LETTER HOME

Addition Properties and Mass

Dear Family Member:

We often use the terms “weight” and “mass” interchangeably, but technically, they are not the same. Mass is the amount of matter in an object. Weight is the pull of gravity on an object. Your child will learn about mass and weight in this unit.

We will use a two-pan balance to measure the mass of everyday objects, record findings on a data table, and then graph the data. When we analyze the data as a class, we will see that what an object is made of is important when thinking about its mass.

Using a two-pan balance to find the mass of a shoe

You can provide additional support at home in the following ways:

- **Ordering Masses.** Ask your child to arrange several packaged food items in order by mass. The net weight and mass are usually written on the package in ounces and grams. Help your child read the labels to confirm that the packages are placed in the correct order. Does a small item ever have a greater mass than a large item? Is your child surprised by this? Discuss why this happens.
- **Addition Properties.** Ask your child to show a quantity different ways and ask if the quantity changed. For example:

  Show 56. $50 + 6$ $10 + 10 + 20 + 10 + 6$ $6 + 30 + 20$

- **Play the *Make 99 Game*.** This game provides practice with addition. Players take turns adding digit cards together. The first player to reach or go over 99 wins.

$$\boxed{8} + \boxed{7} + \boxed{3} + \boxed{2} + \boxed{9}$$

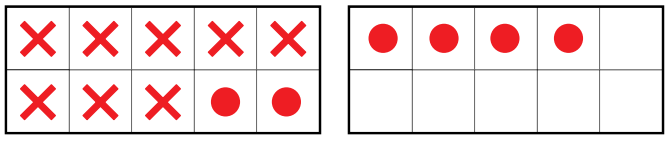
29 is my total so far.

Math Facts and Mental Math

Addition Facts. This unit continues the development of the addition facts and related subtraction facts in Group F (8 + 6, 9 + 6, 9 + 7, 10 + 4, 10 + 5, 10 + 6, 10 + 7, 10 + 8, 9 + 8, 9 + 9).

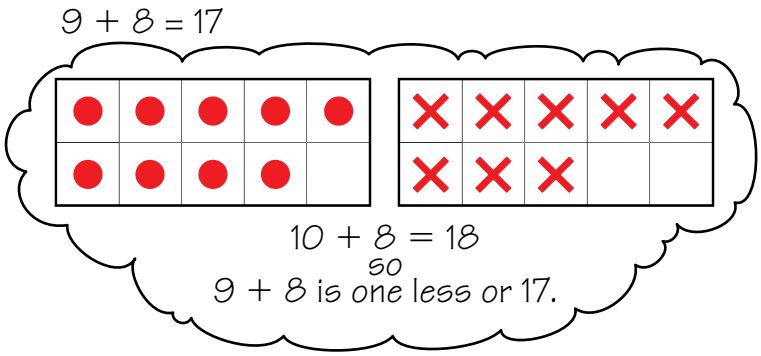
You can help your child review these facts using the flash cards the teacher sent home or by making a set of flash cards from index cards or scrap paper. Study the facts in small groups each night. As your child goes through the flash cards, put the cards in three piles: Facts I Know Quickly, Facts I Can Figure Out, and Facts I Need to Learn.

For Facts I Need to Learn, work on strategies for figuring them out. Making ten and using ten are good strategies for the facts in Group F.



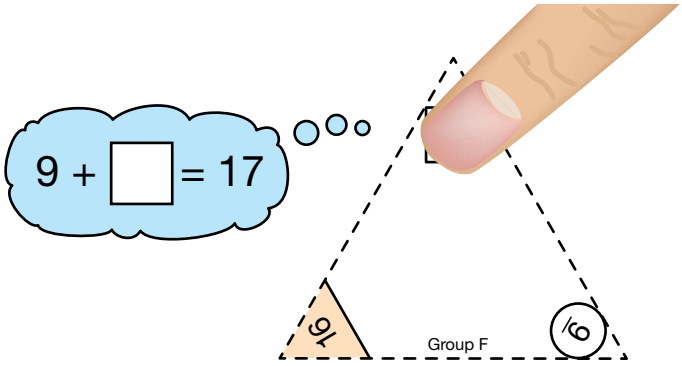
$8 + 6 = 8 + 2 + 4 = (8 + 2) + 4 = 10 + 4 = 14$

Making ten to solve 8 + 6



Using ten to solve 9 + 8

Related Subtraction Facts. You can also help your child develop strategies for the related subtraction facts using the flash cards. Cover one of the addends (smaller numbers) on the flash cards and ask your child to figure out what number you are covering.



Sincerely,

Name _____ Date _____

Unit 8: Home Practice

Part 1 Addition Flash Cards: Group F

Take home your Triangle Flash Cards: Group F. Ask a family member to choose one flash card at a time for you to solve. Sort the flash cards into three piles: Facts I Know Quickly, Facts I Can Figure Out, and Facts I Need to Learn. Update your *Addition Facts I Know* chart. Clip the cards in the Facts I Know Quickly pile together and place them back into the envelope. Practice the facts in the last two piles again.

