Second Grade Module 3
Place Value, Numbers to 1000, and the Contracted Form of the Horizontal Bar
Teacher Script Answer Key

Introduction

- All bracketed text should not be read aloud and is for reference only.
- The questions and answers have been numbered in this document to aid teachers and parents. However, the questions are not numbered the same way, if numbered at all, in the student documents.
- Throughout the script, it is assumed that the student is correct. The teacher may need to go off script if the student does not answer a question correctly.

Section 1: Skip Counting

Section 1 Materials

- Student Braille Document: G2-M3-Student-Materials.brf
- Optional: Counting to 120 Chart available in braille within the curriculum (Although the single-spaced chart is recommended for most second graders, a double-spaced alternative chart is also available in the curriculum.)

Section 1 Teacher Notes

- Please note the Counting to 120 Chart incorporates a 40 cell line.
- In addition, there are multiple counting songs available online if you would like to incorporate music into the counting activities.

Section 1 Teacher Script

It is almost time to get on the road! Before we begin our journey, let's review skip counting by 10 to 120.

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

Super skip counting!

Let’s skip count by 10 to 200 together!

10 20 30 40 50 60 70 80 90 100

110 120 130 140 150 160 170 180 190 200

Now you try skip counting by 10 to 200 by yourself!

10 20 30 40 50 60 70 80 90 100

110 120 130 140 150 160 170 180 190 200

You got it! Now let’s skip count by 100 to 1000 together.

100 200 300 400 500 600 700 800 900 1000

Let’s practice once more together!

100 200 300 400 500 600 700 800 900 1000

Now you try skip counting by 100 to 1000 by yourself! You can do it!

100 200 300 400 500 600 700 800 900 1000

Excellent! Since it is time to go, let’s call for a taxi and ensure that we have enough money to pay the taxi driver for taking us to our destination.

We will need to check the time often because it is important for us to be outside and ready to leave when the taxi arrives! While we wait until it is time for us to go outside, locate and read the title at the top of page 1.

Yes, it says Second Grade Module 3 Place Value, Numbers to 1000, and the Contracted Form of the Horizontal Bar.

Now, move your hands down to the next line of braille. It begins in cell 5, and it says Section 1. Afterwards, there is a two cell symbol.

[dots 4-5-6, dots 1-4-6]

What is this symbol called and what is its purpose?

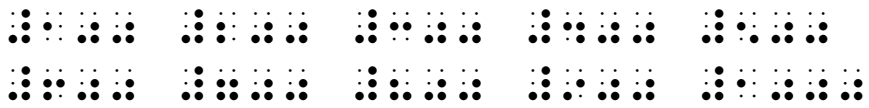
You got it! It is called an opening Nemeth Code indicator, and it tells us that we are going to read math or science.

The taxi has arrived! The driver will help us stow our bags in the trunk and then we will get into the back seat of the taxi and put on our seatbelts.

Practice 1.1

During the first part of our journey, let's learn how to read numbers to 1000. We will begin by reading the numbers used to skip count by 100 to 1000. There will be five numbers on each line.

[Make sure the student is viewing the numbers that begin on the seventh line of braille on page 1.]



Answer 1.1

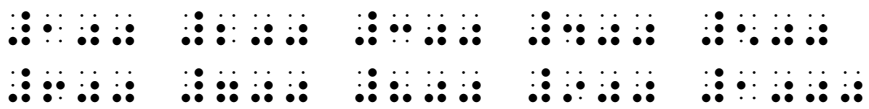
100 200 300 400 500

600 700 800 900 1000

Practice 1.2

Read the numbers once more by yourself!

[Make sure the student is viewing the numbers that begin on the ninth line of braille on page 1.]



Answer 1.2

100 200 300 400 500

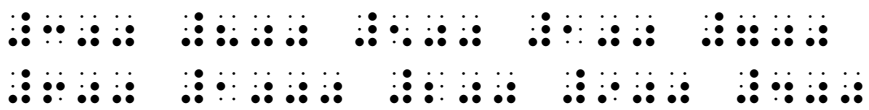
600 700 800 900 1000

You got it!

Practice 1.3

Now read the same numbers. They will be in a different order this time.

[Make sure the student is viewing the last two lines of braille on the page.]



Answer 1.3

300 800 500 100 700

600 1000 200 900 400

That's right! Did you notice that the last line of numbers ended with a Nemeth Code terminator?

[dots 4-5-6, dots 1-5-6]

Fun Fact 1

A taxi is a car or van used for public transportation. You can tell the driver where you want to go, and unlike a bus or train, they will take you to your destination directly!

Section 2: Reading Numbers 1 to 300

Section 2 Materials

Student Braille Document: G2-M3-Student-Materials.brf

Section 2 Teacher Note

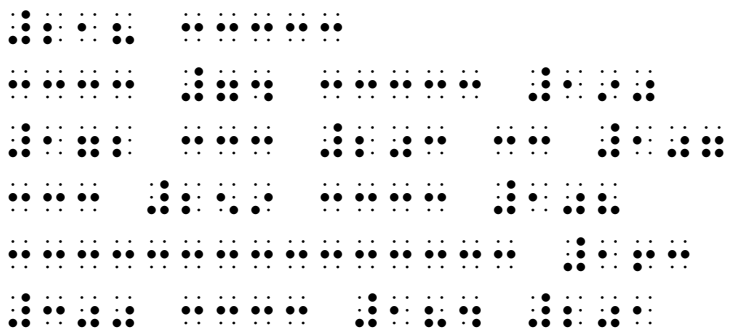
Ensure that the student knows how the numbers over 100 are voiced. For example, 101 is voiced as one hundred one, and 215 is voiced as two hundred fifteen. Notice that the word "and" is not used when voicing whole numbers.

Section 2 Teacher Script

Practice 2.1

Now let's practice reading numbers from 1-300. Begin by finding the section name at the top of page 2. Then continue to the next line of braille and read just the numbers.

[Six lines of dots 2-5 with 1-3 numbers inserted in each line.]



