Attainment's

EXPLORE math 2
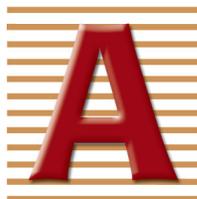
TEACHER'S MANUAL

Home
Community
Work

Judi Kinney

Explore Math 2
Teacher's Manual

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Attainment Company, Inc.

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Introduction

Attainment's **Explore Math 2** books are designed to give the student math problems that he needs to learn how to solve when at home or work, in the community, or doing leisure activities. There are two books for your use in the classroom.

Teacher's Manual

The **Teacher's Manual** has lesson plans for all of the worksheets in the student workbook.

On each page there is an objective, a list of materials, and a teaching procedure for the displayed worksheet(s). Most lessons take fifteen to twenty minutes to teach. The teachers should preview the lesson before introducing the worksheet.

The Teacher's Manual has an answer key to all of the worksheet drills.
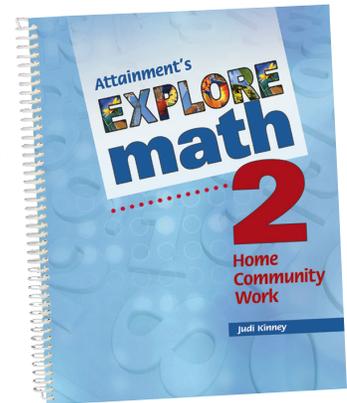
Student Workbook

The **Student Workbook** has four chapters. Skills covered in the Workbook include numeration, computations, fractions, reading maps, telling time, and money. Each chapter has a vocabulary page and two biographies. Students read about a person, e.g., Isabel. Worksheets are presented after the biography is introduced and students must tackle mathematical problems that "Isabel" has to solve, such as reading street addresses, getting to work on time, making recipes, or paying bills.

The directions may need to be read to the students. Pictures on the page are clues to help solve the math problems. Vocabulary words presented at the beginning of the chapter are repeated on the worksheets.

All the chapters follow a similar format. Students learn important math skills by solving the problems for each person, like Isabel, presented in the chapters. There are at least three multiple-choice questions for most of the worksheets and a challenge question, which is optional for students to answer.
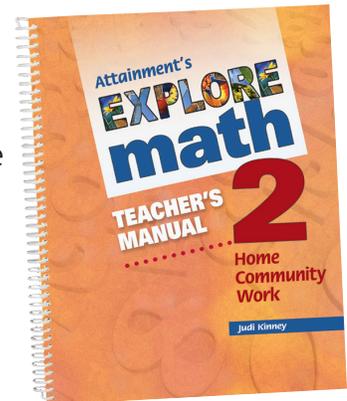
Chapter 1

Math at Home

Vocabulary

Objective

S. reads and defines a set of vocabulary words.

Materials

- dry board
- markers
- Chapter 1 **Vocabulary,** p. 9

Procedure

1. Read and define a vocabulary word.

2. Elicit examples of the word from students.

3. Write examples on the dry board.

4. Review the examples with students.

5. S. reads and defines a word.

6. Continue until all of the words have been taught.

Vocabulary

bill(s)
amount of money owed for something bought or provided
1

checking account
an account that lets a person withdraw or deposit money
2

coupon
lets a person pay less for something
3

deposit
to put money into a checking/savings account (add money)
4

recipe
how to make something to eat or drink
5

Chapter 1 • Math at Home   9

Meet Isabel

Objective

S. reads and states one way Isabel uses math at home.

Materials

- dry board
- markers
- **Meet Isabel** student worksheets, pp. 10–11

Procedure

1. Review vocabulary words.

2. Tell S. to look for how Isabel uses the vocabulary words when solving math problems.

3. Read and discuss Meet Isabel.

4. Review vocabulary words in Meet Isabel.

5. Ask S. to state one way Isabel uses math at home.

6. Assign the worksheets:
   Meet Isabel.

Meet Isabel

Isabel

Isabel just graduated from high school and works in a restaurant. She lives with her parents. Isabel needs to know math to help save money to move into an apartment. Other math skills she uses include adding when she **deposits** money into a **checking account,** how to tell time, read **recipes,** understand bus schedules, and pay **bills.**

Answer

1. Why is Isabel trying to save money?

   a. to buy a car   b. to move to an apartment   c. to go on vacation

2. Isabel must spend some of the money she earns on:

   a. bus passes   b. walking her dog   c. mowing the lawn

3. ○ one reason why Isabel needs to know how to subtract and add money.

   a. to pay bills   b. to text a friend   c. to watch a movie

Challenge

Isabel brings home $540 a week. She puts 1/2 of it in a savings account for an apartment. ○ the amount Isabel puts into her savings account.