Part 2 Fact Family Practice

A. $9 + \square = 16$

$7 + \square = 16$

$16 - \square = 7$

$\square - 7 = 9$

B. $\square + 7 = 17$

$\square - 10 = 7$

$\square + 10 = 17$

$17 - \square = 10$

C. $\square + 8 = 17$

$\square + 9 = 17$

$\square - 9 = 8$

$17 - \square = 9$

D. $9 + \square = 18$

$\square - 9 = 9$

E. $\square + 5 = 15$

$15 - 5 = \square$

$\square - 10 = 5$

$5 + 10 = \square$

F. $8 + \square = 14$

$14 - \square = 8$

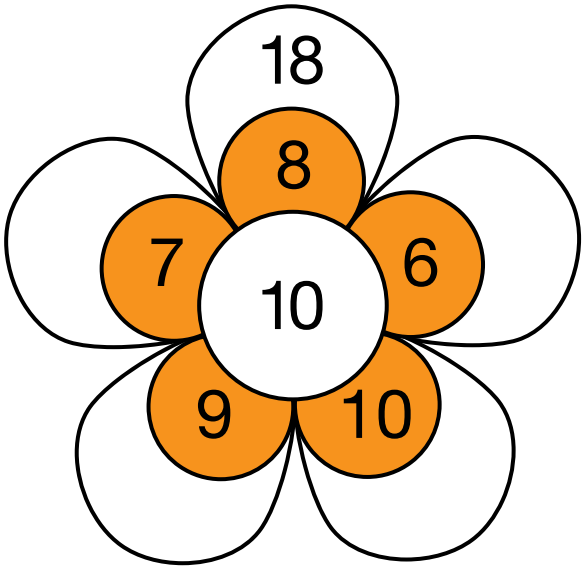
$\square + 8 = 14$

$14 - 8 = \square$

Name _____ Date _____

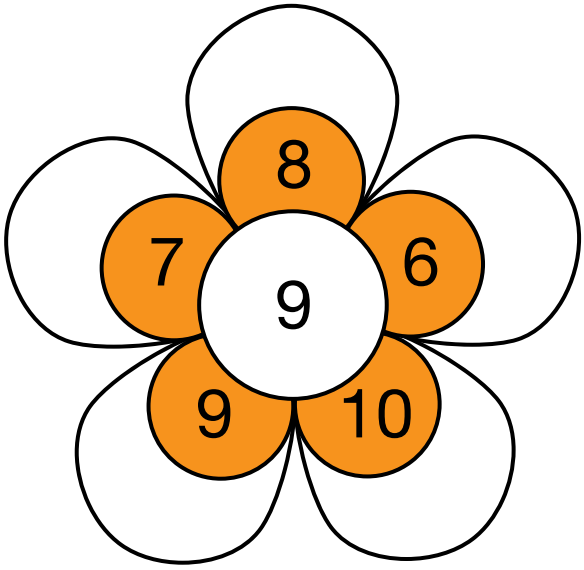
Part 3 Sum Patterns

1. Add to find the outside numbers. Write number sentences.



$10 + 8 = 18$

2. Add to find the outside numbers. Write number sentences.



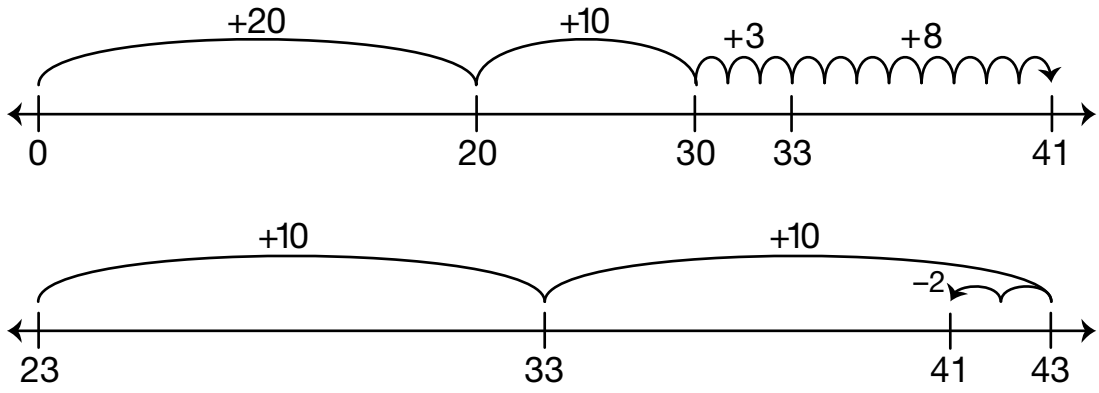
3. Read and discuss these questions with a family member. Look at the two flowers. What is the same about them? What is different? What pattern do you see in the outside petals?

Name _____ Date _____

Part 4 Base-Ten Hoppers

Show how the base-ten hopper can add these numbers on the number line. Remember, the base-ten hopper can hop forward and backward and makes hops of only one or ten at a time. The example shows you two different ways.

Example: 23 + 18



A. 15 + 15

B. 39 + 11

C. 42 + 49

Name _____ Date _____

Part 5 Use Data to Solve Problems

On a safari trip, Dr. Little collected data about lions. He recorded the weight of several lions in the table below. Answer the questions based on the data in the table.

