

# **Pre-Kindergarten Module 6**

## **Numerals 0 and 10**

### **Teacher Script**

## **Introduction**

- All bracketed text should not be read aloud and is for reference only.
- The questions are not numbered in the student document. However, the questions have been numbered in this document to aid teachers and parents.
- 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: Reading Numeral 0**

### **Section 1 Materials**

- Two swing cells (or two muffin tins and balls if you don't have access to swing cells)
- Student Braille Document: GPK-M6-Student-Materials.brf
- Activity 1
  - Six bowls
  - One flashcard for each numeral from 0-5 shuffled
  - An assortment of small objects
- Activity 2
  - Timer
  - Five flashcards for each numeral from 0-9 shuffled

### **Section 1 Teacher Note**

If you are using hard copy braille, the student can do the following instead of making sounds whenever they find a numeral 0:

- Stomp a foot
- Underline or circle the numeral 0 with a grease marker or crayon
- Place a small sticker on top of each numeral 0

### **Section 1 Teacher Script**

All aboard the Nemeth train to learn about the numeral 0!

The numeral 0 begins with the numeric indicator in the first braille cell! It ends with dots 3-5-6 in the second braille cell.

[Make sure the student is viewing the numeral 0 at the top of page 1.]

0



Use the swing cells to build the numeral 0. Do you remember the dots that make a numeric indicator? That's right! Dots 3-4-5-6 make the numeric indicator! Way to go, counting champion!

Begin by using the pegs to make the numeric indicator in the first braille cell. Then move to the second braille cell and place pegs in dots 3-5-6.

## Practice 1.1

Now it is your turn to find the numeral 0 in each line. Move your fingers across each line of braille and say "chug-chug-chug" whenever you find the numeral 0! Remember to keep your hands together and use a light touch!

[Six lines of dots 2-5 on page 1 with a numeral 0 inserted in each line.]



You are on the right track, train conductor! You found the numeral 0 in each line.

## Practice 1.2

Now find the numeral 0 hidden in a line of railroad cars, which are really full braille cells.

[Seven lines of full braille cells on page 2 with a numeral 0 inserted in each line.]

### Practice 1.3

Sometimes a line of braille may have more than one numeral 0. Move your fingers lightly across the next two lines of braille and find the numeral 0s.

[Make sure the student is viewing the first two lines of braille on page 3.]

### Fun Fact 1

One of the oldest trains today is *Puffing Billy*. It was built in 1813 in England.

## Practice 1.4

Continue to the next five lines of braille and find the numeral 0s. Say "tickets please" when you find the numeral 0.

Choo choo choo!

## Practice 1.5

Find the numeral 0s that are hiding in the line of magnet railroad cars, which are really full braille cells. Remember to keep your fingers curved!

[Six lines of full braille cells on page 4 with two numeral 0s inserted in each line.]

The figure shows a sequence of eight 3x3 dot patterns. The first four patterns show the construction of the digit '1' from a 3x3 grid of dots. The last four patterns show the construction of the digit '2' from a 3x3 grid of dots.

## Practice 1.6

Let's find the numeral 0 again! This time say "wwwwooo" like a train whistle when you find the numeral 0! You may find one numeral 0 on a line, or you may find lots of numeral 0s on a line.

[Seven lines of dots 2-5 on page 5 with one or more numeral 0s inserted in each line.]

## Fun Fact 2

The first railroad built across the United States in the 1860s carried people to new towns in the west such as Sacramento and San Francisco, California.

## Practice 1.7

Sometimes a line of braille will have more than one numeral. Find the numeral 0 in each line. Say "next stop" like a train conductor when you find the numeral 0 in each line. Be careful to make sure it is a numeral 0 and not 1, 2, 3, 4, or 5. Just find the 0s.

[Make sure the student is viewing the first two lines of braille on page 6.]

Way to go, train conductor!

## Practice 1.8

Continue to the next six lines of braille and find the numeral 0 again.

## Activity 1

As we complete this activity, the numeral 0 means no objects.

You will need 6 bowls, number cards from 0-5, and an assortment of small objects for this activity.