$100 $100 $100 $100
$20 $20 $50 $50

Isabel's Address

Objective

S. writes numbers in order.

Materials

- dry board
- markers
- **Isabel's Address** student worksheets, pp. 12–13

Procedure

1. On the dry board write even numbers.

2. Teach S. how to read and write even numbers.

3. On the board write odd numbers.

4. Teach S. how to read and write odd numbers.

5. Write a series of numbers on the board, e.g., 524, _____, 528 _____, 532, etc.

6. S. fills in the blanks.

7. Continue until S. is firm.

8. Assign worksheets: **Isabel's Address.**

Isabel's Address

Isabel

Directions

Isabel's grandparents sent her a graduation gift.
Write the missing address numbers on the mailboxes.

1422   ____   1426   ____

Maple Drive

1423   ____   ____   1429

Answer

One side of the street has even numbers and the other has odd numbers.
◯ the even numbers aboveve.

Answer

1. Help the UPS truck find Isabel's home.
   Read her address on the box, then
   ◯ the house with the same address
   on page 12.

   Isabel Sanchez
   1426 Maple Drive
   Anytown, U.S.A. 53785

2. Help the UPS truck deliver the packages. All of the numbers on one side of
   the street are even. Write the missing numbers on the mailboxes.
   Hint: count by 2.

   2468   ____   2472   ____   2476

3. All of the numbers on this side of the street are odd. Write the missing
   numbers on the mailboxes.
   Hint: count by 2.

   2469   ____   ____   2475   ____

Challenge

Write these numbers in order of least to greatest.

343   340   344   341   342

_____   _____   _____   _____   _____

Going to Isabel's Home

Objective

S. reads block signs.

Materials

- dry board
- markers
- **Going to Isabel's Home** student worksheets, pp. 14–15

Procedure

1. Teach S. that in some neighborhoods and cities, numbers are shown above the street name.

2. Write an example on the board, e. g.,

1600
Pennsylvania Ave.

3. Point to the number and tell S. that on this block, the addresses start with 1600. Tell S. that by using the block numbers, drivers find a certain address easier than when there are no block numbers.

5. Ask S. to write numbers of addresses that could be found on this block.

6. Continue until S. is firm.

7. Assign worksheets: **Going to Isabel's Home.**

Going to Isabel's Home

Isabel

Directions

Isabel invited some friends to see a movie at her home. Her friends read the block signs as they drive down Maple Drive. Write in the missing numbers.

1100 MAPLE Dr — Elm Street
_____ MAPLE Dr — Willow Street
1300 MAPLE Dr — Oak Drive
_____ MAPLE Dr — Walnut Street
_____ MAPLE Dr — Larch Lane
1600 MAPLE Dr — Birch Street

Maple Drive

Answer
Isabel lives at 1426 Maple Drive. ◯ Isabel's block sign on the map above.

Answer

1. Each block on Maple Drive goes up by:
   a. 10   b. 100   c. 1,000

2. Isabel's friends are at the 1100 block sign. How many more blocks do they need to drive to reach Isabel's block?
   a. 3 blocks   b. 2 blocks   c. 1 block

3. Isabel's childhood friend Zooey lives in the 1200 block. How many blocks away is Zooey from Isabel's house?
   a. 6 blocks   b. 4 blocks   c. 2 blocks

Challenge

Write the numbers in order from greatest to least.

