



ASCEND SUMMER HOMEWORK RISING 2ND GRADE

Dear Families,

In this packet, you will find reading, math, and science activities for your scholar to complete over the summer. These activities are meant to challenge your scholar's thinking, while also being fun and engaging. Please feel free to complete this work along with your scholar, asking questions and taking part in conversation as you go. This will make their experience even richer!

Research shows that kids who read over the summer are much more prepared for the next school year than those who do not. **For this reason, in addition to our selected book, your scholar should read 2-3 other age-appropriate books over the summer.** On page 5, you will find a reading log for your scholar to track their summer reading and for you to certify this with your signature. Your scholar will be better off if they complete their reading and activities over time throughout the summer—switching back and forth between reading, math, and science—than if they try cramming them into the last few days.

Thank you for supporting your scholar's learning. Together, we can push them to new heights!

Happy summer!

Ascend Public Charter Schools

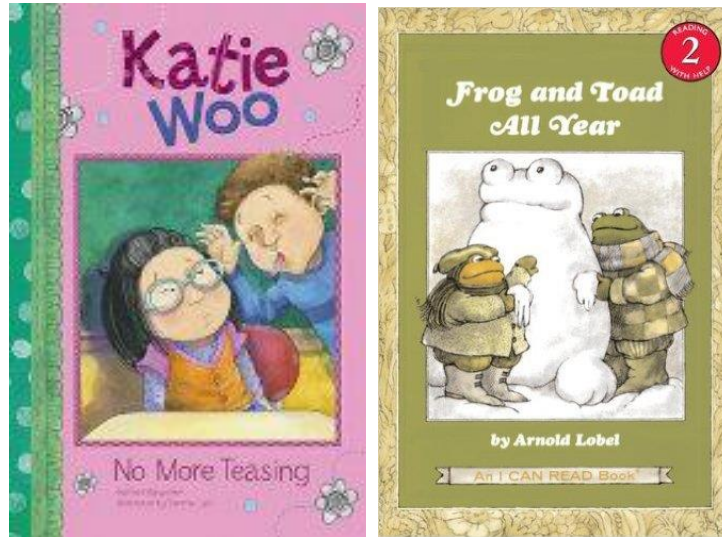
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RISING 2nd GRADE READING



We know that kids love these books and have chosen them because we hope they will encourage your scholar's love of reading this summer! As your scholar reads with you, you may want to refer to the suggested questions and conversations included on the next page in this packet. You'll also find helpful sight word routines and activities to practice frequently.

In addition to your *Katie Woo* book and/or *Frog and Toad All Year*, we hope you'll visit your public library and choose additional books in these series or others to read over the summer. Please track your scholar's summer reading on the reading log you'll find on page 5, and sign.

Recommended Materials (Optional):

- 1 pack 3x5" index cards
- 1 small lined notebook for written responses to text
- 1 "fancy pen" (smelly marker or sparkly pen) to encourage writing
- 1 can white shaving cream (see sight word routine below)

RISING 2ND GRADE READING WORK

Questions and Conversations to Have with Fiction books:

1. Where can we find the name of the author and illustrator of this book? What was the author's job? What did the illustrator do?
2. Who were the characters? Who was the story mostly about (main character)? Describe the main character (how did he/she act, look, feel). Did the characters change? Show me where the characters changed in the story? What happened to cause the character to change?
3. Where did the story take place (setting)? Describe the setting? Did the setting change? Did the setting impact the characters actions?
4. Retell the story to me. What happened first, next, then, last? Show me your favorite part. Why did you like it?
5. Who was telling this story? How do you know? Did more than one person tell the story?
6. What was the central message or lesson learned in the story? How do you know? Show me.
7. Were there any tricky words in this story? Let's go back and find one. What was tricky about the word? Do you know what it means now? Let's reread the page to find out.
8. What questions do you have about the story? If you had to write a different ending to the story, what would it sound like?

Questions and Conversations to Have with Nonfiction books:

1. [Before reading text] What do you already know about [insert topic here]? What do you think you will learn about [insert topic of book]?
2. Show me the front cover. What do you notice? Where is the back cover? What is on the back? Point to the title page of this book. Who is the author?
3. What was this book mostly about (main topic)? What do you remember about the topic? Can you show me where you learned each of these things?
4. Did you learn anything new about [insert topic here]? What was the most interesting fact you learned from this book?
5. Were there any tricky words in this story? Let's go back and find one. What was tricky about the word? Do you know what it means now? Let's reread the page to find out.
6. Choose your favorite photograph, chart, table, or illustration. What did you learn about the topic from that picture?
7. Show me where the headings are in this book. What do they tell you? Is there a table of contents? If so, what can you find on [insert page number]? Is there a glossary at the end of this book? If so, what does [insert word from glossary] mean and where can we find it in this book?

[illegible]

SIGHT WORD ROUTINES

Write all sight words from the list on page 8 on 3x5" index cards and keep in a safe place! Each day, choose one of the routines below (or one you come up with on your own) to practice the words. Practicing daily will ensure your scholar is ready for third grade!