Answer 2.1

218

74 190

172 203 107

259 108

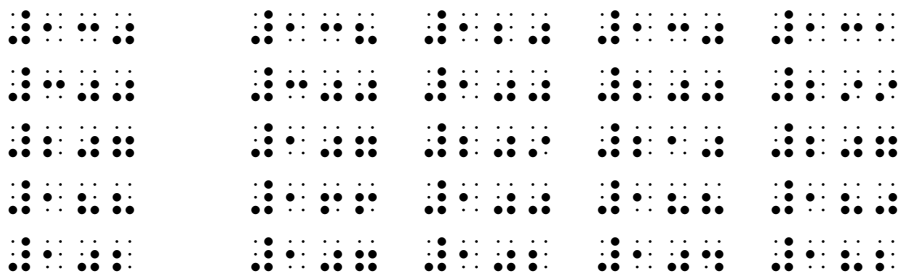
163

300 184 201

Practice 2.2

Next read the number at the beginning of each line and then find its match on the line of braille. Say "found it" when you find the match!

[Make sure the student is viewing the five lines of braille in the middle of page 2.]



Answer 2.2

The student will read the number at the beginning of each line, find its match, and say "found it" when they find the match.

Line 1: 130 (third item on answer choices)

Line 2: 300 (first item on answer choices)

Line 3: 207 (last item on answer choices)

Line 4: 188 (third item on answer choices)

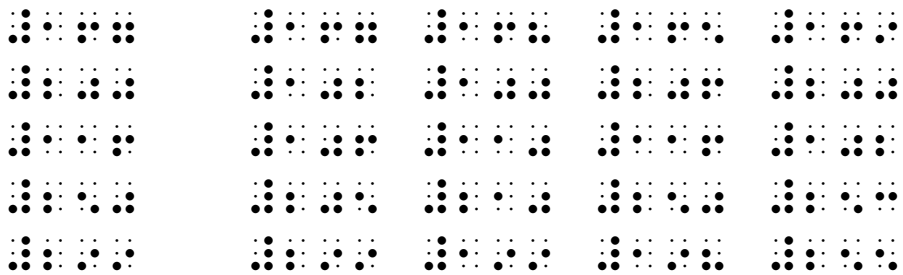
Line 5: 102 (second item on answer choices)

Excellent matching!

Practice 2.3

Let's try a few more! Remember to say "found it" when you find the match!

[Make sure the student is viewing the last five lines of braille on page 2.]



Answer 2.3

The student will read the number at the beginning of each line, find its match, and say "found it" when they find the match.

Line 1: 167 (first item on answer choices)

Line 2: 200 (last item on answer choices)

Line 3: 116 (third item on answer choices)

Line 4: 250 (third item on answer choices)

Line 5: 299 (first item on answer choices)

The last line of numbers ends with a symbol that tells us that we are finishing math content. What is it called?

[dots 4-5-6, dots 1-5-6]

Yes, the two-cell symbol is called a Nemeth Code terminator.

Fun Fact 2

A taxi is sometimes called a cab in the United States.

Section 3: Reading Numbers 301 to 600

Section 3 Materials

- Student Braille Document: G2-M3-Student-Materials.brf
- Activity 1
    - Timer
    - Pages 1-2 of flashcards available in braille within the curriculum
    - Optional: two-compartment sorting tray

Section 3 Teacher Note

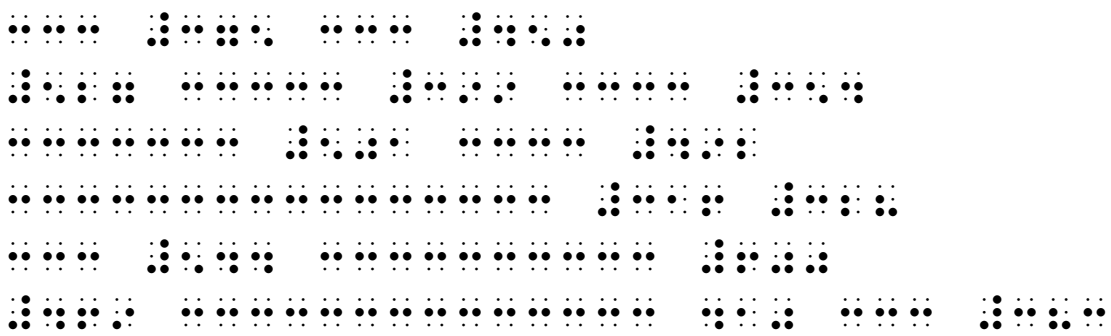
Ensure that the student knows how the numbers over 100 are voiced. For example, 101 is voiced as one hundred one, and 215 is voiced as two hundred fifteen. Notice that the word "and" is not used when voicing whole numbers.

Section 3 Teacher Script

Practice 3.1

Next, we will practice reading numbers from 301-600. Begin by finding the section name at the top of page 3. Then continue to the next line of braille and read just the numbers.

[Six lines of dots 2-5 with 1-3 numbers inserted in each line.]



Answer 3.1

375 450

527 399 354

501 492

316 328

544 600

469 410 383

Below the last line of numbers, there is a Nemeth Code terminator.

[dots 4-5-6, dots 1-5-6]

Activity 1

Use your flashcards to practice reading numbers ranging from 1 to 600. Once you can read all of the numbers correctly, go back and time how quickly you can read the numbers! Do you think you can read the numbers even quicker? If so, try one more time! You can do it!

Congratulations! You are a Nemeth champion!

Fun Fact 3

Taking a taxi to your destination is usually more expensive than taking a bus or a subway.