Begin by shuffling the number cards. Draw a number card and place that many objects in the first bowl. Set the card aside. Continue the same with each of the remaining bowls. If you draw the numeral 0, you will leave the bowl empty.

Afterwards arrange the bowls in a straight line and shuffle the number cards again. Then place each number card in front of the bowl that contains that many objects.

Remember, since 0 means no objects, place the number card 0 in front of the bowl that is empty.

Way to go, math superstar!

## Fun Fact 3

Did you know that express trains are designed to run nonstop between two cities?

## Practice 1.9

Move your fingers lightly over the braille lines and find some more numeral 0s that are hiding in a line of magnet railroad cars and other numerals. Be careful to make sure it is a numeral 0 and not 1, 2, 3, 4, 5, 6, or 7. Just find the 0s.

[Seven lines of full braille cells on page 7 with one or more numerals inserted in each line.]

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Chugga chugga CHOO CHOOOOOOOOO!

### Practice 1.10

Next, read the numeral at the beginning of each line and then find its match on the line of braille. Make a sound like a train when you find the match! Chug-chug-chug!

[Make sure the student is viewing the eight lines of braille on page 8.]

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### Activity 2

Use your flashcards to practice reading the numerals 0-9. Once you can read all of the numerals correctly, go back and time how quickly you can read the numerals! Do you think you can read the numerals even quicker? If so, try one more time!

## Fun Fact 4

The Orient Express was one of the most famous trains ever! It took passengers from Paris to Istanbul between 1883 and 1997. The Orient Express was luxurious. That means the train was super fancy!

## Section 2: Writing Numeral 0

### Section 2 Materials

- Braillewriter
- Braille paper
- Two swing cells (or two muffin tins and balls if you don't have access to swing cells)
- Optional: GPK-M6-Writing-Answers.brf
- Activity 3: same as the materials used in Section 2

### Section 2 Teacher Script

Time for writing! Let's go back to the swing cells. First, use the pegs and make a numeric indicator again. Tell me which dots make the numeric indicator. That's right! Dots 3-4-5-6 make the numeric indicator. Afterwards, open the swing cell. This will help you know where your fingers will go when you are writing!

#### Practice 2.1

Use your ring finger on your left hand and all three fingers on your right hand to write the numeric indicator on your braillewriter.

Now let's finish the numeral 0. With your second swing cell, place the pegs in dots 3-5-6. Now open the swing cell.

#### Practice 2.2

Use the ring finger on your left hand as well as the middle and ring fingers on your right hand. You try it now in the air and then on your braillewriter.

#### Practice 2.3

Let's put the two cells together and practice writing the numeral 0 in Nemeth using your braillewriter. Space one time between your numerals.

When you finish writing your numerals several times, move your fingers across the braille and check your work!



### **Activity 3**

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

#### **Practice 2.4**

Listen as I read a numeral. Then write the numeral in braille. Space one time between the numerals.

0 1 0 2

#### **Practice 2.5**

Now press your line spacing key twice to move to the next line.

5 0 4 0

#### **Practice 2.6**

Now press your line spacing key twice to move to the next line.

7 0 3 0

That was great writing, math superstar.

## **Section 3: Reading Numeral 10**

### **Section 3 Materials**

- Student Braille Document: GPK-M6-Student-Materials.brf
- Activity 4
  - Sorting tray with dividers
  - Timer
  - Five flashcards for each numeral from 0-9 shuffled
- Activity 5
  - Unifix or snap cubes (Alternatives: MegaBlocks, Legos, or teddy bear manipulatives designed for preschoolers)
  - Five flashcards for each numeral from 0-10 shuffled
- Activity 6
  - Braillewriter
  - Braille paper
  - Five flashcards for each numeral from 0-10 shuffled
- Activity 7
  - Timer
  - Five flashcards for each numeral from 0-10 shuffled

## Section 3 Teacher Note

If you are using hard copy braille, the student can do the following instead of making sounds whenever they find a numeral 10:

- Stomp a foot
- Underline or circle the numeral 10 with a grease marker or crayon
- Place a small sticker on top of each numeral 10

## Section 3 Teacher Script

### Practice 3.1

Let's practice reading numerals 0-9 one more time before learning to read the numeral 10. There will be 3 numerals on each line.