Body Spelling: Tall letters you reach up for the sky, belt line letters touch your waist, letters that go into the basement touch the ground. Examples of tall letters: t, l, f. Examples of belt line letters: m, o, v, n. Examples of basement letters: g, y, q, j.

Song spelling:

2-letter words: tune, "If You're Happy and You Know it"

If you want to spell is, say i – s

If you want to spell is, say i - s

It's as easy as can be

When you sing and spell with me

If you want to spell is, say i – s

3-letter words: tune, "Three Blind Mice"

T –h- e, t –h – e

that spells the

that spells the

t-h-e spells the

t-h-e spells the

4-letter words: tune, "Clementine" (O my darling...)

L-i-k-e, l-i-k-e, l-i-k-e spells like

L-i-k-e, l-i-k-e, l-i-k-e spells like

5-letter words: tune, BINGO

There was a word and it was where

And this is how you spell it

w-h-e-r-e, w-h-e-r-e, w-h-e-r-e

and the word is where

Read it, Spell it, Read it: Say the word, say each letter (can clap/stomp/jump/etc. out the letters), say the word (parent shows the word to the students). The word is "the", the word is "the", t –h- e , the word is the.

Write a Story: Choose 5 sight words and write a short story about your day.

Shaving Cream Writing: Ask an adult to smear white shaving cream on a window. Use your finger to write sight words. Make it even more fun by adding a couple drops of food coloring to make the cream your favorite color. Make sure to clean up afterward!

Fancy Writing: Choose a fancy pen and write 5 sight words in funny ways. Maybe use squiggly lines, or dotted lines, or try cursive with some help!



Sight Word Memory: Choose 10 sight words and make duplicate flash cards (2 of each word). Mix them well and place them on the floor with the word down. Take turns choosing one card at a time to try to find matches. When you find a match, say the word, spell the word, and then take it for your pile.

SECOND GRADE SIGHT WORDS

Sight words are words that appear often in text. Many are not phonetic, meaning they cannot be sounded-out using traditional decoding strategies. Some can be sounded out, but appear frequently enough that it is best for a reader to memorize them.

about	father	pull	always	found	read	another	full
right	answer	gave	show	around	goes	sing	because
got	sit	been	hold	sleep	before	hurt	study
better	if	tell	both	its	their	bring	keep
those	buy	kind	today	call	laugh	together	carry
light	try	cold	long	upon	day	made	use
different	many	very	does	mother	warm	don't	much
wash	done	myself	water	draw	never	way	drink
off	wish	fall	only	world	far	own	write
fast	people	your	<i>It is not expected that your scholar know these words quite yet.</i>				

FIRST GRADE SIGHT WORDS

after	his	should	again	how	small	all	into
some	am	know	soon	animal	live	than	any
may	there	ask	more	these	away	must	thing
be	new	think	child	now	too	children	old
two	could	once	under	each	one	walk	eat
open	want	every	other	well	first	our	when
fly	out	which	friend	over	who	from	play
why	give	please	will	going	pretty	word	good
put	work	great	round	would	has	saw	yes
help	say	may	<i>It is important that your scholar know these words well.</i>				

KINDERGARTEN SIGHT WORDS

a	me	an	my	and	no	are	not
as	of	at	on	but	or	by	said
can	see	come	she	do	so	down	that
find	the	for	they	go	this	have	to
he	up	here	was	I	we	in	were
little	what	it	where	like	with	little	you
is	<i>It is important that your scholar know these words well.</i>						

RISING 2ND GRADE MATH

Skills to master before entering second grade:

- Counting to 120
- Reading and writing numbers to 120
- Memorizing addition and subtraction facts within 10
- Identifying the amount of tens and ones in any two-digit number
- Telling time to the **hour** and **half hour** (ex. 4:30, 5:00)
- Identifying the name and value of pennies, nickels, dimes, and quarters

Activities to do this summer to prepare for second grade:

- Math flashcards (see next page for instructions)
- Math games (included in this packet)
- Math practice sheets (included in this packet)

Recommended materials

- 1 pack of 3 x 5" index cards
- 1 dice
- 2 paper clips

RISING 2ND GRADE MATH FACTS

Learning and practicing these basic math facts is the best way to get ready for second grade. Your child may bring home a set of flashcards for these facts. If not, you can make your own!

Instructions: Each day, run through the flash cards. Make two piles: one for the facts your child can recall automatically (in less than 3 seconds, without counting on fingers), and one for the facts he/she needs to practice more. Run through this pile 2-3 more times. The next day, shuffle the piles and repeat. Practicing daily will ensure you are ready for second grade!

Addition within 10

On the front of a 3 x 5" index card, write the fact *without the answer*.

On the back of each card, write the answer.