Lion's Weight

Lion	Weight in Pounds
Acton	245
Binta	366
Carl	260
Damon	293
Elsa	222

1. Janette says lions usually weight about 100 pounds. Look at Dr. Little's data. Do you agree with Janette? Why or why not?

2. Put the numbers in order from smallest to largest.

_____

_____

3. What is the range of weights of Dr. Little's lions? (Hint: the range is the smallest to largest numbers.)

_____

Name _____ Date _____

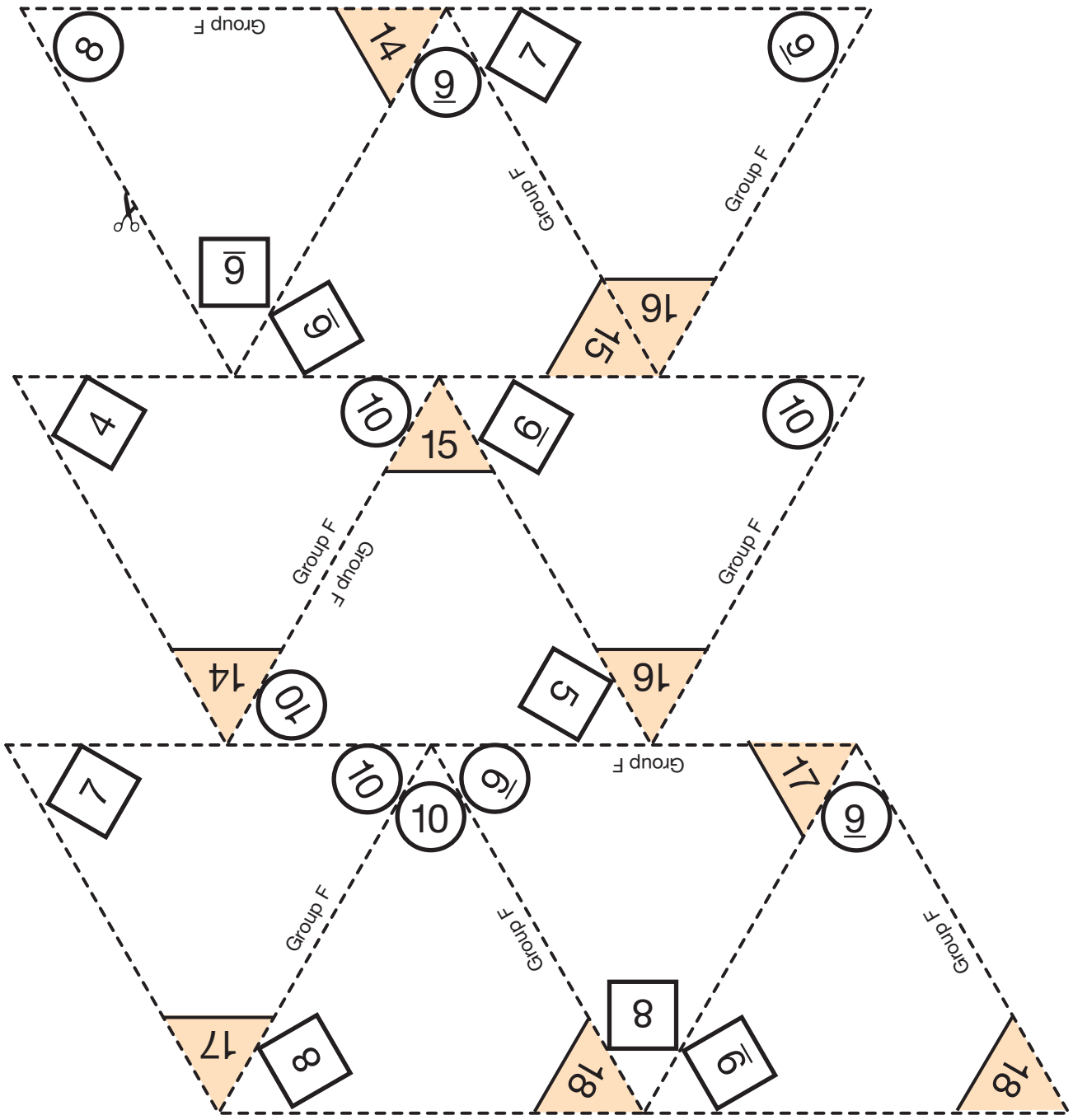
Part 6 Base-Ten Pieces

Use base-ten shorthand to show the weights of the lions from Dr. Little's safari data.

Lion	Weight in Pounds	Base-Ten Shorthand
Acton	245	
Binta	366	
Carl	260	
Damon	293	
Elsa	222	

Triangle Flash Cards: Group F

- **To practice an addition fact, cover the corner with the highest number. Add the two uncovered numbers.**
- **To practice a subtraction fact, cover one of the smaller numbers and subtract from the highest number.**



Name _____ Date _____

Addition Facts I Know

Circle the facts you know quickly.

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

Name _____ Date _____

Mass Hunt

Homework

Dear Family Member:

Your child is learning to find and compare the masses (weights) of objects. Help your child search for two small objects at home that have similar masses (weights), but different shapes or sizes. (Note: Objects that have the same weight will also have the same mass.)

