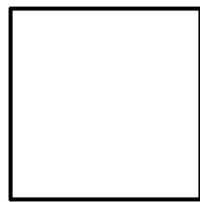
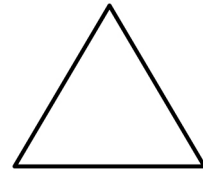
Pattern Paths

Line Master 9-1

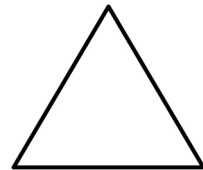
Place the Pattern Blocks on the grid so that



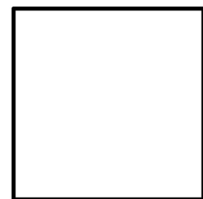
is above the



is to the left of the



is below the

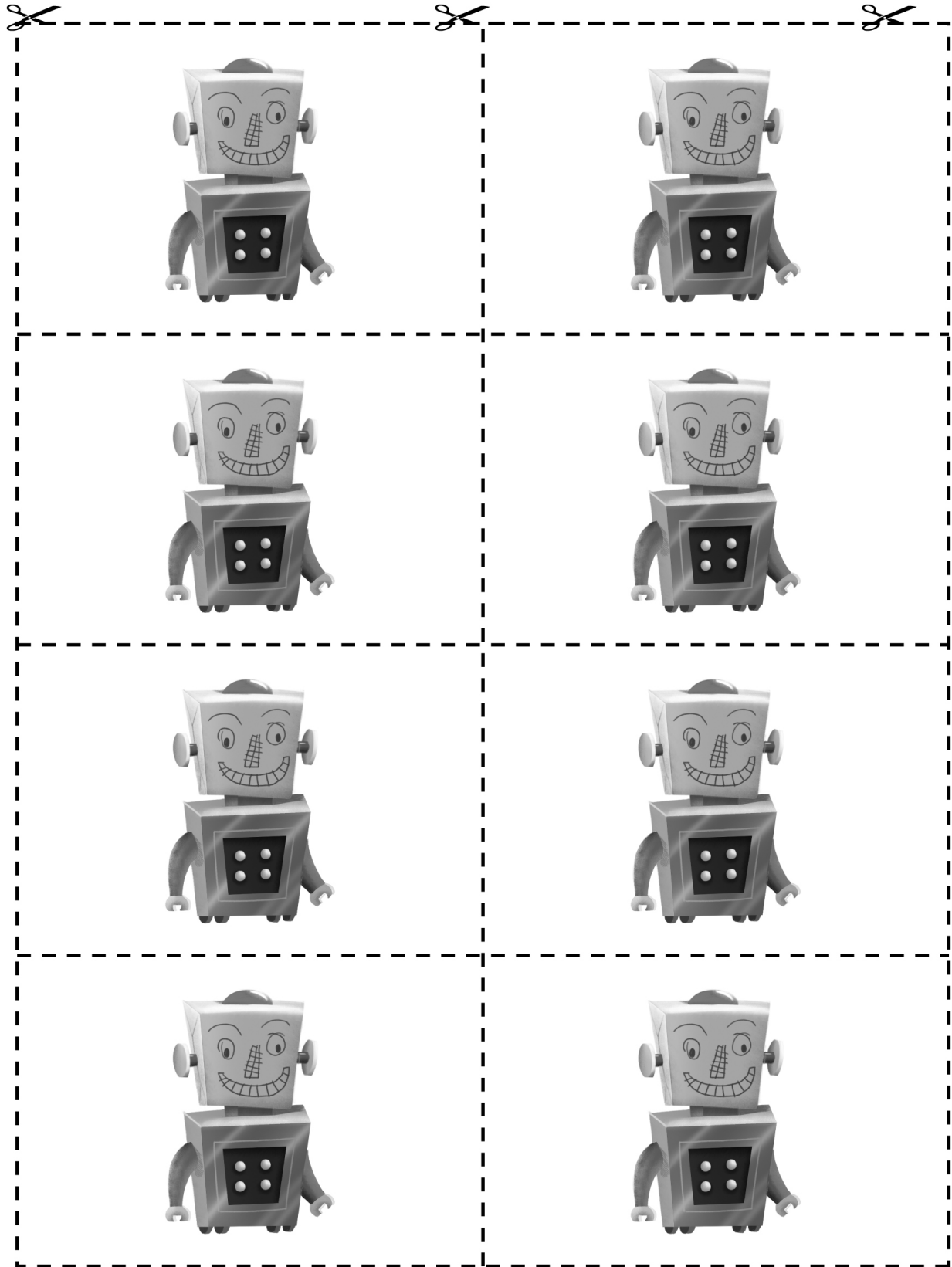


Pattern Paths

Line Master 9-2

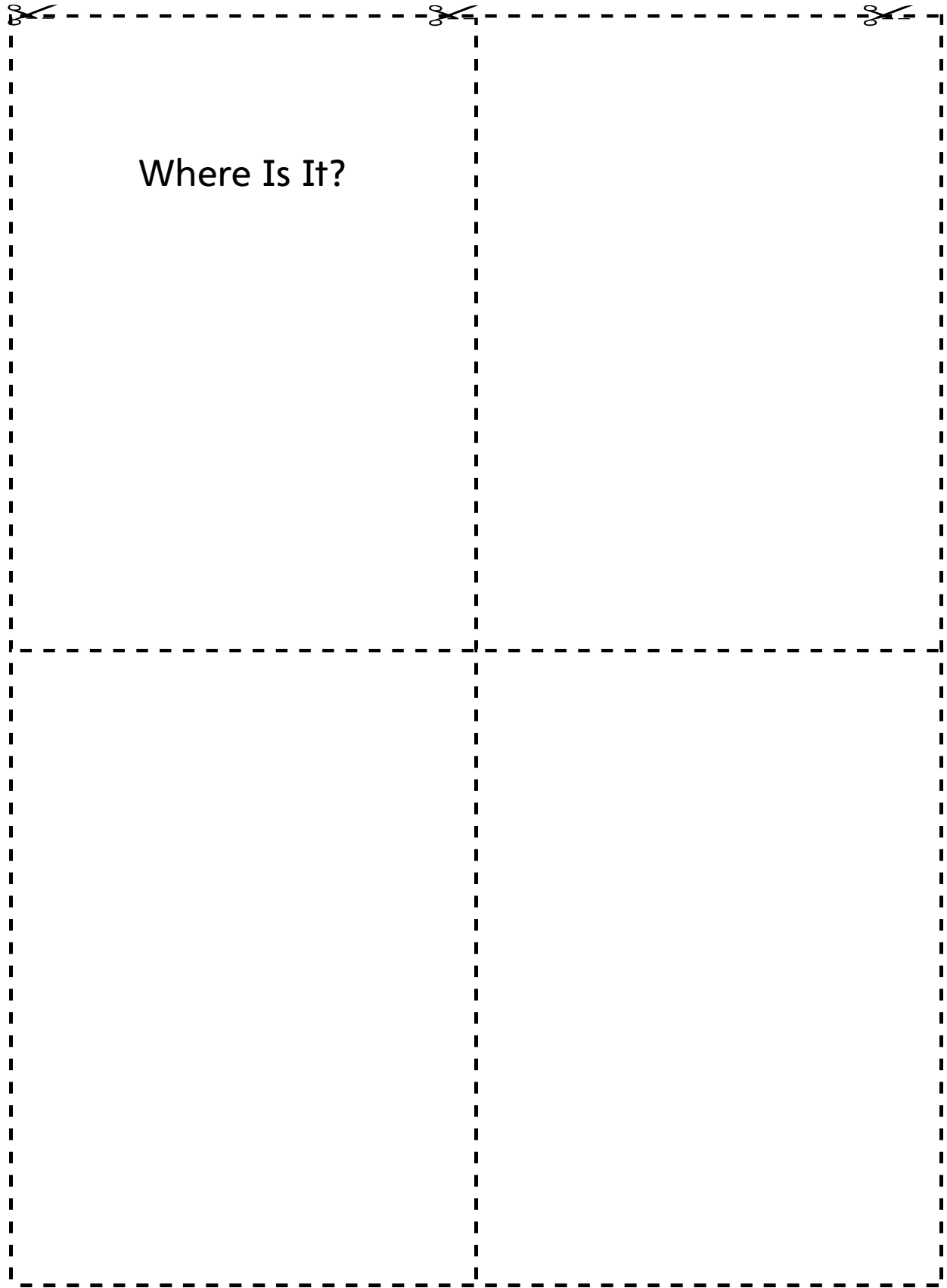
Where Is Robo?

Line Master 10



Where Is It?

Line Master 11



Where To? Problems

Line Master 12-1



Draw a path that begins at “**Start**” and moves to “**Finish.**”
Then describe your path.

Path 1

				Finish
Start				



Draw a path that begins at “**Start**” and moves to “**Finish.**”
Then describe your path.

Path 2

				Finish
Start				



Where To? Problems

Line Master 12-2



Draw a path that begins at “**Start**” and moves to “**Finish.**”
Then describe your path.

Path 3

				Finish
Start				



Draw a path that begins at “**Start**” and moves to “**Finish.**”
Then describe your path.

Path 4

				Finish
Start				



Big Buddy Days

Line Master 1 (Assessment Master)