1 + 0	1 + 8	2 + 6	3 + 5	4 + 6	6 + 1	8 + 0
1 + 1	1 + 9	2 + 7	3 + 6	5 + 0	6 + 2	8 + 1
1 + 2	2 + 0	2 + 8	3 + 7	5 + 1	6 + 3	8 + 2
1 + 3	2 + 1	3 + 0	4 + 1	5 + 2	6 + 4	9 + 0
1 + 4	2 + 2	3 + 1	4 + 2	5 + 3	7 + 0	9 + 1
1 + 5	2 + 3	3 + 2	4 + 3	5 + 4	7 + 1	
1 + 6	2 + 4	3 + 3	4 + 4	5 + 5	7 + 2	
1 + 7	2 + 5	3 + 4	4 + 5	6 + 0	7 + 3	

Combinations that make 10

On the front of a 3 x 5" index card, write the fact *without the answer*.

On the back of each card, write the number that goes in the box.

0 and □ make 10	6 and □ make 10
1 and □ make 10	7 and □ make 10
2 and □ make 10	8 and □ make 10
3 and □ make 10	9 and □ make 10
4 and □ make 10	10 and □ make 10
5 and □ make 10	

RISING 2ND GRADE MATH GAMES

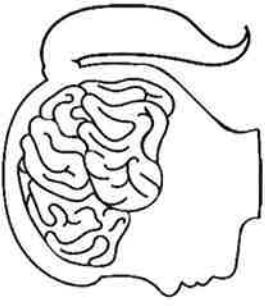
Playing games is a great way to practice your facts! The chart below provides a list of math games you can play.

Game	Number of Players	Materials Needed	Directions
+ 10 Addition Facts	2	<ul style="list-style-type: none"> + 10 Addition Facts game board (provided in this packet) Space markers (beans, small pieces of paper, etc.) 	One of our favorites! It's like connect four but with math facts. Take turns solving a math fact and covering the fact. Whoever gets four in a row first wins!
Doubles Addition Facts	2	<ul style="list-style-type: none"> Doubles Addition Facts game board (provided in this packet) Space markers (beans, small pieces of paper, etc.) 	One of our favorites! It's like connect four but with math facts. Take turns solving a math fact and covering the fact. Whoever gets four in a row first wins!
Make 10 Addition Facts	2	<ul style="list-style-type: none"> Make 10 Addition Facts game board (provided in this packet) Space markers (beans, small pieces of paper, etc.) 	One of our favorites! It's like connect four but with math facts. Take turns solving a math fact and covering the fact. Whoever gets four in a row first wins!
Sum Mania!	2	<ul style="list-style-type: none"> Sum Mania game board (provided in this packet) 2 different sets of colored space markers 2 paper clips 	Player A places a paper clip on two numbers at the bottom of the game board (ex. 2 and 8) and covers the sum on the game board (10) with a game marker. Player B moves ONE of the paper clips to a different number (ex. 2 → 3) and covers the new sum (13) on the game board with a different colored marker. Continue taking turns. The first one with three in a row (vertically, horizontally, or diagonally) wins!
How Many Are Hiding?	2	<ul style="list-style-type: none"> 10 objects (beans, small pieces of paper, etc.) 1 cup 	The two players take turns being the hider. The hider hides some of the objects in the cup and shows the leftovers. The other player works out the answer to the question "How many are hiding?" and says the full number combination.
Roll to 100	2-4	<ul style="list-style-type: none"> 1 die 2-4 pieces of paper (one per player) 	Each player first rolls the dice and writes down the number on the first line of their paper. Next, each player rolls the dice and adds it to the number on the line above. The players take turns, rolling the dice and continuing to add. The winner is the first player to reach or pass 100.

+10 Addition Facts

DIRECTIONS: Take turns naming a sum and covering the fact. Whoever gets four in a row first, wins!

1 + 10	10 + 4	10 + 5	10 + 2	10 + 6	10 + 3	9 + 10
3 + 10	1 + 10	7 + 10	6 + 10	3 + 10	2 + 10	4 + 10
10 + 7	8 + 10	2 + 10	10 + 8	4 + 10	6 + 10	10 + 8
10 + 1	10 + 6	5 + 10	3 + 10	10 + 3	10 + 1	10 + 7
10 + 5	9 + 10	10 + 4	8 + 10	10 + 5	7 + 10	9 + 10
10 + 2	10 + 4	7 + 10	5 + 10	8 + 10	2 + 10	6 + 10

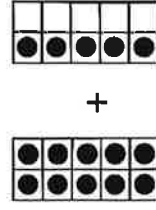


Think!

Think about a 20 frame. When you add ten, to a number, your answer is one number below it on the chart.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20

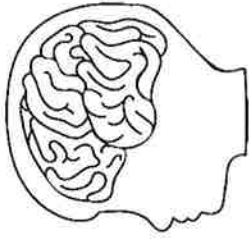
Think about two 10 frames. When you add a single digit number to ten, you are adding that number of ones.



$$10 + 5 = 15$$

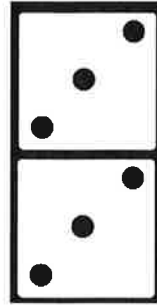
Doubles Addition Facts

DIRECTIONS: Take turns naming a sum and covering the fact. Whoever gets four in a row first, wins!