Thank you.

Draw the objects below. Tell how you predicted they have the same mass.

Bring the two objects to school. Check your prediction using the two-pan balance.

Name _____ Date _____

Compare Objects

Use a two-pan balance to compare the mass of two objects.

Object in Pan 1	> or <	Object in Pan 2
	◯	
	◯	
	◯	
	◯	

Name _____ Date _____

Balance the Number Sentences

Homework

Dear Family Member:

Your child has been working with number sentences that have the same total on both sides of the equal sign. For example, 7 + 4 = 8 + 3. Have your child explain how he or she solved each problem.

Thank you.

1. Match the number sentences that have the same sum. Draw a line from the number sentence in Column A to the number sentence in Column B. The first one has been done for you.

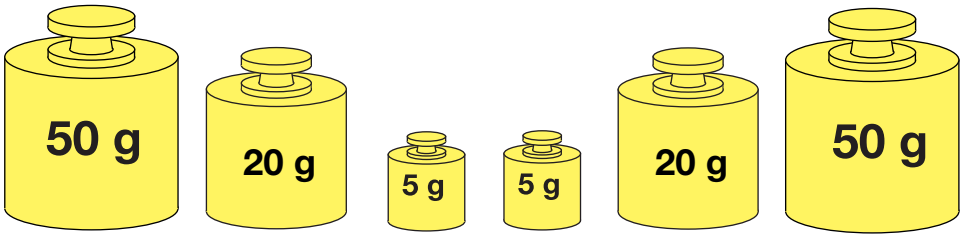
	Column A	Column B
A.	6 + 5	15 – 0
B.	4 + 8	7 + 4
C.	15 – 2	7 + 7
D.	8 + 7	14 – 2
E.	18 – 4	7 + 6
F.	9 + 7	19 – 3

2. Is it true or false? Circle true or false for each problem.

A.	6 + 9 = 15 − 7	True	False
B.	10 + 4 = 7 + 7	True	False
C.	14 + 3 = 7 + 4	True	False
D.	8 − 5 = 5 − 8	True	False

Name _____ Date _____

Natasha's Gram Masses



Number sentence _____

Number sentence _____

Number sentence _____

Name _____ Date _____

Balance or Tilt

Homework

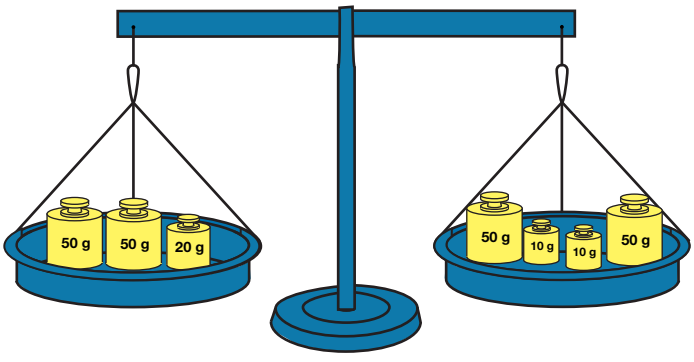
Dear Family Member:

We have been using the context of measuring mass to practice some very important addition properties. Using a concrete model, the two-pan balance, students have learned about the abstract concept of equality. They have learned that the equal sign in an equation is like a balance. Whatever is on one side of the equation "balances" or equals what is on the other side. If the masses in each pan of a two-pan balance are equivalent, they are balanced. If they are not, the balance will tilt. In this context, students have also learned that they can add and group the numbers in an addition sentence in any order that makes sense to them.

Thank you.

Find the total value of the gram masses in each pan. Write number sentences for each pan. Group and add the numbers in a way that makes sense to you. Decide if the pans will balance or tilt. Circle one.

1.

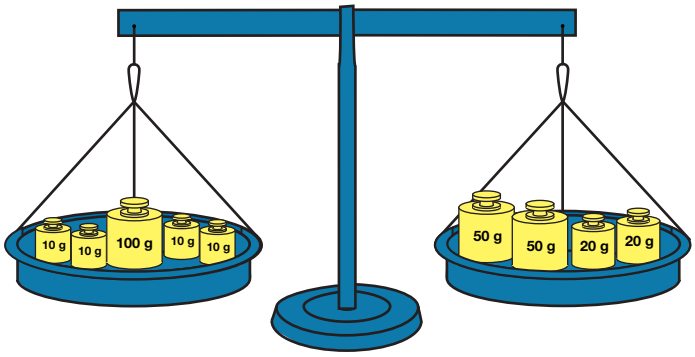


_____ _____

The pans will: balance tilt

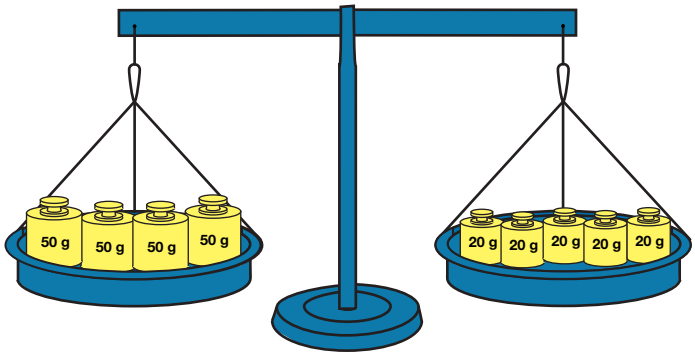
Name _____ Date _____

2.