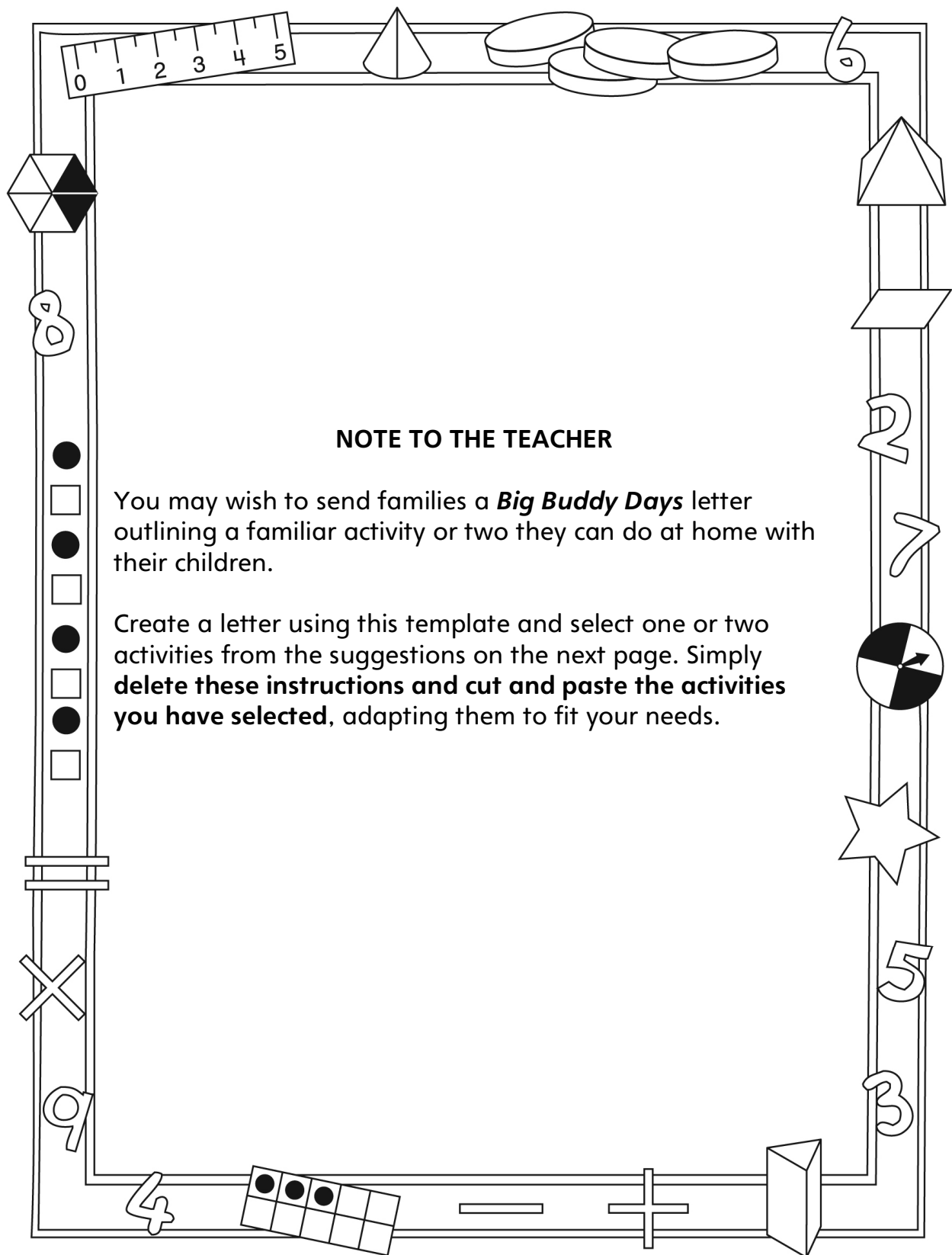
Name: _____

Build Pictographs	Not observed	Sometimes	Consistently
Collects data by determining (most) categories in advance			
Chooses an appropriate method to collect data			
Chooses an appropriate method to organize data			
Creates displays using simple pictographs			
Interpret Pictographs			
Interprets displays by noting how many more/less than other categories			
Reads and interprets information from data displays			

Strengths:

Next Steps:

Connecting Home and School Line Master 2-1



Connecting Home and School Line Master 2-2

Dear Family:

We have been working on **Big Buddy Days**, which engages children in conversations, investigations, and activities that help to develop their understanding of the big math idea that “Collecting and displaying data can help us predict and interpret situations.” Particular focus is placed on building and interpreting pictographs. Try this activity at home with your child.



Reading the Story: As you read the story, enjoy talking about the various ways information is displayed, and what you learn from the pictographs.



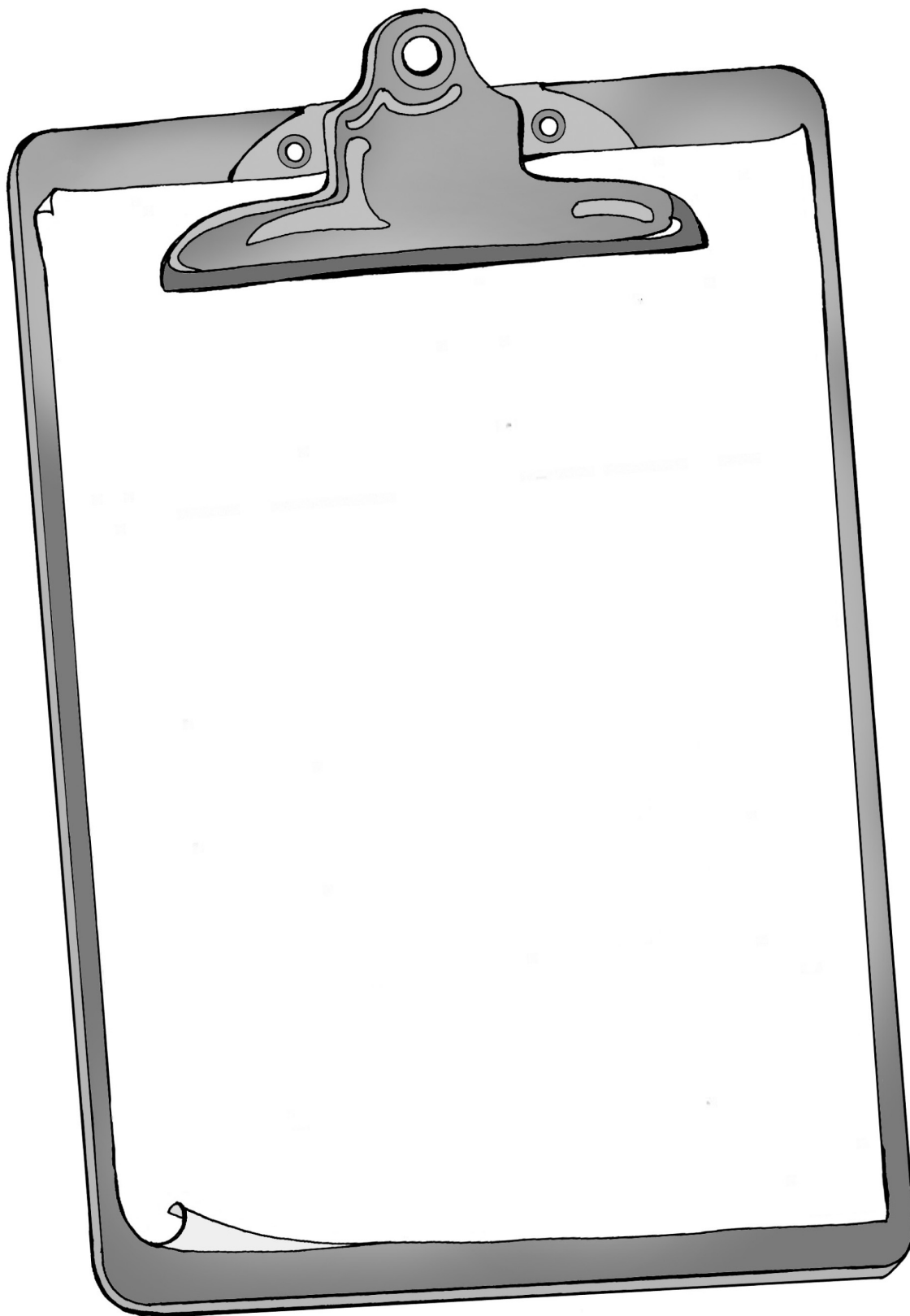
Graphing at Home: With your child, create pictographs at home. For example, you could sort and graph the number of spoons, scoops, forks, and spatulas in the utensil drawer. Once you have organized the household items, talk about which is more and which is less and how many items there are altogether.