Think!

DIRECTIONS: When you make a double, you join two groups of the same quantity.

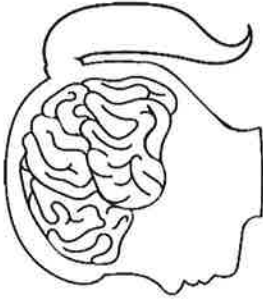


$$3 + 3 = 6$$

1 + 1	6 + 6	3 + 3	4 + 4	9 + 9	3 + 3	5 + 5
7 + 7	9 + 9	8 + 8	5 + 5	7 + 7	8 + 8	1 + 1
6 + 6	8 + 8	4 + 4	3 + 3	1 + 1	5 + 5	9 + 9
5 + 5	9 + 9	2 + 2	4 + 4	6 + 6	2 + 2	7 + 7
7 + 7	6 + 6	8 + 8	1 + 1	7 + 7	8 + 8	6 + 6
2 + 2	4 + 4	3 + 3	9 + 9	4 + 4	5 + 5	2 + 2

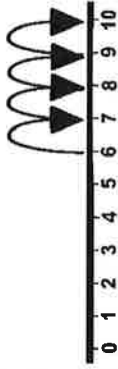
Make 10 Addition Facts

DIRECTIONS: Take turns naming a sum and covering the fact. Whoever gets four in a row first, wins!



Think!

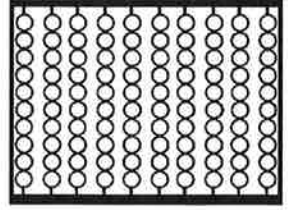
Can you count up?



Can you make a ten frame in your head? How many more do you need to fill the ten frame?



Picture an abacus with ten beads in a row. How many more beads do you need to get to ten?



$1 + \underline{\quad} = 10$	$6 + \underline{\quad} = 10$	$5 + \underline{\quad} = 10$	$\underline{\quad} + 1 = 10$	$2 + \underline{\quad} = 10$	$\underline{\quad} + 9 = 10$	$4 + \underline{\quad} = 10$
$\underline{\quad} + 2 = 10$	$9 + \underline{\quad} = 10$	$2 + \underline{\quad} = 10$	$3 + \underline{\quad} = 10$	$\underline{\quad} + 2 = 10$	$4 + \underline{\quad} = 10$	$\underline{\quad} + 8 = 10$
$1 + \underline{\quad} = 10$	$8 + \underline{\quad} = 10$	$2 + \underline{\quad} = 10$	$5 + \underline{\quad} = 10$	$7 + \underline{\quad} = 10$	$6 + \underline{\quad} = 10$	$3 + \underline{\quad} = 10$
$\underline{\quad} + 3 = 10$	$\underline{\quad} + 9 = 10$	$\underline{\quad} + 5 = 10$	$8 + \underline{\quad} = 10$	$\underline{\quad} + 4 = 10$	$\underline{\quad} + 8 = 10$	$\underline{\quad} + 7 = 10$
$7 + \underline{\quad} = 10$	$\underline{\quad} + 4 = 10$	$\underline{\quad} + 7 = 10$	$\underline{\quad} + 6 = 10$	$3 + \underline{\quad} = 10$	$\underline{\quad} + 6 = 10$	$4 + \underline{\quad} = 10$
$\underline{\quad} + 3 = 10$	$6 + \underline{\quad} = 10$	$\underline{\quad} + 5 = 10$	$9 + \underline{\quad} = 10$	$5 + \underline{\quad} = 10$	$7 + \underline{\quad} = 10$	$1 + \underline{\quad} = 10$

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SUM MANIA!

2	3	4	5
6	7	8	9
10	11	12	13
14	15	16	17

1 2 3 4 5 6 7 8 9

RISING 2ND GRADE MATH PRACTICE PAGES

In addition to the games and flashcards, your child should practice math skills by completing the following pages provided. He/she should complete about two pages (front and back = 1 page) per week.

NOTE: For the pages titled "Counting Collections," have your child count common household items. Sets of items should range from 20-120 items per set. On the journal page, your child should represent the number using tallies, dots, or marks representing tens and ones. Ideas for objects to count include: beans, cheerios, paper clips, crayons, beads, Legos, shirts.

Lorenzo had some nickels for the arcade. He found 3 more nickels on his dresser. Now he has 10 nickels. How many nickels did he have at first?

Show your thinking with objects, words, pictures or numbers.

Answer: _____

Write a number sentence that matches your work.

Write a number sentence that matches the story.

There are 29 flowers in my vase. Thirteen are white and the rest are yellow. How many yellow flowers are in my vase?

Show your thinking with objects, words, pictures or numbers.

Answer: _____

Write a number sentence that matches your work.

Write a number sentence that matches the story.