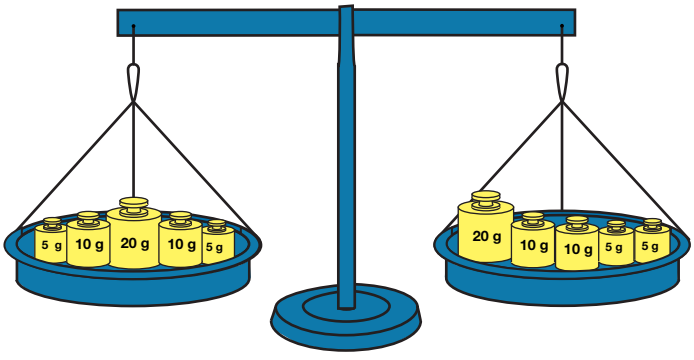
The pans will: balance _____ tilt _____

3.



The pans will: balance _____ tilt _____

4.



The pans will: balance _____ tilt _____

Name _____ Date _____

Find a Pet Rock

Homework

Dear Family Member:

Your child is learning to measure the mass of an object by using a two-pan balance. Please help him or her find a small rock or rocks to bring to school. Each rock should be about 50 grams or about 5 nickels, 20 pennies, or a chunky eraser. Students will use a two-pan balance and standard masses to find the mass of the rock.

Thank you.

- Find a rock that you think has a mass of about 50 grams. You do not need to measure it—just estimate.
- Try to think of a name for your rock. _____
- Bring the rock to school by _____ .
  (date)
- You can bring more than one rock to school to share if you like.
- On the above date, you will find the exact mass of your rock and compare its mass to another rock's mass.

Name _____ Date _____

Find the Total Mass

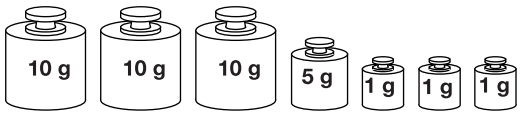
Homework

Dear Family Member:

Your child has been measuring the mass of objects, composing and decomposing numbers, applying properties of addition, and solving addition and subtraction problems involving mass. This assignment involves addition problems with multiple addends. When composing the numbers below, encourage your child to start adding with the largest gram mass. For example, 50 + 10 + 10 + 5 + 5 + 5 + 1 = 86.

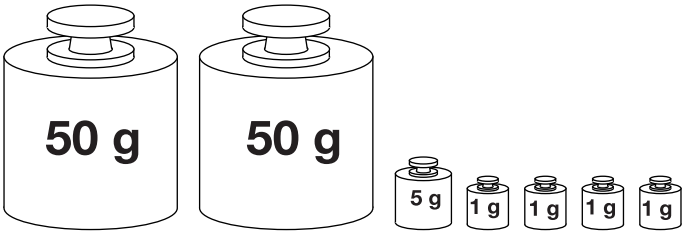
Thank you.

The picture shows the masses used to balance each object. What is the total mass of each object? Write number sentences.



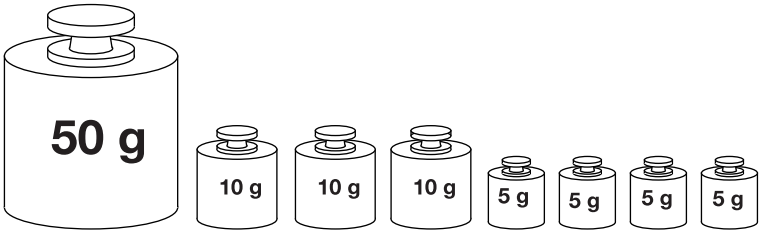
1. Eraser

_____



2. 3 Markers

_____



3. Flat

_____

4. Graduated Cylinder

_____

Name _____ Date _____

Write the mass of each object in Questions 1–4 in the table. Use this information to solve each problem. Show or tell your solution.