WASHINGTON Ave 5400 block | WASHINGTON Ave _____ block | WASHINGTON Ave 5200 block | WASHINGTON Ave _____ block

Reading an Analog Clock

Objective

S. shows time to 5 minutes.

Materials

- smart board
- large and small analog clocks.
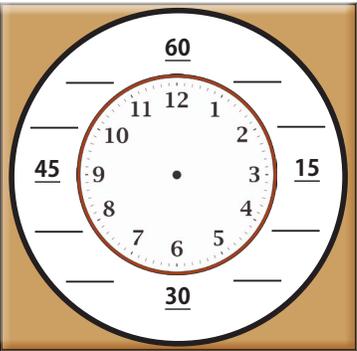- **Reading an Analog Clock** student worksheets, pp. 16–17

Procedure

1. Place worksheet on smart board.

2. Teach S. counting by five using the clock.

3. S. uses the analog clock and counts by five until firm.

4. State a time, e.g., 9:25. S. finds the time on the individual analog clocks.

5. Continue until S. is firm.

6. Assign worksheets:
   Reading an Analog Clock.

Getting Ready for Work

Objective

S. shows a time one hour later using an analog clock.

Materials

- large and small analog clocks
- **Getting Ready for Work** student worksheet, p. 18

Procedure

1. Teach telling time to the hour.

2. Give S. problems where she must find a time to the hour.

3. Continue until S. is firm.

4. Assign the worksheet: **Getting Ready for Work.**

Getting Ready for Work

Isabel

Directions

Isabel sets her alarm so that she can get to work on time. She gets up for work at 5:00. Draw hands on the clock to show the time.

Answer

Isabel uses a clock radio so she can wake up to music. ◯ the clock that shows 5:00.

a. **4:00**   b. **5:00**   c. **6:00**

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Chapter 1 • Math at Home

Baking a Pie

Objective

S. shows time to one hour later than a set time.

Materials

● large and small analog clocks
● **Baking a Pie** student worksheet, p. 19

Procedure

1. Set the analog clock to a time on the hour.

2. Give a problem, e.g., "It is 4:00 and Elizabeth is going to meet her friends at a restaurant an hour from now. What time will Elizabeth meet her friends?"

3. Count around the clock by five until an hour has been counted.

4. Ask S. what time Elizabeth will meet her friends.

5. Continue until S. is firm.

6. Assign the worksheet: **Baking a Pie.**

Baking a Pie

Directions
Draw hands on the clocks to show the time.

Isabel puts a pie to bake in the oven at 10:00.

The pie is finished baking one hour later. What time is it?

Answer
Isabel sets the oven temperature to 375 degrees. ◯ the correct temperature.

a. 475°   b. 325°   c. 375°

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Walking the Dog and Dog Park

Objective

S. shows time for one hour earlier.

Materials

- large and small analog clocks
- **Walking the Dog** and **Dog Park** student worksheets, pp. 20–21

Procedure

1. Set the analog clock to a time on the hour.

2. Give a problem, e.g., "It is 9:00. Marcus's favorite show just ended. He started watching his shop one hour earlier. When did Marcus start to watch his show?"

3. Teach how to count back on the clock to one hour earlier.

4. Continue until S. is firm.

5. Assign the worksheets: **Walking the Dog** and **Dog Park.**

Walking the Dog

Isabel

Directions
Draw hands on the clocks to show the time.

Isabel finishes walking her dog at 5:00.

She started walking her dog an hour earlier. What time did she start?

Answer Isabel tries to walk her dog an hour everyday. How many hours a week does she walk her dog?

a. 5 hours　　b. 7 hours　　c. 2 hours

Dog Park

Directions
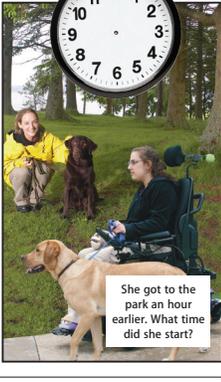Isabel takes her dog to the dog park. Draw hands on the clocks to show the time.

Isabel finished walking her dog at 11:00.

She got to the park an hour earlier. What time did she start?

Answer Isabel walks her dog one hour a week at the dog park. How many hours in a month does she go to the dog park?

a. 1 hour　　b. 4 hours　　c. 2 hours

Streaming a Movie

Objective

S. shows a time for one-hour earlier/later.

Materials

- large and small analog clocks
- **Streaming a Movie** student worksheets, pp. 22–23

Procedure

1. Review telling time to the hour.

2. Give problems where S. sets the analog clock one hour later or one hour earlier than a teacher-stated time.

3. Continue until S. is firm.

4. Assign worksheets: **Streaming a Movie.**

Streaming a Movie

Directions

Isabel invites friends to watch a movie.
Draw hands on the clocks to show the time.