Section 4: Reading Numbers 601 to 1000

Section 4 Materials

- Student Braille Document: G2-M3-Student-Materials.brf
- Activity 2
    - Timer
    - Pages 3-4 of flashcards available in braille within the curriculum
    - Optional: two-compartment sorting tray

Section 4 Teacher Note

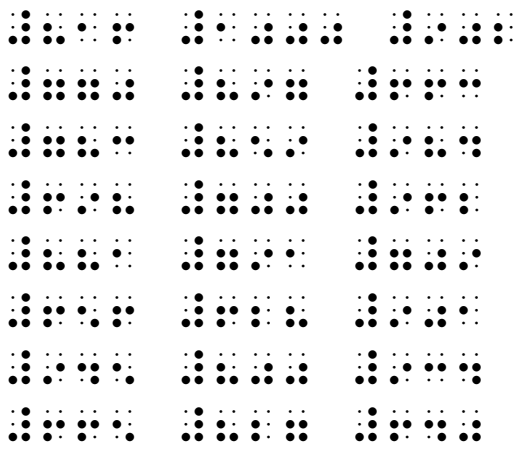
Ensure that the student knows how the numbers over 100 are voiced. For example, 101 is voiced as one hundred one, and 215 is voiced as two hundred fifteen. Notice that the word "and" is not used when voicing whole numbers.

Section 4 Teacher Script

Practice 4.1

Begin by locating the Section 4 heading in the middle of page 3 in your braille document. Then move to the next line of braille and practice reading numbers from 601-1000. There will be 3 numbers on each line.

[Make sure the student is viewing the last eight lines of braille on page 3.]



Answer 4.1

816 1000 902

770 897 663

783 859 984

698 700 962

881 791 709

656 628 901

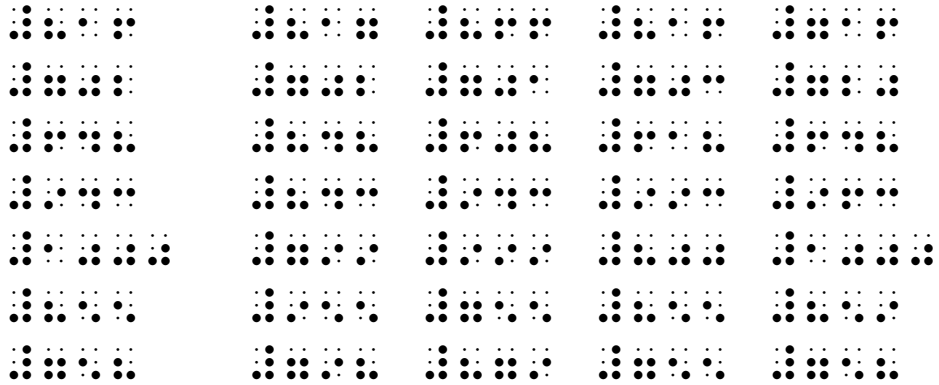
945 800 934

665 827 640

You got it!

Practice 4.2

Turn to page 4 in your braille document and read each number at the beginning of the line. Then find its match on the line of braille and say "found it" when you find the match!



Answer 4.2

The student will read the number at the beginning of each line, find its match, and say "found it" when they find the match.

Line 1: 816 (third item on answer choices)

Line 2: 702 (first item on answer choices)

Line 3: 648 (last item on answer choices)

Line 4: 943 (second item on answer choices)

Line 5: 1000 (last item on answer choices)

Line 6: 855 (third item on answer choices)

Line 7: 758 (last item on answer choices)

Did you notice that a Nemeth Code terminator followed the last line of numbers?

Fun Fact 4

Similar to taxis today, carriages pulled by horses in London and Paris in the 1600s could be hired by individuals in need of transportation.

Activity 2

Use your flashcards to practice reading the numbers 1-1000. Once you can read all of the numbers correctly, go back and time how quickly you can read the numbers! Do you think you can read the numbers even quicker? If so, try one more time! You can do it!

Congratulations! You are a Nemeth champion!

Section 5: Building Three-Digit Numbers

Section 5 Materials

- Base ten blocks: units, rods, and flats in different baskets, containers, or bowls (Alternative: Digi-Blocks which is a different type of base ten blocks that nest)
- Place Value Chart 3 available in contracted and uncontracted braille within the curriculum (Alternative: four-compartment sorting tray with the compartments labeled from left to right thousands, hundreds, tens, and ones in braille)

Section 5 Teacher Notes

- The sorting tray may assist students in easily keeping their flats, rods, and unit blocks in the correct columns.
- There are directions for assembling Place Value Chart 3 in the Teacher Guide.

- If needed, model placing the blocks in the correct column on the Place Value Chart 3 using hand-under-hand technique.
- If needed, model counting rods as you skip count using hand-under-hand technique.

Section 5 Teacher Script

While we continue our journey in the taxi, let's review how to use base ten blocks (or Digi-Blocks) to help us build three-digit numbers.

Use your hands to explore the blocks in the three baskets. Do you remember what we call the small blocks?

Yes, they are called units. What do you call the long, narrow blocks?

You got it! The long, narrow blocks are called rods.

If we place ten rods beside each other, they would be the same size as the large square blocks in the last basket.

What do you call this large square block?

That is correct! We call this block a flat.

The flats contain ridges. If we counted the number of squares on each flat, we would discover that there are 100 squares.

Use your hands to explore a new place value chart that includes a column for thousands. Let's find the title and read it together. Where will we find the title?

That's right, pilot! The title will be at the top of the page. The title is Place Value Chart 3.

Notice that there are three lines going down the page. Find the column headings toward the top of the page, and I will help you read them from left to right.

The column on the left is thousands, the second column is hundreds, the third column is tens, and the column on the far right is ones.

As you already know, each unit block represents one, each rod represents ten, and each flat represents one hundred. In addition, a cube represents one thousand. We place our block called a cube in the thousands column and the blocks called flats in the hundreds column, the rods in the tens column, and unit blocks in the ones column.

Let's work together to use base ten blocks (or Digi-blocks) and the place value chart to represent 116.

It will be important to remember that the position of each digit in a number shows its value. Begin by asking yourself what digit is in the ones column.

Yes, six is in the ones column. Then ask yourself what digit is in the tens column?

Yes, one is in the tens column. Now ask yourself what digit is in the hundreds column?

You got it! There is a second one in the hundreds column.