Newsworthy: Explore and talk about pictographs on appropriate topics that appear in the news, on TV, on the Internet, or in books or magazines you read together. Talk about what they mean. Many will be too complex for your child to understand, but he/she may recognize the form and structure of the pictograph. Talk about which category is more and which category is less. Being an informed citizen means being able to interpret graphs!



Sincerely,



Mystery Tally Charts

Line Master 4-1

Name: _____

Animals	Space	Strange Facts	Huge Structures
/		/	

1. What do you think this tally chart is about?
2. What could be the title of this tally chart?
3. What question could this data be answering?
4. What might the answer be?

Mystery Tally Charts

Line Master 4-2

Name: _____

Crown	Fire Helmet	Space Helmet	Chef's Hat
	/	/	

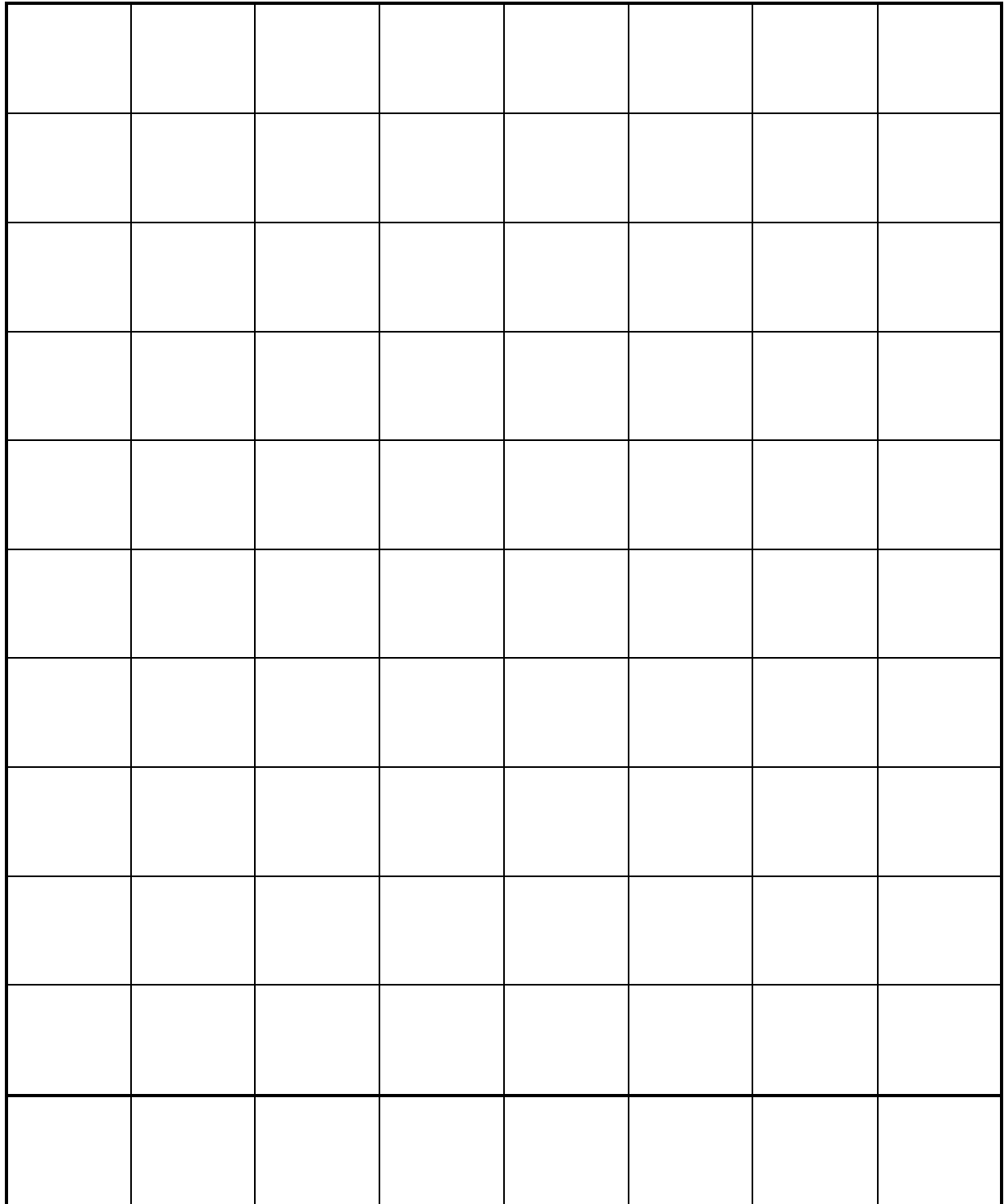
1. What do you think this tally chart is about?
2. What could be the title of this tally chart?
3. What question could this data be answering?
4. What might the answer be?