Mass in Grams

Eraser	Markers	Flat	Graduated Cylinder

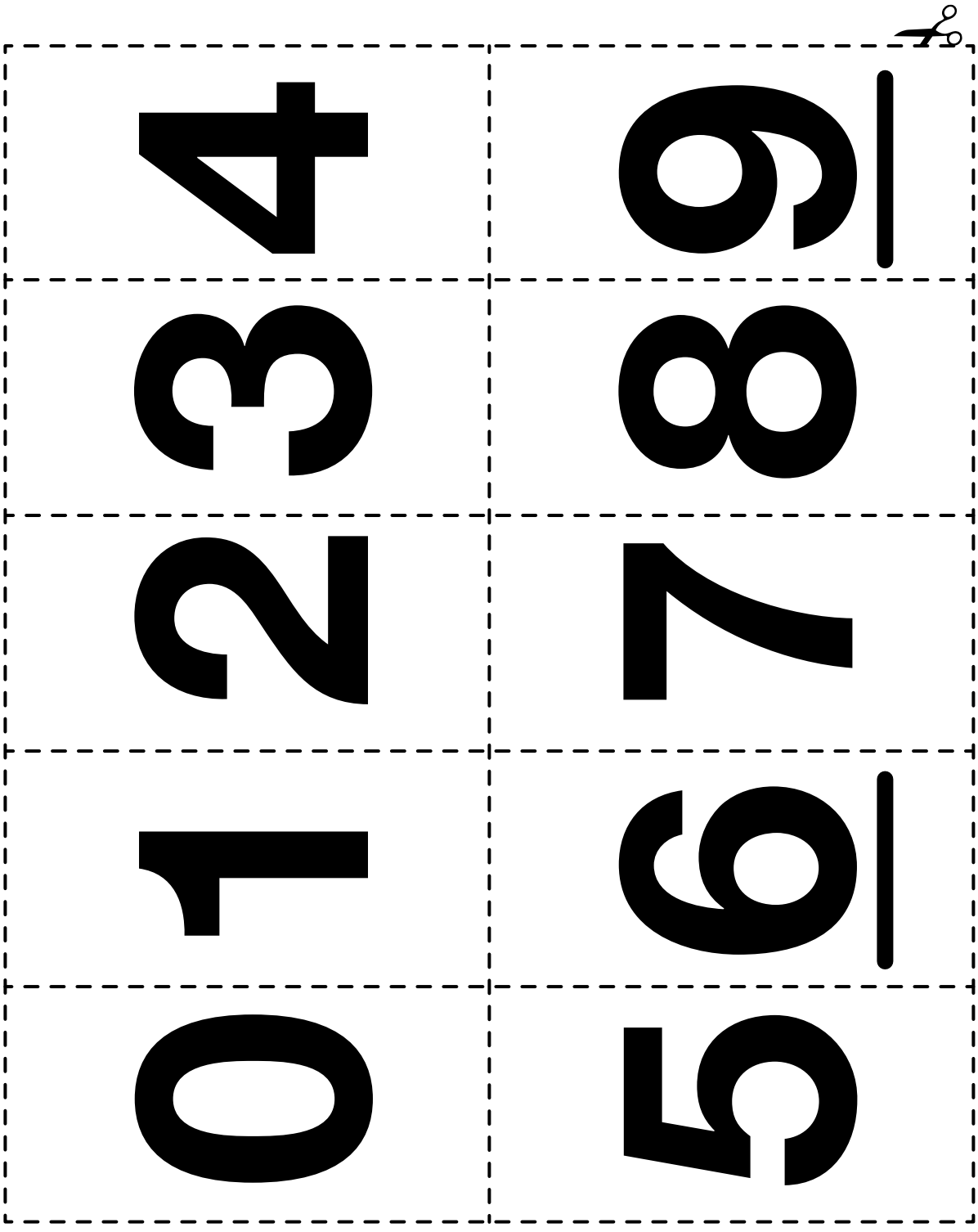
5. How much mass do the eraser and the graduated cylinder have altogether?

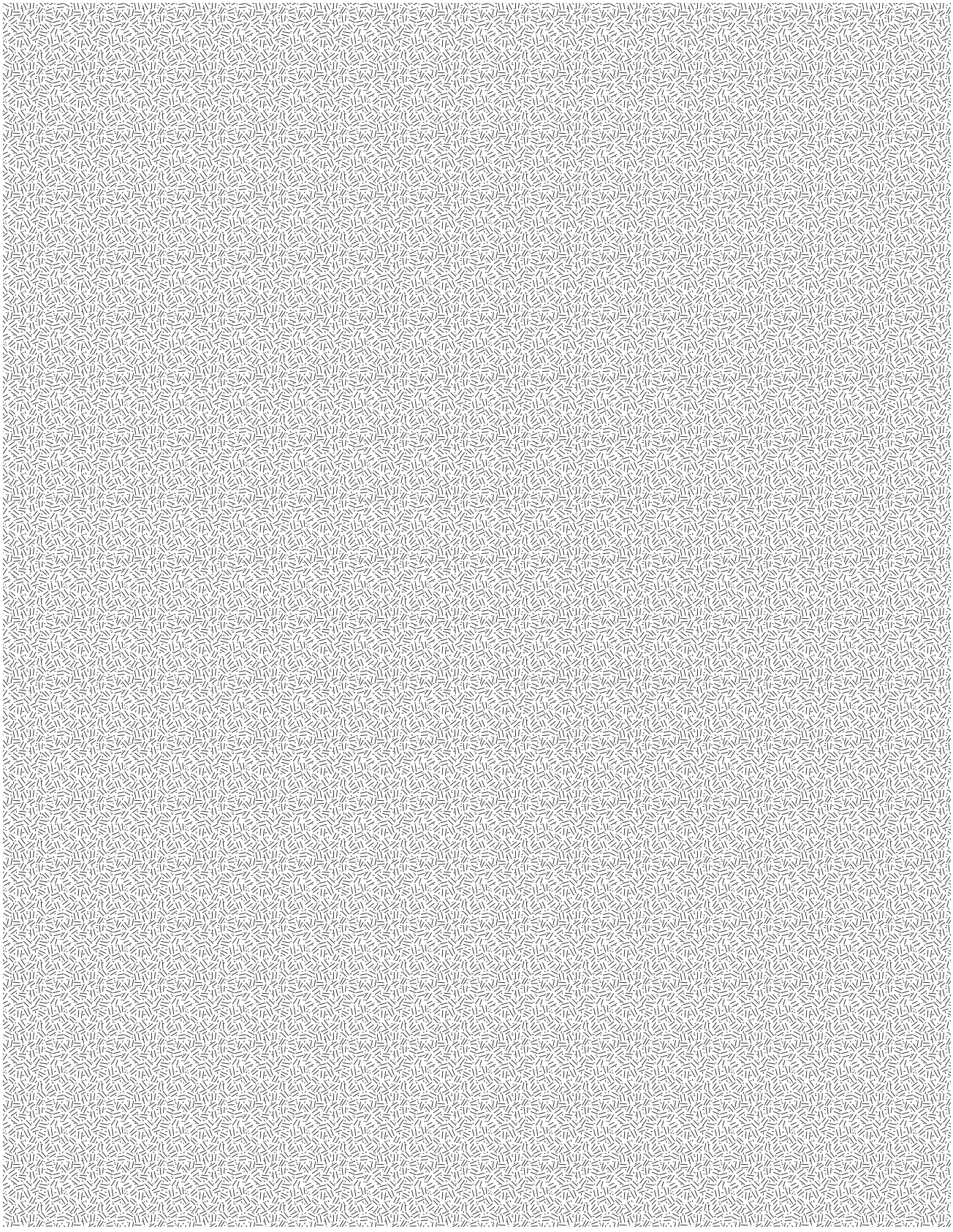
6. How much mass do the graduated cylinder and the markers have altogether?