It is 7:00.

Isabel's friends will arrive one hour later. What time will they arrive?

Answer

Write 350 on the oven temperature.

BAKE

Answer

1. It is 4:00 when Isabel starts to clean her house. She finishes an hour later. ◯ the clock that shows when Isabel is done.

   a.　　b.　　c.

2. Isabel finishes making food as her friends arrive at 8:00. It takes an hour for her to make the food. ◯ the clock that shows when she started.

   a.　　b.　　c.

3. The movie ends at 10:00. Isabel's friends stay one more hour. ◯ the clock that shows when her friends leave.

   a.　　b.　　c.

Challenge

It is 8:00. One of Isabel's friends calls to say he will be 30 minutes late.
◯ the time on Isabel's cell phone that shows when her friend will arrive.

a. 7:30　b. 9:00　c. 8:30

My Calendar

Objective

S. solves problems using a monthly calendar.

Materials

- monthly calendar
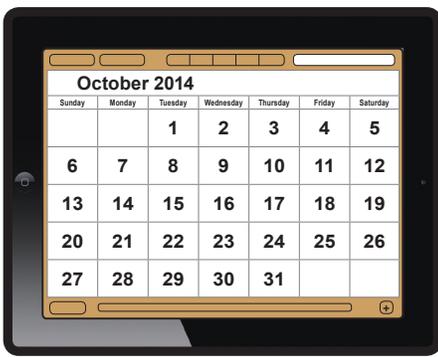- **My Calendar** student worksheets, pp. 24–25

Procedure

1. Teach S. how to read a monthly calendar.

2. Teach S. how to find a day/date on the calendar.

3. Teach S. how to find a day/date from a set date, e.g., "Today is Wednesday. Point to Wednesday. Jeremiah is going to his favorite bookstore to buy a graphic novel 4 days from Wednesday. What day is Jeremiah going to the store? "

4. Teach S. how to find a day/date using weeks, e.g., "It is the 8th and Maria will go on vacation in one week. When will Maria start her vacation?"

5. Continue until S. is firm.

6. Assign worksheets: **My Calendar.**

My Calendar

Isabel

Directions

Isabel uses the calendar on her electronic tablet to keep track of her appointments. Use the calendar to solve the problems.

October 2014

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		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		

Answer

This week Isabel works the 7th, 8th, 9th, 11th, and 12th. ◯ the days Isabel works.

Answer

1. It is Monday the 7th. Isabel's first day off is 3 days away. What is the date of Isabel's day off?

   a. 10th   b. 12th   c. 9th

2. On her day off, Isabel is taking her dog to the dog park. What day is she going to the dog park?

   a. Monday   b. Wednesday   c. Thursday

3. It is Tuesday the 15th. Isabel is going to see a movie with her best friend on the 19th. What day of the week will Isabel go to the movie theater?

   a. Friday   b. Saturday   c. Sunday

4. It is Thursday the 10th. Isabel is going on a day trip with a friend 2 weeks from that day. What is the date of Isabel's day trip?

   a. 3rd   b. 17th   c. 24th

5. It is Saturday the 26th. Isabel is writing an email to a friend who visited 3 weeks ago. When did Isabel see her friend?

   a. 5th   b. 12th   c. 19th

Challenge

Isabel gets the first and third weekends of the month off from work. ◯ the weekends on the calendar at left.

Kitchen Math

Objective

S. solves capacity problems.

Materials

- package of macaroni noodles, dry beans, etc.
- canned goods, bags of chips, popcorn, etc.
- **Kitchen Math** student worksheets, pp. 26–27

Procedure

1. Using the dry beans, teach S. how to read a measuring cup.

2. Teach S. how to read the measurements on the pkgs., cans, etc.

3. Give S. problems to solve using the measurements.

4. Continue until S. is firm.

5. Assign worksheets: **Kitchen Math.**

Kitchen Math

Isabel

Directions

Isabel is making food for her friends to eat while watching the movie. She reads a **recipe** to learn how to make the food. Solve the problems.