The street vendor had 38 caps. Sixteen were brown and the rest were red. How many caps were red?

Show your thinking with objects, words, pictures or numbers.

Answer: _____

Write a number sentence that matches your work.

Write a number sentence that matches the story.

Nathan had 36 Pokemon cards. He gave some of them away. Now he has 13 left. How many cards did he give away?

Show your thinking with objects, words, pictures or numbers.

Answer: _____

Write a number sentence that matches your work.

Write a number sentence that matches the story.

There are 32 people at a concert. Nineteen are standing and the rest are sitting. How many people are sitting?

Show your thinking with objects, words, pictures or numbers.

Answer: _____

Write a number sentence that matches your work.

Write a number sentence that matches the story.

There are 34 people at an amusement park. Eighteen people are on the roller coaster and the rest are waiting in line. How many people are waiting in line?

Show your thinking with objects, words, pictures or numbers.

Answer: _____

Write a number sentence that matches your work.

Write a number sentence that matches the story.

First grade has 65 prizes in their prize box. Second grade has 49 prizes in their prize box. How many more prizes does 1st grade have than 2nd grade?

Show your thinking with objects, words, pictures or numbers.

Answer: _____

Write a number sentence that matches your work.

Write a number sentence that matches the story.

There were some people on the train. Then 57 people got off. Now there are 34 people left. How many people were on the train in the beginning?

Show your thinking with objects, words, pictures or numbers.

Answer: _____

Write a number sentence that matches your work.

Write a number sentence that matches the story.

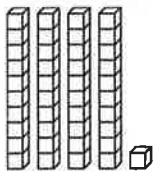
Common Core Standards Practice

1.NBT.A.1 Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral.

1. What comes next? Write the next three numbers.

57, 58, 59, _____, _____, _____

2. How many cubes are there? Write the number.



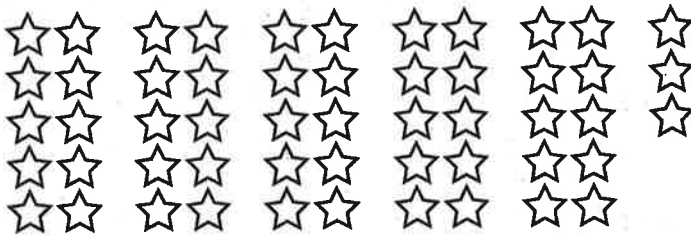
3. Julie has 34 counters. Show 34 counters.

4. What number comes next? Write the next three numbers.

81, 82, 83, _____, _____, _____

5. Bill has 26 squares. Show 26 squares.

6. How many stars are there? Count the stars.
Write the number.



Common Core Standards Practice

1.NBT.B.2 Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases: 10 can be thought of as a bundle of ten ones—called a “ten.”; The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones; The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).

1. Laura writes the number 35.

How many tens?

How many ones?

2. What is the value of the digit 1 in this number?

21

- (A) 1 (B) 2 (C) 10 (D) 20

3. Priya writes the number 46.

How many tens?

How many ones?

4. Andrew writes the number 19.

How many tens?

How many ones?

5. What is the value of the digit 9 in this number?

92

- (A) 9
- (B) 20
- (C) 90
- (D) 92

6. A number has a 7 in the tens place.
A number has a 2 in the ones place.
What is the number?

Common Core Standards Practice

1.NBT.B.3 Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols $>$, $=$, and $<$.

1. Insert $<$, $>$, or $=$ between the numbers.

$$23 \underline{\hspace{1cm}} 50$$

$$35 \underline{\hspace{1cm}} 25$$

$$54 \underline{\hspace{1cm}} 53$$

$$99 \underline{\hspace{1cm}} 99$$

2. Lilly compared 24 and 16

$$24 \boxed{<} 16$$

Is Lilly correct?

Yes No

How do you know?

3. Oscar has three number cards.

4	2	8
---	---	---

Write the greatest two-digit number Oscar can make.

Write the least two-digit number Oscar can make.

Use $<$, $>$, or $=$ to compare the two numbers.

4. Nick compared two numbers.

$$86 \quad \boxed{<} \quad 83$$

Is Nick correct?

Yes No

How do you know?

Common Core Standards Practice

1.NBT.C.5 Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used.

1. What number is 10 more than 44?

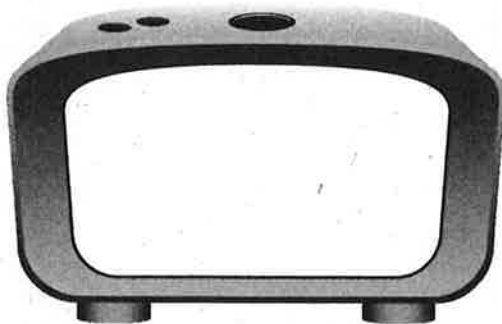
2. What number is 10 less than 73?

Explain your answer using words or drawings.