So if there is a one in the hundreds column, a one in the tens column, and a six in the ones column, how many flats, rods, and unit blocks do you need?

You got it! We will need 1 flat, 1 rod, and 6 unit blocks. Where would we place the blocks on the place value chart?

Excellent! The flat will go in the hundreds column, the rod will go in the tens column, and the units will go in the ones column.

So one hundred sixteen equals 1 hundred, 1 ten, and 6 ones.

Let's try another one together. The number is 124.

Begin by asking yourself what digit is in the ones column.

Yes, four is in the ones column. Then ask yourself what digit is in the tens column?

Yes, two is in the tens column. Now ask yourself what digit is in the hundreds column?

You got it! There is a one in the hundreds column.

So if there is a one in the hundreds column, two in the tens column, and a four in the ones column, how many flats, rods, and unit blocks do you need?

You got it! We will need 1 flat, 2 rods, and 4 unit blocks. Where would we place the blocks on the place value chart?

Excellent! The flat will go in the hundreds column, the rods will go in the tens column, and the units will go in the ones column.

Is this the only way that I could have built the number 124?

No, I could have built 124 in multiple ways.

For example, I could have built 124 by using 12 rods and 4 unit blocks. I used skip counting by 10s to figure out how many rods that I needed.

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

So I need 12 rods to build 120. Then if I add 4 unit blocks, I have 124.

I could have also built 124 with 124 unit blocks.

Fun Fact 5

Wilheim Bruhn invented the taximeter in 1891. The taximeter is a mechanical device that calculates the fare. Today, electronic taximeters are used.

Section 6: Building Numbers to 1000

Section 6 Materials

- Base ten blocks: units, rods, and flats in different baskets, containers, or bowls (Alternative: Digi-Blocks which is a different type of base ten blocks that nest)
- Place Value Chart 3 available in contracted and uncontracted braille within the curriculum (Alternative: four-compartment sorting tray with the compartments labeled from left to right thousands, hundreds, tens, and ones in braille)
- Activity 3: same as materials used in the rest of Section 6

Section 6 Teacher Notes

- The sorting tray may assist students in easily keeping their flats, rods, and unit blocks in the correct columns.
- If needed, model placing the blocks in the correct column on the Place Value Chart 3 using hand-under-hand technique. If you do not have a thousands cube, you may be able to borrow one from a general education second grade teacher.
- If needed, model counting rods as you skip count using hand-under-hand technique.

- Depending on the child's response, questioning and modeling can be used to assist the child in determining additional ways to build 378, 649, 803, and 1000. For example:
    - Can you represent 378 using unit blocks? If so, how many unit blocks do you need? If not, why not? That's right. You would need 378 unit blocks.
    - Can you represent 378 using only rods and unit blocks? If so, how many of each kind do you need?
    - Can you use skip counting to help you figure out how many rods you will need? If not, why not?

Section 6 Teacher Script

Now let's work together to build 378. Begin by asking yourself what digit is in the ones column.

Yes, eight is in the ones column. Then ask yourself what digit is in the tens column?

Yes, seven is in the tens column. Now ask yourself what digit is in the hundreds column?

You got it! There is a three in the hundreds column.

So if there is a three in the hundreds column, seven in the tens column, and an eight in the ones column, how many flats, rods, and unit blocks do you need?

You got it! We will need 3 flats, 7 rods, and 8 unit blocks. Show me where the blocks should go on the place value chart.

Excellent! The flats will go in the hundreds column, the rods will go in the tens column, and the units will go in the ones column.

How else could you have built the number 378?

Let's build three more numbers together, beginning with 649.

Begin by asking yourself what digit is in the ones column.

Yes, nine is in the ones column. Then ask yourself what digit is in the tens column?

Yes, four is in the tens column. Now ask yourself what digit is in the hundreds column?

You got it! There is a six in the hundreds column.

So if there is a six in the hundreds column, four in the tens column, and a nine in the ones column, how many flats, rods, and unit blocks do you need?

You got it! We will need 6 flats, 4 rods, and 9 unit blocks. Where would we place the blocks on the place value chart?

Excellent! The flats will go in the hundreds column, the rods will go in the tens column, and the units will go in the ones column.

How else could you have built the number 649?

The next number we will build together is 803.

Begin by asking yourself what digit is in the ones column.

Yes, three is in the ones column. Then ask yourself what digit is in the tens column?

Yes, a zero is in the tens column. Now ask yourself what digit is in the hundreds column?

You got it! There is an eight in the hundreds column.

So if there is an eight in the hundreds column, zero in the tens column, and a three in the ones column, how many flats, rods, and unit blocks do you need?

You got it! We will need 8 flats, 0 rods, and 3 unit blocks. Where would we place the blocks on the place value chart?

Excellent! The flat will go in the hundreds column, the rods will go in the tens column, and the units will go in the ones column.

How else could you have built the number 803?

The last number that we will build together is 1000.

Begin by asking yourself what digit is in the ones column.

Yes, a zero is in the ones column. Then ask yourself what digit is in the tens column?

Yes, a zero is in the tens column. Now ask yourself what digit is in the hundreds column?

You got it! There is a zero in the hundreds column.

This time we have a digit in the thousands column. What digit is it?

That is correct! There is a one in the thousands column.

So if there is a one in the thousands column, a zero in the hundreds column, a zero in the tens column, and a zero in the ones column, how many cubes, flats, rods, and unit blocks do you need?

You got it! We will need 1 cube, 0 flats, 0 rods, and 0 unit blocks. Where would we place the blocks on the place value chart?

Excellent! The cube will go in the thousands column.

How else could you have built the number 1000?

Activity 3

Practice 6.1

Use your place value chart and base ten blocks to build the following numbers.

959

Answer 6.1

> To build 959 you need 9 flats, 5 rods, and 9 unit blocks or 9 hundreds, 5 tens, and 9 ones.

Practice 6.2

556

Answer 6.2

> To build 556 you need 5 flats, 5 rods, and 6 unit blocks or 5 hundreds, 5 tens, and 6 ones.