7. How much mass do the eraser and the flat have altogether?

Name _____ Date _____

Digit Cards 0–9





Name _____ Date _____

Add the Masses

Homework

Dear Family Member:

In class, we have been solving addition problems involving mass. For example, two 20-gram masses and four 5-gram masses is equal to 20 + 20 + 5 + 5 + 5 + 5 = 60 grams. Ask your child to show or tell how to find the total mass for an object.

Thank you.

1. Carla measured the mass of some things she carries in her backpack. She used a two-pan balance and standard masses. Find the total mass for each object.

Object	Masses Used	Total Mass
paperback library book	four 20-gram masses one 5-gram mass three 1-gram masses	
5 pencils	one 10-gram mass three 5-gram masses	
calculator	two 50-gram masses seven 1-gram masses	
coin purse with change	three 20-gram masses one 10-gram mass one 5-gram mass one 1-gram mass	
comb	one 10-gram mass three 1-gram masses	

Name _____ Date _____

2. Show or tell how you found the total mass for Carla's calculator.

3. On Tuesday, Carla's backpack had only the comb and paperback library book. How much mass was Carla carrying in her backpack on Tuesday? Show how you know.

4. Solve these problems using a paper-and-pencil method.

A.
$$\begin{array}{r} 47 \\ +\ 28 \\ \hline \end{array}$$

B.
$$\begin{array}{r} 96 \\ +\ 36 \\ \hline \end{array}$$

C.
$$\begin{array}{r} 77 \\ +\ 52 \\ \hline \end{array}$$

5. Write a number in the box to make the number sentence true.

A. $20 + 10 + 1 = \square + 10 + 10 + 1$

B. $20 + 5 + 5 + 5 + 2 = 20 + \square + 5 + 2$

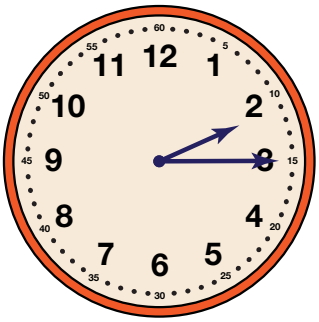
C. $10 + 10 + 10 + 10 + 4 = \square + 10 + 10 + 4$

Name _____ Date _____

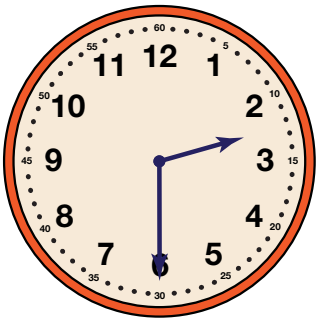
How Much Time Has Passed

A.

Start Time

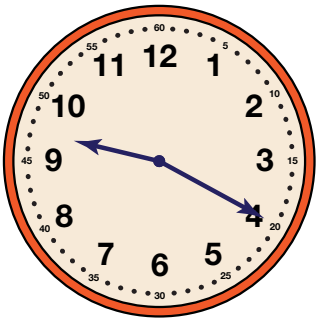


End Time

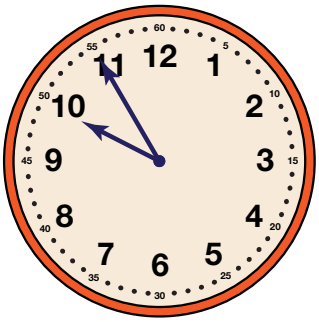


B.