Common Core Standards Practice**1.MD.B.3** Tell and write time in hours and half-hours using analog and digital clocks.**1. What time does the clock show?**

- (A) 4:00
- (B) 4:30
- (C) 5:00
- (D) 5:30

2. Mary has soccer practice at four-thirty.
Write this time in the clock below.



3. What time does the clock show? Write the time below.



_____ : _____

4. What time does the clock show?

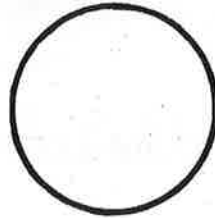


- Ⓐ seven-thirty
- Ⓑ seven o'clock
- Ⓒ eight-thirty
- Ⓓ eight o'clock

Common Core Standards Practice

1.G.A.3 Partition circles and rectangles into two and four equal shares, describe the shares using the words *halves*, *fourths*, and *quarters*, and use the phrases *half of*, *fourth of*, and *quarter of*. Describe the whole as two of, or four of the shares. Understand for these examples that decomposing into more equal shares creates smaller shares.

1. Draw a line to make two equal parts.



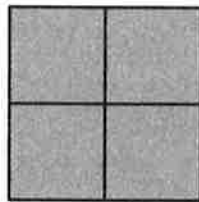
Circle the name of one of the parts.

half

fourth

quarter

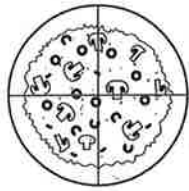
2. Look at the square.



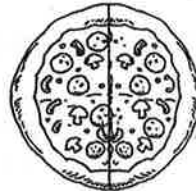
Is the square divided into halves, thirds, or fourths? Tell how you know.

3. Circle the pizza with bigger pieces.

Austin's pizza



Lilly's pizza



Use one of these words to complete each sentence.

halves

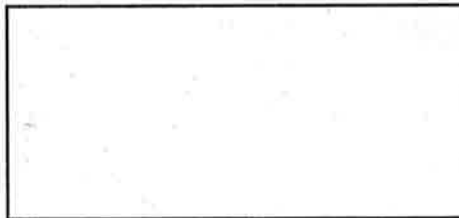
thirds

fourths

Austin's pizza is cut into _____.

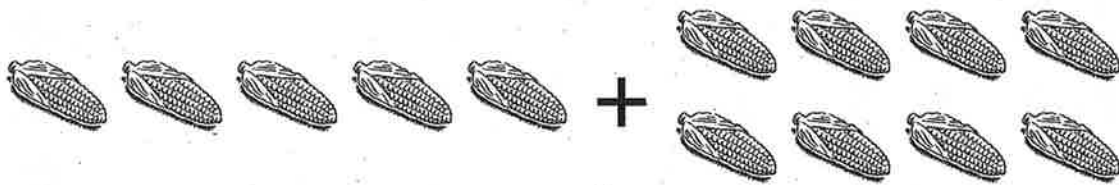
Lilly's pizza is cut into _____.

4. Draw lines to divide the rectangle into fourths.



Common Core Standards Practice**1.OA.B.3** Apply properties of operations as strategies to add and subtract.

1. Ava picks 8 ears of corn.
Marta picks 5 ears of corn.



How many ears of corn
do they pick in all?

2. David writes $4 + 7 = 11$ another way.
Which shows what David writes?

- (A) $4 + 11 = 7$
(B) $11 + 4 = 7$
(C) $4 + 4 = 8$
(D) $7 + 4 = 11$

3. Which shows another way to write
 $5 + 3 + 5 = 13$?

- (A) $5 + 5 + 3 = 13$
- (B) $5 + 5 + 5 = 13$
- (C) $5 + 3 + 3 = 13$
- (D) $3 + 3 + 3 = 13$

4. Jada sees 12 snails on the sidewalk.
 Then 3 snails move into the grass.



How many snails are left on the sidewalk?

5. Vincent has 14 feathers.
 He gives 8 feathers to Josh.
 How many feathers does Vincent have left?

Names: _____

Counting Collections

What we are counting: _____

Estimation:	10	20	30	40	50	60
	70	80	90	100	110	120

Math Sketch

Total: _____

Names: _____

Counting Collections

What we are counting: _____

Estimation: 10 20 30 40 50 60

 70 80 90 100 110 120

Math Sketch

Total : _____

RISING 2ND GRADE SCIENCE

Activities to do this summer to prepare for second grade:

- Make your own sundial
- Build a boat out of tinfoil
- Learn about shadows
- Read a book about science

Science Books

Look for these great books about science at your local library!

Titles	Author	Topic
Jane Goodall	Emma E. Hadly	This book examines the life of Jane Goodall, a scientist who studied apes.
Can an Aardvark Bark?	Melissa Steward	A book about animal sounds and how they communicate.
How Animals Build	Moira Butterfield	Discover the different types of animal homes and how they are built.
Newton and Me	Lynne Mayer	A young boy and his dog Newton explore the laws of motion in everyday activities like rolling a ball, riding a bicycle, and pulling a wagon.
Storms!	Miriam Goin	A nonfiction book from the National Geographic series that tells readers all about storms.