Practice 6.3

798

Answer 6.3

To build 798 you need 7 flats, 9 rods, and 8 unit blocks or 7 hundreds, 9 tens, and 8 ones.

Practice 6.4

305

Answer 6.4

To build 305 you need 3 flats, 0 rods, and 5 unit blocks or 3 hundreds, 0 tens, and 5 ones.

Practice 6.5

934

Answer 6.5

To build 934 you need 9 flats, 3 rods, and 4 unit blocks or 9 hundreds, 3 tens, and 4 ones.

Practice 6.6

587

Answer 6.6

To build 587 you need 5 flats, 8 rods, and 7 unit blocks or 5 hundreds, 8 tens, and 7 ones.

Practice 6.7

1000

Answer 6.7

To build 1000 you need 1 cube, 0 flats, 0 rods, and 0 unit blocks or 1 thousand, 0 hundreds, 0 tens, and 0 ones.

Practice 6.8

223

Answer 6.8

To build 223 you need 2 flats, 2 rods, and 3 unit blocks or 2 hundreds, 2 tens, and 3 ones.

Practice 6.9

826

Answer 6.9

To build 826 you need 8 flats, 2 rods, and 6 unit blocks or 8 hundreds, 2 tens, and 6 ones.

Practice 6.10

134

Answer 6.10

To build 134 you need 1 flat, 3 rods, and 4 unit blocks or 1 hundred, 3 tens, and 4 ones.

Practice 6.11

342

Answer 6.11

To build 342 you need 3 flats, 4 rods, and 2 unit blocks or 3 hundreds, 4 tens, and 2 ones.

Practice 6.12

64

Answer 6.12

To build 64 you need 6 rods, and 4 unit blocks or 6 tens, and 4 ones.

Fun Fact 6

Taxis can be found in most cities such as New York City or Boston.

Section 7: Writing Numbers to 1000

Section 7 Materials

- Braillewriter
- Braille paper
- Optional: base ten blocks, Place Value Chart 3, G2-M3-Writing-Answers.brf
- Activity 4
    - Braillewriter
    - Braille paper
    - Place Value Chart 3
    - A cube, flats, rods, and unit blocks to build the following numbers one at a time: 273, 517, 628, 935, 1000 and 141
    - Optional: G2-M3-Writing-Answers.brf
- Activity 5: same as the rest of the section

Section 7 Teacher Note

Activity 5: Repeat saying each series of numbers as many times as needed.

Section 7 Teacher Script

Honk! Honk! We are getting closer to our destination, but there is a lot of traffic on the busy city streets today. While we are waiting to arrive, let's have fun writing numbers to 1000 on the braillewriter!

Practice 7.1

Since the position of each digit in a number shows its value, we can use what we know about place value to help us write numbers to 1000.

Let's use 439 as an example.

Begin by brailling a numeric indicator. Then ask yourself a question. How many flats would I need to build 439?

You are welcome to use your place value chart and base ten blocks if you would like.

You got it! You would need 4 flats to build 439, so in the hundreds column, you will braille the number four with dots 2-5-6. How many rods would you need to build 439?

Yes, you would need 3 tens blocks (rods) to build 439, so in the tens column, you will braille the number three with dots 2-5.

Then ask yourself another question. How many unit blocks would I need to build 439?

Yes, you will need 9 unit blocks, so in the ones column, braille the number nine with the dots 3-5. Now that you are finished with writing your number, move your fingers across the braille and read it! Excellent! The number is 439.

Answer 7.1

> The student can also check their answers for Section 7 using page 1 of the writing answers document.
>
> 439
>
> ⠼⠙⠉⠊

Practice 7.2

Let's try one more together.

This time braille the number 921. What should we braille first?

Yes, we will begin with the numeric indicator. What should you braille next and why?

You got it! We would braille the number 9 in the hundreds column. What should you braille next?

Perfect! We would braille the number 2 in the tens column since we would need 2 tens blocks to build the number 921. What should you braille next and why?

That's right! We would braille the number 1 in the ones column since we would need one unit block to build the number 921. Move your fingers across the braille and check your work!

Answer 7.2

> 921
>
> ⠼⠊⠃⠁

Activity 4

You will need your braillewriter and braille paper for this activity.

Practice 7.3

I will build several numbers with rods and unit blocks. Count the blocks and then write the number. Space one time between the numbers.

[Use a cube, flats, rods, and unit blocks to build the following numbers one at a time: 273, 517, 628, 935, 1000 and 141.]

Answer 7.3

> The student should write the following numbers: 273 517 628 935 1000 141

Fun Fact 7

Taxi company owner, Harry Allen, was the first person to have yellow taxis. Allen painted his taxis yellow so that they would stand out.

Activity 5

You will also need your braillewriter and braille paper for this next activity.

Practice 7.4

Listen as I read a series of numbers. Then write the numbers in braille. Space one time between the numbers.

125 181 53 720 384

Answer 7.4

> The student should write the following numbers: 125 181 53 720 384

Now move your fingers across the braille and check your work as I say the numbers again.

125 181 53 720 384

Practice 7.5

Press your line spacing key twice to move to the next line.

475 329 512 915 270

Answer 7.5

> The student should write the following numbers: 475 329 512 915 270
>
> ⠼⠲⠛⠐⠼⠒⠉⠐⠼⠢⠃⠐⠼⠔⠑⠐⠼⠃⠛⠴

Now move your fingers across the braille and check your work as I say the numbers again.

475 329 512 915 270

Practice 7.6

Press your line spacing key twice to move to the next line.

1000 104 411 50 726

Answer 7.6

> The student should write the following numbers: 1000 104 411 50 726
>
> ⠼⠂⠚⠚⠚⠐⠼⠁⠚⠙⠐⠼⠙⠁⠁⠐⠼⠑⠚⠐⠼⠶⠋

Now move your fingers across the braille and check your work as I say the numbers again.