Start Time

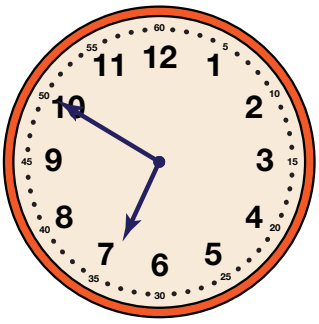


End Time

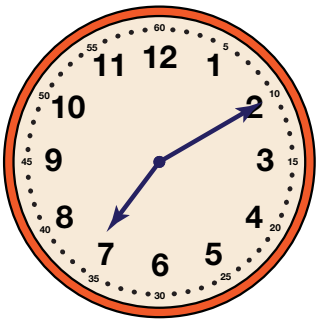


C.

Start Time



End Time



Name _____ Date _____

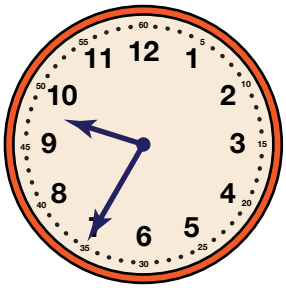
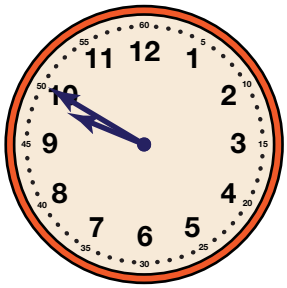
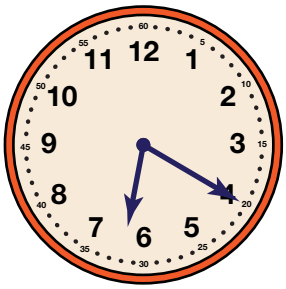
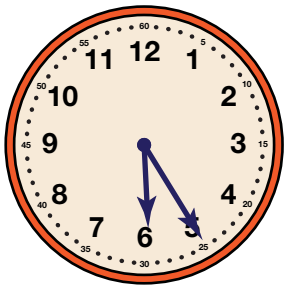
Passing Time at Home

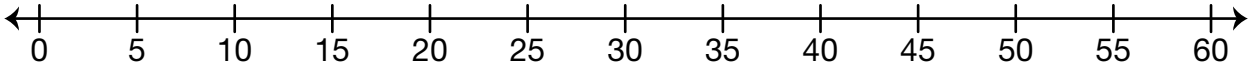
Homework

Dear Family Member:

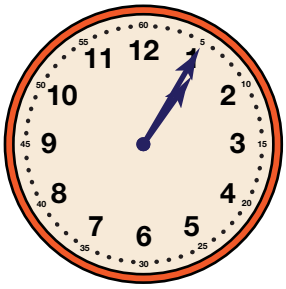
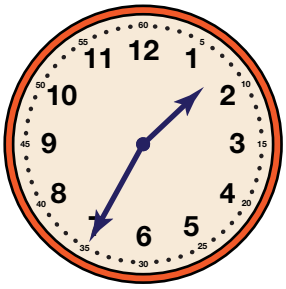
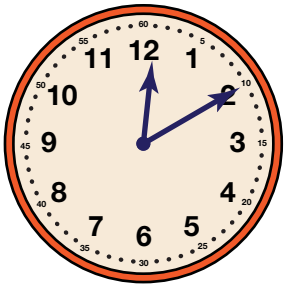
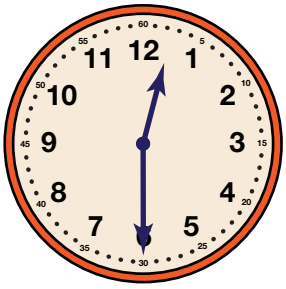
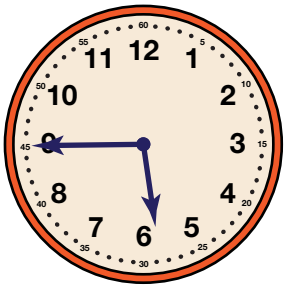
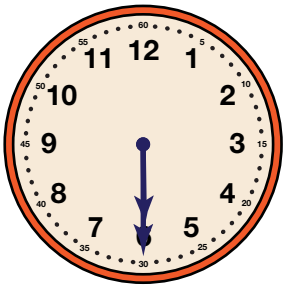
Students continue to practice telling time to the nearest five minutes. They are also solving elapsed time problems and beginning to develop an understanding of the duration of about one minute, five minutes, thirty minutes, and sixty minutes. Help them decide if the activities listed could be done in the number of minutes passed or not. Thank you.

1. Write the times shown. Find how many minutes have passed. Could the activity be done in that many minutes or is that crazy?

Start Time	End Time	How Many Minutes Have Passed?	Could Be or Crazy
 _____	 _____		Walk the dog around the block could be crazy
 _____	 _____		Snap fingers once could be crazy



Name _____ Date _____

Start Time	End Time	How Many Minutes Have Passed?	Could Be or Crazy
 _____	 _____		Watch a whole football game on tv could be crazy
 _____	 _____		Eat a mini marshmallow could be crazy
 _____	 _____		Play a board game could be crazy

2. What could you do at home in one minute?

3. What could you do at home in five minutes?