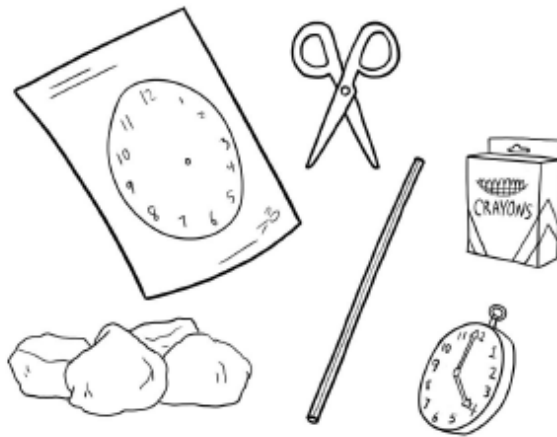
Virtual trips

Summer is a great time to explore science in the city. Consider visiting some of these great places virtually online.

Place	Website	What to do
Prospect Park Zoo (or any zoo!)	https://prospectparkzoo.com/	Visit the zoo with your family. Have your scholar take notes on animals and their structures.
Brooklyn Botanic Gardens	https://www.bbg.org/	Visit the Brooklyn Botanic Gardens as a family for Family Discovery Weekends or for the Kids' Discovery Stations.

Make Your Own Sundial

Remember: Never look directly at the sun.

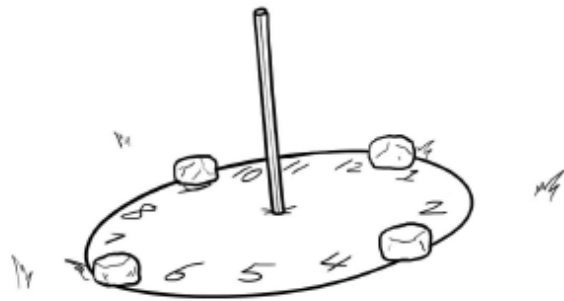


What You Need:

- 1) The second page
- 2) Safety scissors
- 3) 4 rocks
- 4) A straw or coffee stirrer
- 5) A clock
- 6) Crayons

1) Cut out the sundial on the second page.

2) Decorate your sundial, filling in the circles with numbers so that it looks like a clock. Feel free to use more than just crayons to decorate with!

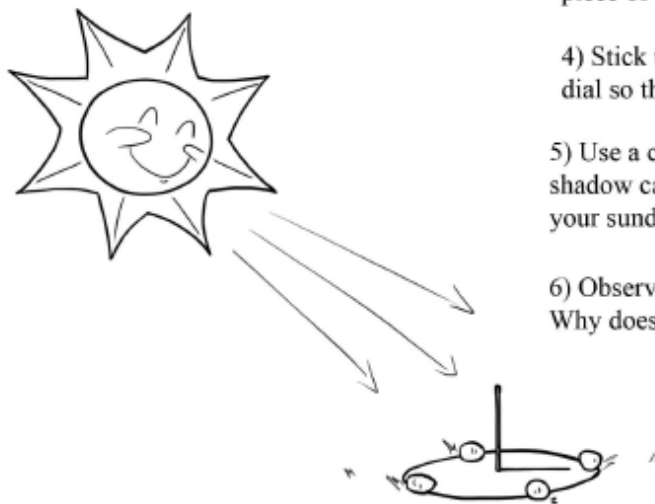


3) Take everything outside and put your sundial on the ground. Use the rocks to hold down the sundial and stop the wind from blowing it away. You may want to glue it to a piece of cardboard.

4) Stick the straw or coffee stirrer into the center of the sundial so that it goes into the ground.