1000 104 411 50 726

Section 8: Reading Numbers with an Underlined Digit

Section 8 Materials

- Student Braille Document: G2-M3-Student-Materials.brf

- Optional
    - Base ten blocks: units, rods, and flats in different baskets, containers, or bowls (Alternative: Digi-Blocks which is a different type of base ten blocks that nest)
    - Place Value Chart 3 available in contracted and uncontracted braille within the curriculum (Alternative: four-compartment sorting tray with the compartments labeled from left to right thousands, hundreds, tens, and ones in braille)
- Activity 6: Student Braille Document: G2-M3-Student-Materials.brf

Section 8 Teacher Notes

- If needed, the student may use base ten blocks or Digi-blocks to assist them in determining the value of the underlined digit.
- There are multiple correct responses regarding how to determine the value of the underlined digit.

Section 8 Teacher Script

We have almost reached our destination! As we have been traveling, the digital taximeter has been recording the distance as well as how much we will owe the taxi driver.

While we continue toward our destination, let’s learn about how to read and write a number that has a single underlined digit.

In Nemeth code, the line under the digit is called a horizontal bar. When a horizontal bar is used directly under a single digit, two different symbols are used.

The first symbol is called a directly-under indicator, and it is written with dots 1-4-6. It tells you that the horizontal bar is located directly under the digit.

Begin by locating Section 8 in the middle of page 4 in your braille document. Then softly guide your fingers across the next line of braille. In the middle of the line, you will find the Nemeth symbol for the directly-under indicator. It is written with dots 1-4-6. There is a line of dots 2-5 before and after the indicator.

Practice 8.1

Now it is your turn to find the directly-under indicator in each line of braille. Move your fingers lightly across the line of braille and say "directly-under indicator" when you locate the indicator!

[Six lines of dots 2-5 on page 4 with one or two directly-under indicators inserted in each line.]

⠸ ⠒⠒⠒⠒⠒⠒
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Answer 8.1

⠸

The student will say "directly-under indicator" each time they point to a directly-under indicator at the following places:

Line 1: at the beginning of the line

Line 2: toward the middle of the line

Line 3: at the beginning of the line and at the end of the line

Line 4: toward the middle of the line and at the end of the line

Line 5: toward the middle of the line and toward the end of the line

Line 6: at the end of the line

Move to page 5, and softly guide your fingers across the first line of braille. In the middle of the line, you will find the second symbol used when writing an underlined digit. It is the Nemeth symbol for the horizontal bar, and it is written with dots 1-5-6. There is a line of dots 2-5 before and after the symbol.

⠒⠒⠒ ⠹ ⠒⠒⠒

Practice 8.2

Now it is your turn to find the horizontal bar symbol in each line of braille. Move your fingers lightly across the line of braille and say “horizontal bar” when you locate the symbol!

[Six lines of dots 2-5 on page 5 with one or more horizontal bars inserted in each line.]

⠒⠒⠒⠒⠒⠒⠒⠒⠒⠒⠒ ⠱

⠱ ⠒⠒⠒⠒ ⠱ ⠒⠒⠒⠒⠒⠒⠒⠒⠒⠒ ⠱ ⠒⠒⠒⠒⠒

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⠱ ⠒⠒⠒ ⠱ ⠒⠒⠒⠒ ⠱

Answer 8.2

⠱

The student will say “horizontal bar” each time they point to a horizontal bar at the following places:

Line 1: at the end of the line

Line 2: at the beginning of the line, toward the middle of the line, and toward the end of the line

Line 3: toward the beginning of the line, toward the middle of the line, and at the end of the line

Line 4: at the beginning of the line, toward the middle of the line, and at the end of the line

Line 5: toward the middle of the line, toward the end of the line, and at the end of the line

Line 6: at the beginning of the line, toward the middle of the line, and at the end of the line

Excellent reading! We use these new Nemeth symbols when a horizontal bar is placed directly under a single digit.

Guide your fingers across the next line of braille as I read an example aloud.

⠸⠼⠙⠁⠊⠸⠼⠉⠋

Four hundred nineteen with a bar under the 9

A horizontal bar was placed directly under the number 9 in print. Whereas in braille, immediately after the number 9, there is a directly-under indicator and a horizontal bar symbol.

Locate the next line of braille, and I will read another example.

⠸⠼⠙⠃⠸⠼⠁⠃

Three hundred sixty-two with a bar under the 6

What two Nemeth symbols were used to indicate that a horizontal bar has been placed under the 6? Yes, there was a directly-under indicator and a horizontal bar symbol immediately after that digit.

What digit is underlined? Yes, the digit underlined is 6.

What is the place value of the underlined digit? You got it! The 6 is in the tens place.

Now what is the value of the underlined digit? Yes, the value of the underlined digit is 6 tens which equals 60.

Move your fingers to the next line of braille and read the first number.

4<u>8</u> <u>3</u>75

[forty-eight with a bar under the 8 followed by three hundred seventy-five with a bar under the 3]

⠸⠼⠙⠁⠸⠼⠉⠛⠑

You are a Nemeth superstar! The number would be read as forty-eight with a bar under the 8. What is the value of the underlined digit?

Perfect! The value of the underlined digit is 8 because the eight in 48 would be 8 ones which has a value of 8.

Now read the second number on the line.

Yes, the number would be read as three hundred seventy-five with a bar under the 3. What is the value of the underlined digit and how do you know?

You got it! The value of the underlined digit is 300 because the 3 in 375 would be 3 hundreds which has a value of 300.

Fun Fact 8

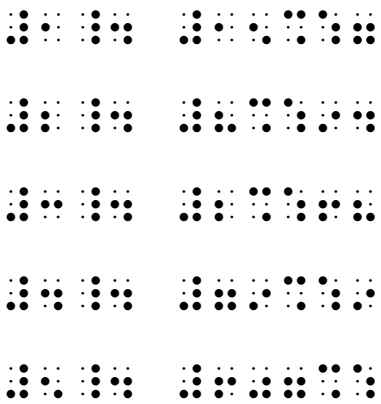
A relatively new method of transportation is ridesharing. Through the use of a mobile app, you can arrange a one-time shared ride.