Graphing Grid

Line Master 5

Name: _____

Pictograph Title: _____



Name: _____

1. Draw or glue the pictograph you found in the space below.
2. Underline or write the title in one colour.
3. Underline or write the labels in a different colour.
4. Circle one of each symbol.

Name: _____

5. What do each of the symbols stand for? Use numbers, words, or drawings to explain.

6. Use words, numbers, or drawings to explain 3 things you learned from the pictograph.

Big Buddy Problems




Line Master 7–1

30 children voted on which outdoor activity they want to play.

- 7 children voted for 4-square
- 10 children voted for soccer
- 9 children voted for tag
- 4 children voted for kites

1. Make a pictograph on a graphing grid.
2. Use the data on the pictograph to answer the following questions using words, numbers, and/or drawings.
 - a) How many children voted for each game?
 - b) Which game was the most popular?
 - c) By how many votes did the game win?

Arts Activity Ideas

Paint	Sing	Build Clay Models	Make Sticker Crafts
			

Use the data on the pictograph to answer the following questions using words, numbers, and/or drawings.

1. a) So far, how many children voted on what Arts activity to do?
 - b) Suppose 18 children are voting altogether. How many children still have to vote?
 - c) Suppose all of the remaining votes are for making sticker crafts. Show this on the pictograph.

2. a) How many children voted to make sticker crafts?
 - b) How many more children voted to paint rather than to make sticker crafts?
 - c) How many children would need to change their vote to so that making sticker crafts would have more votes than painting?

Marsh Watch

Line Master 1 (Assessment Master)

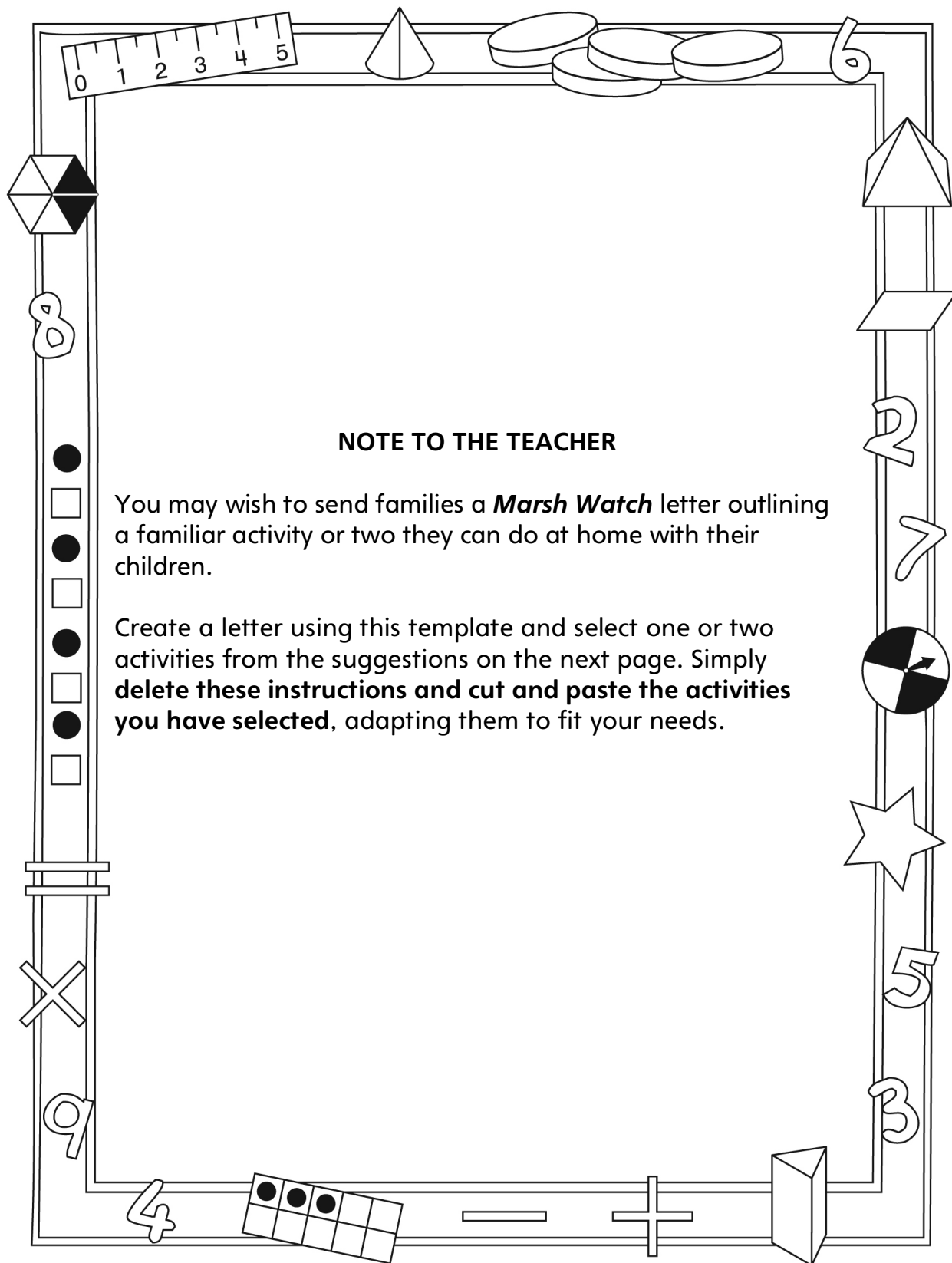
Name: _____

Collect, Organize, and Display Data	Not observed	Sometimes	Consistently
Collects data by determining (most) categories in advance			
Conducts a survey			
Chooses a method to record collected data (e.g., tally marks)			
Constructs and labels pictographs and bar graphs			
Displays data collected in more than one way and describes the differences			
Read and Ask Questions About Graphs			
Formulates questions that can be addressed through observation			
Interprets displays by noting how many more/less than other categories			
Poses and answers questions about data collected and displayed			

Strengths:

Next Steps:

Connecting Home and School Line Master 2-1



NOTE TO THE TEACHER

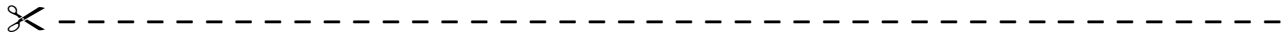
You may wish to send families a *Marsh Watch* letter outlining a familiar activity or two they can do at home with their children.