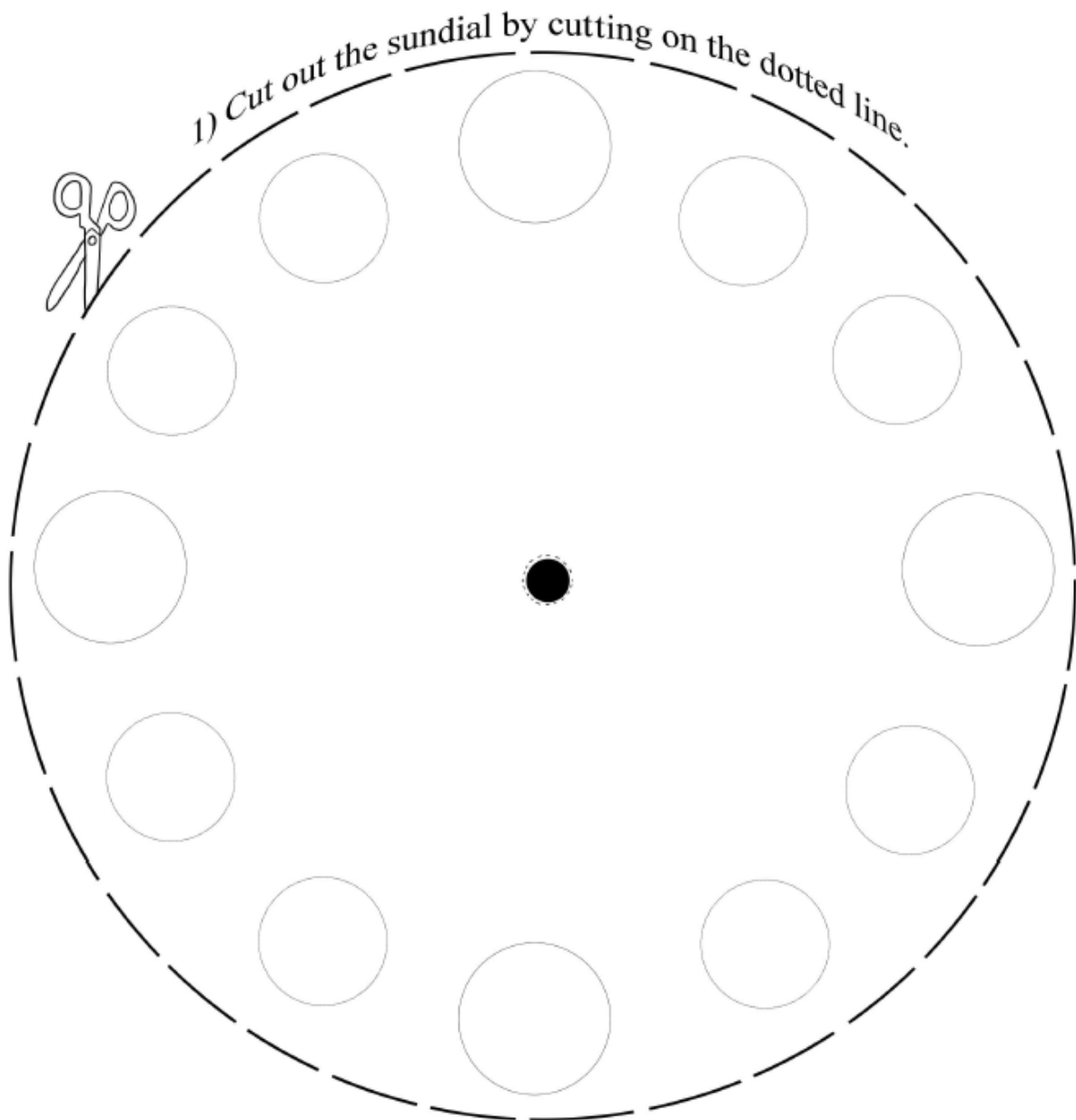
5) Use a clock to see what time it is. Turn your sundial so that the shadow cast by the straw points to the correct hour on your sundial.

6) Observe how the shadow moves like the hands on a clock. Why does the shadow move?



Sundial

If you need help cutting, ask a grown-up for help.



- 2) Cut out the small black hole in the center of the sundial.
- 3) Use your crayons to fill in the 12 other circles with numbers like on a clock.
- 4) Decorate your sundial! Have fun and use your favorite colors!

Build a Tinfoil Boat

Create a boat out of aluminum foil and set sail across the ocean (er...your bathtub) for a lesson on the measurement of capacity. See how many pennies can fit into the boat before it sinks!

What You Need:

- Aluminum foil
- Scissors
- Pennies
- Blank paper
- Pencil
- Paper towels
- Sink, bathtub, or large plastic container to hold water

What You Do:

1. Cut a large piece of aluminum foil out and help your child fold it into a boat shape.
2. Before you start your experiment, test the boat on the water to make sure it's seaworthy! If the boat sinks, you should construct a sturdier one.
3. Use the blank paper and pencil to help your child make a recording sheet. Come up with a title, like "How Many Pennies Will My Boat Hold?" and write it across the top of the paper.
4. Draw a line down the middle of the paper. Over one column, have your child write "I think it will hold..." and over the other, write "I found out..." and then make predictions.
5. Test the prediction! Invite your child to place the boat on the water, and then add the pennies into the middle of the boat one by one. When the boat sinks, count up how many pennies the boat could hold while floating.
6. Hand your child the recording sheet and have him write in the second column what he found out from the experiment, and compare the results with his predictions.
7. Get the whole family involved. Have each family member make their own boat, then see whose boat stays afloat the longest while holding the most pennies!



Being shadowed



Observations

Light comes from different sources, such as the Sun, light bulbs, and candles. When light shines on a wall, the ground, or a piece of paper, it makes that thing look bright. When no light is shining, everything looks dark. By putting your hand between a light source and a surface, you can make a *shadow*. A shadow is a place where no light is shining.

Science activity

Draw a shadow for the girl. Make sure it is in the right position.



Science exploration

⚠ Take extra care - ask an adult to supervise you.
Make shadow puppets. Trace various animal and people shapes onto cardboard and glue them to popsicle sticks. Use a flashlight in a darkened room for your show.