Party Nachos
Oven 350°
14 oz. bag of tortilla chips
1 cup shredded cheddar cheese
1 cup medium salsa
1/2 cup chopped onions
16 oz. can refried beans

Answer

There will be 6 people watching the movie. To be sure that there is enough pop and water to drink, Isabel is going to put 4 cans per person in the cooler. How many cans altogether will she put in the cooler?

   a. 12 cans   b. 16 cans   c. 24 cans

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Answer

1. Isabel is making a nachos and cheese dish. The recipe for nachos includes ½ cup of onions. ( ) the cup that shows ½ .

  a.   b.   c.

2. The recipe for nachos includes 1 cup of shredded cheese. ( ) the cup that shows 1 cup.

  a.   b.   c.

3. Another ingredient for nachos is a 16-ounce can of refried beans. ( ) the can that shows 16 ounces. *Hint: oz. is short for ounces.*

  a. 8 oz.   b. 16 oz.   c. 17 oz.

4. Isabel has several bags of nachos. She needs a 14 ounce bag for her recipe. ( ) the 14 ounce bag.

  a. 6 oz.   b. 16 oz.   c. 14 oz.

Challenge

One pound equals 16 ounces. Are 14 ounces greater than (>) or less than (<) 1 pound?

  a. 16 > 14   b. 16 < 14

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Paying Bills

Objective

S. matches money to the total cost of a bill.

Materials

- classroom money: bills $1 to $100
- **Paying Bills** student worksheets, pp. 28–29

Procedure

1. Teach S. how to count bills in varying dominations.

2. Give problems where S. must pay a bill and match the money amount to the bill.

3. Continue until S. is firm.

4. Assign worksheets: **Paying Bills.**

Paying Bills

Directions

Isabel deposits $540 into her checking account this week. A checking account helps Isabel keep track of how she spends and saves money. Solve the problems.

Answer

Isabel pays her parents $100.00 for rent and food each week. ◯ $100.00.

Answer

1. After Isabel pays her parents, how much money does she have left?

   a. $420   b. $440   c. $340

2. Isabel deposits $270 into her savings account to save for renting an apartment. ◯ $270.

   a. $100 $100 $50 $10
   b. $100 $100 $20 $20
   c. $100 $100 $50 $20

3. Isabel has $170 left. She pays her monthly smart phone bill. It is $107. How much money does she have left after paying her phone bill? (show work)

Challenge

Isabel needs to have $2,400 saved before she can rent an apartment. She has $1,200 saved. How much more money does she need to save? (show work)

   a. $240
   b. $2,400
   c. $1,200

Afternoon Walk

Objective

S. matches a money amount to a price.

Materials

- whiteboard
- markers
- classroom money: coins and dollar bills
- **Afternoon Walk** student worksheets, pp. 30–31

Procedure

1. Teach counting coins and bills together.

2. Create problems where S. must count money to match a price of an item, e.g., "Mario buys a latte from a street vendor for $4.78. Count out the money that he must give the vendor."

3. Continue until S. is firm.

4. Assign worksheets: **Afternoon Walk.**

Afternoon Walk

Isabel

Directions

Isabel walks her dog to the city park after work. On her way to the park, she stops at one of the street vendors to buy something. Solve the problems.

Hot Dog	$3.50
Sausage	$3.75
Pretzel	$2.25
Muffin	$2.40
Candy	$1.35
Coffee	$1.15
Cold soda	$1.50
Cold water	$1.25

Answer

Isabel has this much money.

◯ one thing she can buy.

$1 $1

Answer

1. On a walk, Isabel meets a friend. She buys 2 pretzels and shares one with her friend. How much money did she spend altogether? (show work)

2. Today Isabel decides to buy a hot dog. She splits the hot dog with her dog. How much money did she spend?

   a. $2.50   b. $1.25   c. $3.50

3. Isabel got up late and didn't have time for breakfast. On the way to the bus stop, she passed her favorite vender. Isabel bought:

   coffee for $1

   and a muffin for $1 $1

   How much money did she spend altogether? (show work)

Challenge

A bottle of water costs $1.25. Isabel bought a bottle of water 3 days in a row. How much did she spend? (show work)

Finding an Apartment