Create a letter using this template and select one or two activities from the suggestions on the next page. Simply **delete these instructions and cut and paste the activities you have selected**, adapting them to fit your needs.

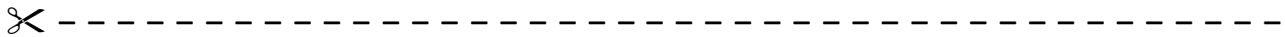
Connecting Home and School Line Master 2–2

Dear Family:

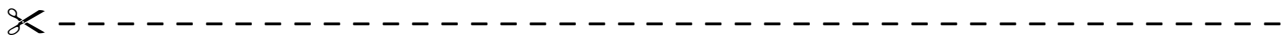
We have been working on **Marsh Watch**, which engages children in conversations, investigations, and activities that help to develop their understanding of the big math idea that “Collecting and displaying data can help us predict and interpret situations.” Particular focus is placed on conducting surveys, and making and reading pictographs and bar graphs. Try this activity at home.



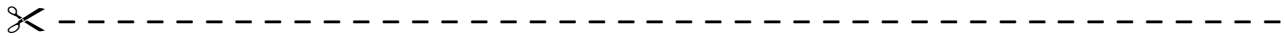
Reading the Story: As you read the story, enjoy the tallying results as Josh completes his surveys and try to predict his final results. Encourage your child to identify important elements of each graph and explain the differences among them.



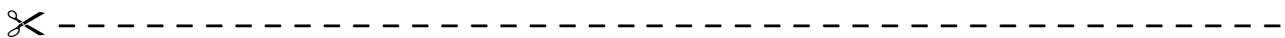
Coin Toss: Use a coin to play. With your child, decide who goes first and whether heads or tails wins. In turn, flip the coin and record heads or tails using tally marks. Pause after 10 or 20 turns each to tally results and determine who is ahead. Keep playing to see who can get the highest number of heads or tails. Your child can also choose to make a graph of the results.



Family and Friends Survey: With your child, design a survey question to ask your family and friends about a specific topic, such as favourite colour, favourite animal, or favourite sport. Work together to come up with the question and a set of appropriate responses. Record answers using tally marks and then graph the final results as either a pictograph or bar graph.



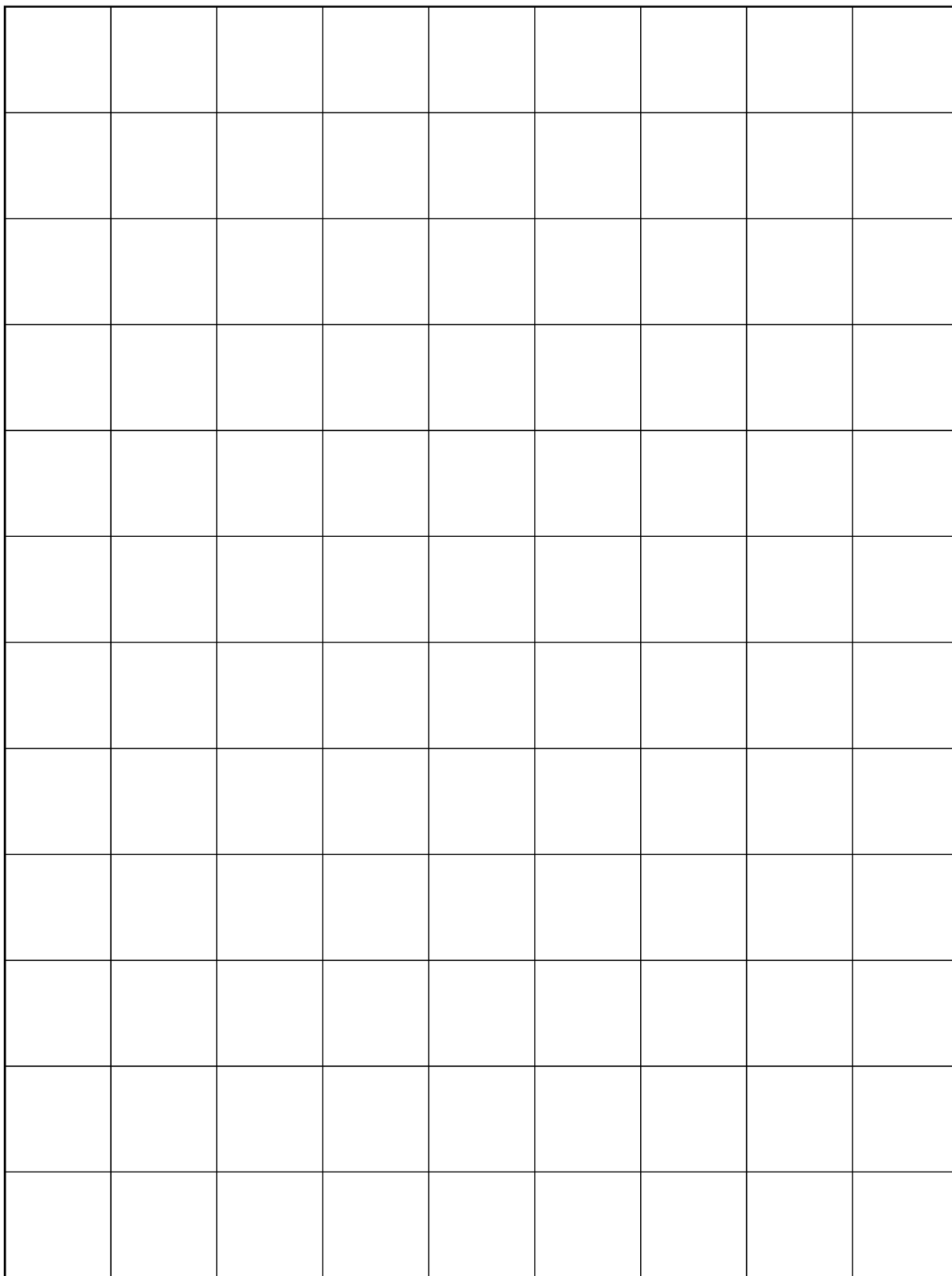
Outdoor Observation: With your child, select an outdoor space to observe. Write down the animals (or other living things) that you see during a specific time period and keep track of the numbers using tally marks. Graph the final results as either a pictograph or bar graph. Ask your child what he/she learned about your neighbourhood. How can he/she use that information? Bring the graphs to class to share with the whole group.