Activity 6

In this activity, you will continue to read numbers containing the new symbols. You will only need page 5 of your student document.

Practice 8.3

Read each of the numbers that include a directly-under indicator and a horizontal bar symbol beginning in the middle of page 5. Then tell me the place value of the underlined digit as well as the actual value of the digit.



Answer 8.3

Number 1: one hundred fifty-seven with a bar under the 5, and the 5 would be 5 tens which has a value of 50

Number 2: eight hundred ninety-four with a bar under the 8, and the 8 would be 8 hundreds which has a value of 800

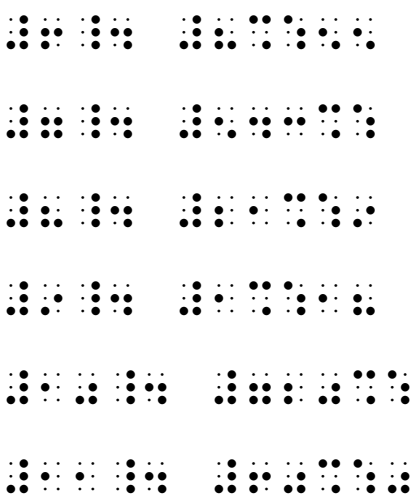
Number 3: two hundred sixty-eight with a bar under the 2, and the 2 would be 2 hundreds which has a value of 200

Number 4: seven hundred ninety-nine with a bar under the first 9, and the 9 would be 9 tens which has a value of 90

Number 5: six hundred seven with a bar under the 7, and the 7 would be 7 ones which has a value of 7

Practice 8.4

Let's try a few more.



Answer 8.4

Number 6: eight hundred fifty-five with a bar under the 8, and the 8 would be 8 hundreds which has a value of 800

Number 7: five hundred forty-three with a bar under the 3, and the 3 would be 3 ones which has a value of 3

Number 8: two hundred nineteen with a bar under the 1, and the 1 would be 1 ten which has a value of 10

Number 9: one hundred eighteen with a bar under the first 1, and the 1 would be 1 hundred which has a value of 100

Number 10: seven hundred twenty with a bar under the 0, and the 0 would be 0 ones which has a value of 0

Number 11: six hundred with a bar under the first 0, and the 0 would be 0 tens which has a value of 0

Below the last number, there is a Nemeth Code terminator.

[dots 4-5-6, dots 1-5-6]

Fun Fact 9

When waiting for a taxi or a ridesharing vehicle, stay in a safe place that is well-lit and around others until the last minute.

Section 9: Writing Numbers with an Underlined Digit

Section 9 Materials

- Braillewriter
- Braille paper
- Optional: G2-M3-Writing-Answers.brf
- Activity 7: same as materials used in the rest of Section 9

Section 9 Teacher Notes

Activity 7

- Repeat saying each number as many times as needed.
- Remind the student to move their fingers across the braille and check their work if needed.

Section 9 Teacher Script

We just turned onto Main Street! As we wait for the taxi to come to a complete stop at our destination, let's learn how to write numbers with a single underlined digit.

Practice 9.1

Place your fingers on the correct keys on your braillewriter. Then press dots 1-4-6 to write the directly-under indicator. Practice writing this indicator several times.

Answer 9.1

The directions are to write the directly-under indicator several times, so there may be variation in how many times it is written.

Practice 9.2

Next, press dots 1-5-6 to write the horizontal bar symbol. Practice writing this symbol several times.

Answer 9.2

The directions are to write the horizontal bar symbol several times, so there may be variation in how many times it is written.

Practice 9.3

Now let's write a number that has a single underlined digit.

1̲35

One hundred thirty-five with a bar under the 1

Begin by writing a numeric indicator and one.

Since the one in the hundreds column is underlined, we will place a directly-under indicator and a horizontal bar immediately after it.

What dots make the directly-under indicator?

Yes, dots 1-4-6 make the directly-under indicator. So press dots 1-4-6 and write a directly-under indicator.

What dots make the horizontal bar symbol?

You are correct! Dots 1-5-6 make the horizontal bar symbol. So press dots 1-5-6 and write a horizontal bar symbol.

We finish writing the number by writing the digits in the tens and ones column.

You got it!

Check your work as I read aloud what should have been brailled.

Numeric indicator, one, directly-under indicator with dots 1-4-6, horizontal bar symbol with dots 1-5-6, three, five

Answer 9.3

> The student can also check their answers for Section 9 using pages 1-2 of the writing answers document.
>
> One hundred thirty-five with a bar under the 1
>
> ⠼⠁⠉⠓⠑

Excellent!

Practice 9.4

Let's write another number that has a single underlined digit.

48<u>2</u>

Four hundred eighty-two with a bar under the 2

Since the last digit is underlined, begin by writing the number 482.

Since the two in the ones column is underlined, we will place a directly-under indicator and a horizontal bar immediately after it.

What dots make the directly-under indicator?

Yes, dots 1-4-6 make the directly-under indicator. So press dots 1-4-6 and write a directly-under indicator.

What dots make the horizontal bar symbol?

You are correct! Dots 1-5-6 make the horizontal bar symbol. So press dots 1-5-6 and write a horizontal bar symbol.

You got it! Check your work as I read aloud what should have been brailled.

Numeric indicator, four, eight, two, directly-under indicator with dots 1-4-6, horizontal bar symbol with dots 1-5-6

Answer 9.4

Four hundred eighty-two with a bar under the 2

⠼⠙⠓⠃⠸⠆

Practice 9.5

Let's try one more together. The next number is 9<u>7</u>6.

Nine hundred seventy-six with a bar under the 7

How should you begin?

Yes, you should begin by writing a numeric indicator, nine, seven.

Since the seven in the tens column is underlined, we will place a directly-under indicator and a horizontal bar immediately after it.

What dots make the directly-under indicator?

Yes, dots 1-4-6 make the directly-under indicator. So press dots 1-4-6 and write a directly-under indicator.