Sincerely,

Marsh Watch Math Mat

Line Master 3



Animal Survey

Line Master 4

Name: _____

Survey Question: _____

Animal	Tally Marks

Pictograph Templates

Line Master 5-1

Vertical

Name: _____

Graph Title: _____

Pictograph Templates

Horizontal

Line Master 5-3

Name: _____

Graph Title: _____

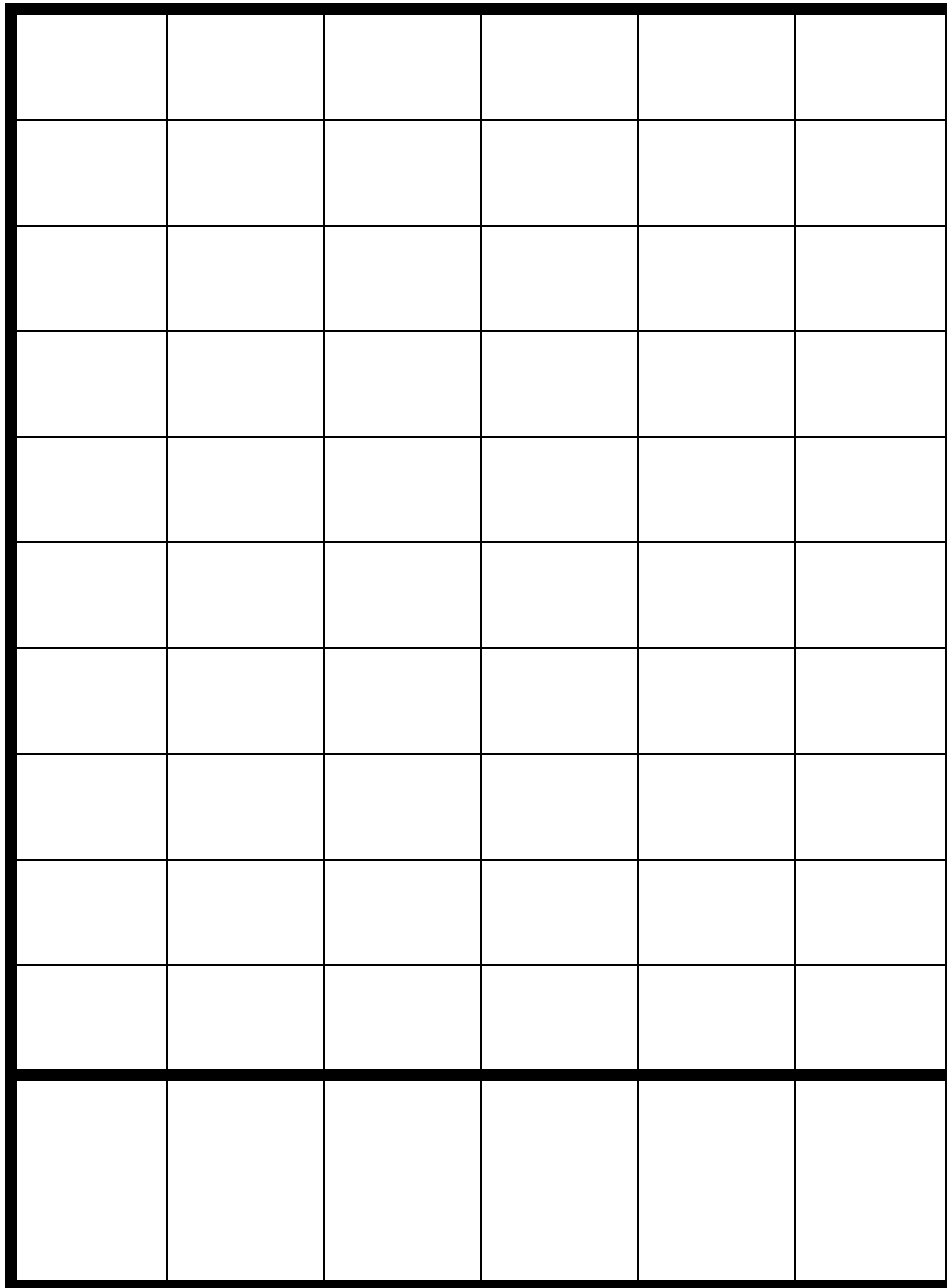
Bar Graph Templates

Line Master 6-1

Vertical

Name: _____

Graph Title: _____



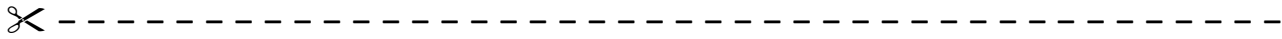
Earth Day Survey

Line Master 7

Survey Question: _____

Earth Day Idea	Tally Marks

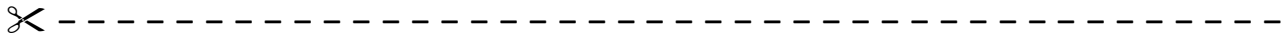
Earth Day Recommendations Line Master 8



Name: _____

Date: _____

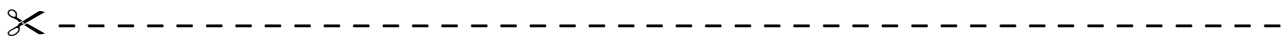
For Earth Day, I think we should _____



Name: _____

Date: _____

For Earth Day, I think we should _____



Survey Template

Line Master 9

Name: _____

Survey Question: _____

Coin Toss

Line Master 10



Player 1: _____

Heads	
Tails	

Player 2: _____

Heads	
Tails	



Player 1: _____

Colour 1 _____	
Colour 2 _____	

Player 2: _____

Colour 1 _____	
Colour 2 _____	



My Recommendations

Line Master 11



Name: _____

Date: _____

My question is: _____

I think we should: _____



Name: _____

Date: _____

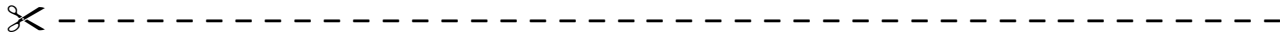
My question is: _____