What dots make the horizontal bar symbol?

You are correct! Dots 1-5-6 make the horizontal bar symbol. So press dots 1-5-6 and write a horizontal bar symbol.

We finish writing the number by writing the digit in the ones column.

You got it! Check your work as I read aloud what should have been brailled.

Numeric indicator, nine, seven, directly-under indicator with dots 1-4-6, horizontal bar symbol with dots 1-5-6, six

Answer 9.5

Nine hundred seventy-six with a bar under the 7

⠼⠊⠛⠸⠆⠋

Practice 9.6

Now try writing two numbers with a single underlined digit by yourself. The first number is 6<u>2</u>8 (six hundred twenty-eight with a bar under the 2), and the second number is <u>5</u>65 (five hundred sixty-five with a bar under the first 5).

Answer 9.6

> Six hundred twenty-eight with a bar under the 2 followed by five hundred sixty-five with a bar under the first 5

Way to go, Nemeth superstar!

Activity 7

You will need your braillewriter and braille paper for this activity.

Practice 9.7

Listen and then braille what you hear.

<u>1</u>65

Answer 9.7

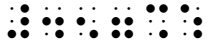
> One hundred sixty-five with a bar under the 1

Practice 9.8

45<u>7</u>

Answer 9.8

> Four hundred fifty-seven with a bar under the 7

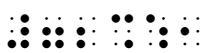


Practice 9.9

7<u>2</u>1

Answer 9.9

Seven hundred twenty-one with a bar under the 2



Practice 9.10

5̲4

Answer 9.10

Fifty-four with a bar under the 5

Practice 9.11

36̲2

Answer 9.11

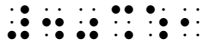
Three hundred sixty-two with a bar under the 2

Practice 9.12

40̲1

Answer 9.12

Four hundred one with a bar under the 0



Practice 9.13

2̲6

Answer 9.13

Twenty-six with a bar under the 6

Practice 9.14

<u>6</u>58

Answer 9.14

> Six hundred fifty-eight with a bar under the 6
>
> ⠼⠖⠩⠱⠢⠦

Fun Fact 10

If using a ridesharing service, ask the driver to identify you by name and where you are going before getting into the car. If they are your actual driver, they will know this information.

Section 10: Review

Section 10 Materials

Activity 8

- Student Braille Document: G2-M3-Student-Materials.brf
- Optional: base ten blocks, Place Value Chart 3

Section 10 Teacher Note

Activity 8: If desired, this activity can be completed with other students. If any of the students read print, then they will need a copy of the activity in print. These print riddles can be found in the Teacher Guide.

Section 10 Teacher Script

The taxi is stopping! Let’s ask the driver to confirm that we are at our destination!

Yay! We did it! Taking the taxi is a fun way to travel! Let’s finish our adventure with an activity.

Activity 8

We are going to solve a series of riddles.

Practice 10.1

You will need page 6 in the student braille document.

I will read each riddle. Then you will read the numbers associated with it, and figure out which one is the answer to the riddle. Good luck, Nemeth superstar!

1. I am a 2-digit number. Double me, and you will have 100. Which number am I?

200 100 75 50 25

⠼⠃⠚⠚ ⠼⠁⠚⠚ ⠼⠛⠑ ⠼⠑⠚ ⠼⠃⠑

Answer 10.1

50

⠼⠑⠚

Practice 10.2

2. I am a 3-digit number. My hundreds digit is my biggest digit, and my ones digit is less than 2. Which number am I?

385 105 280 92 630

⠼⠉⠓⠑ ⠼⠁⠚⠑ ⠼⠃⠓⠚ ⠼⠊⠃ ⠼⠋⠉⠚

Answer 10.2

630

⠼⠋⠉⠚

Practice 10.3

3. I am a 3-digit number. I am less than 600, and my tens digit is greater than 8.

579 483 976 599 413 792

⠼⠑⠛ ⠼⠙⠓ ⠼⠊⠋ ⠼⠑⠊ ⠼⠁⠙ ⠼⠛⠊
⠼⠓

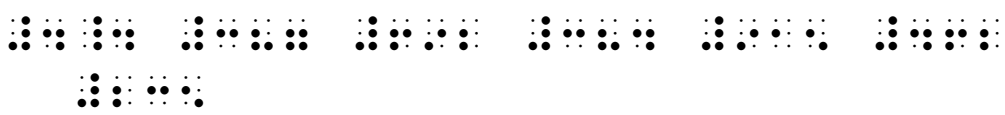
Answer 10.3

599

Practice 10.4

4. I am a 3-digit number. I am less than 400 but more than 300. My ones digit is also used when skip counting by 2.

387 692 384 915 462 235



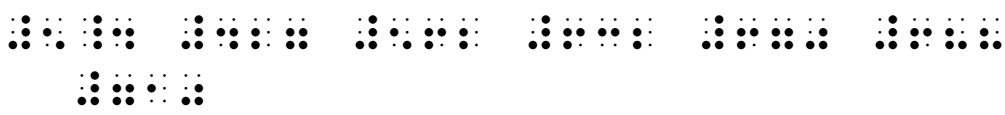
Answer 10.4

384

Practice 10.5

5. I am a 3-digit number, and I am not a multiple of 10. If you round me to the nearest 100, I become 700.

427 562 632 670 688 710



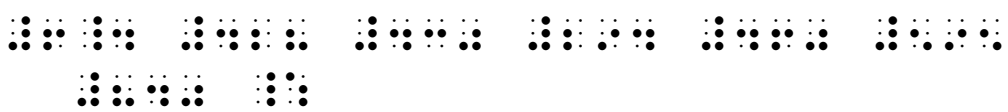
Answer 10.5

688

Practice 10.6

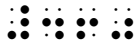
6. I am a 3-digit number, and I am a multiple of 10. If you round me to the nearest 100, I become 500.

428 430 294 460 595 840



Answer 10.6

460



After the last number, there is a Nemeth Code terminator. This symbol tells us that we are finished with our math adventure.