I think we should: _____



Graphing Problems

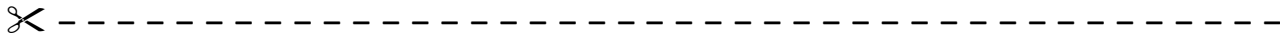
Line Master 12-1



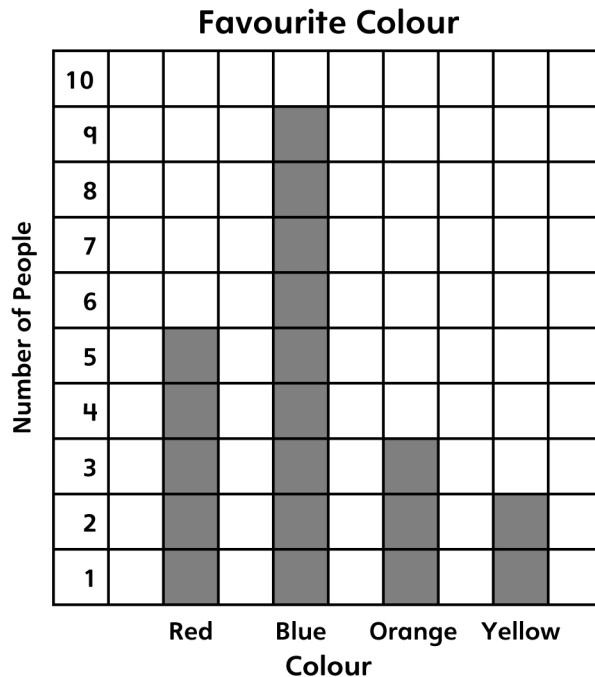
Suppose you asked your classmates what their favourite colour was:

Red = IIII	Orange = III
Blue = IIII IIII	Yellow = II

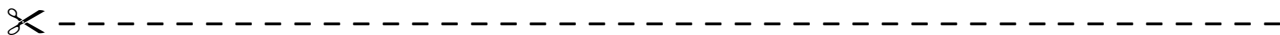
Which colour was the most popular? Which colour was the least popular? Explain how you know.



Suppose you asked your classmates what their favourite colour was:



How many people chose yellow? How many more people chose blue?



Graphing Problems

Line Master 12-2

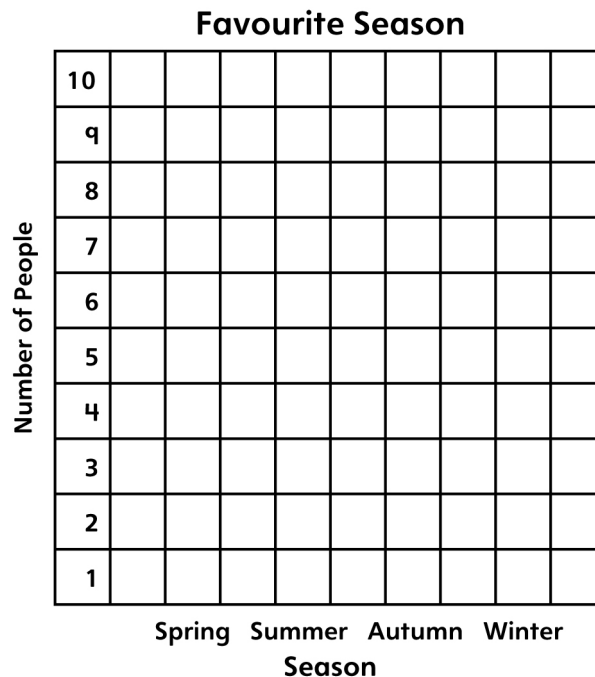


Suppose you asked your classmates what their favourite season was:

Spring = IIII I	Autumn = IIII
Summer = IIII III	Winter = II

Which season was the most popular? Which season was the least popular? Explain how you know.

Use the data in the tally chart to create a bar graph of your classmate's favourite season.





Josh observed the marsh again.

His observations are shown in this chart:

Turtle Marsh Animal Groups Count

Amphibians	HHH III
Mammals	III
Reptiles	HHH II
Birds	HHH HHH
Fish	HHH HHH II

How many more fish than mammals did Josh see on this visit?

Use words, numbers, and/or drawings to explain how you got your answer.