[Make sure the student is viewing the four lines of braille on page 9.]

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### Activity 4

Use your flashcards and find all of the numeral 0s. Place all of the 0s in one stack and all of the other numerals in a different stack.

Do you think you can find all the numeral 0s even quicker? Shuffle the flashcards and try one more time! Good luck, math superstar!

Let's explore the numeral 10 in Nemeth!

[Make sure the student is viewing the numeral 10 at the top of page 10.]

10

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Notice that the numeral 10 is three braille cells in length. What is in the first braille cell? That's right! The numeral 10 begins with the numeric indicator in the first braille cell just like the other numerals. What is in the second braille cell? You got it! There is a numeral 1 in the second cell. What numeral is in the last braille cell? That's right! It is the numeral 0.

## Practice 3.2

Now it is your turn to find the numeral 10 in each line of braille. Move your fingers lightly across the line of braille and make your favorite train sound when you find the numeral 10!

[Eight lines of dots 2-5 on page 10 with a numeral 10 inserted in each line.]

Whooooosh along the rails! You found the numeral 10s.

### Fun Fact 5

Some train trips take more than one day to complete. These trains have cars with seats for the day, restaurant cars where meals are served, and sleeping cars with beds for the night.

### Practice 3.3

Now move your fingers across each line of braille and find the numeral 10 hidden in a line of railroad cars, which are really full braille cells.

[Seven lines of full braille cells on page 11 with a numeral 10 inserted in each line.]

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### Practice 3.4

Sometimes a line of braille may have more than one numeral 10. Move your fingers lightly across the line of braille and find the numeral 10s. Remember to use a light touch and keep your fingers slightly curved.

[Make sure the student is viewing the first line of braille on page 12.]

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Excellent reading, train conductor!

### Practice 3.5

Continue to the next seven lines of braille and make a sound like a train whistle when you find each numeral 10!

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Let's keep going, Nemeth superstar!

### Practice 3.6

Now move your fingers like a train on train tracks across the line of braille and find all of the numeral 10s. They are hidden in a line of railroad cars, which are really full braille cells. Make a sound like a train each time you find the numeral 10!

[Seven lines of full braille cells on page 13 with two numeral 10s inserted in each line.]

Figure 1 shows four 3x3 dot patterns. Pattern (a) has 6 dots: (1,1), (1,2), (2,1), (2,2), (3,1), (3,2). Pattern (b) has 7 dots: (1,1), (1,2), (2,1), (2,2), (2,3), (3,1), (3,2). Pattern (c) has 8 dots: (1,1), (1,2), (2,1), (2,2), (2,3), (3,1), (3,2), (3,3). Pattern (d) has 9 dots: (1,1), (1,2), (2,1), (2,2), (2,3), (3,1), (3,2), (3,3), (3,4).

### Fun Fact 6

The longest train trip in the world without changing trains is in Russia and takes eight days to finish! That is a long time to spend on a train!

### Practice 3.7

Let's find more numeral 10s. Say "clickety clickety clack" when you find the numeral 10 in each line. Be careful to make sure it is a numeral 10 and not a numeral 2, 3, 4, or 5. Just find the 10s.

[Make sure the student is viewing the first two lines of braille on page 14.]

## Way to find the numeral 10s, math champion!

### Practice 3.8

Continue to the next eight lines of braille and find the numeral 10s. Say "tickets please" when you find the numeral 10.

Figure 1 shows four 3x3 dot patterns. Pattern (a) has 8 dots, pattern (b) has 10 dots, pattern (c) has 12 dots, and pattern (d) has 14 dots. The dots are arranged in a grid where some positions are occupied by a dot and others are empty.

Figure 1 shows five 3x3 dot patterns labeled (a) through (e). Each pattern consists of black dots on a 3x3 grid. Pattern (a) has 6 dots, (b) has 10 dots, (c) has 7 dots, (d) has 8 dots, and (e) has 10 dots.

### Practice 3.9

Find the numeral 10s that are hiding in a line of railroad cars and numerals 0-9. Remember to find only the numeral 10s.

[Eight lines of full braille cells on page 15 with one or more numerals inserted in each line.]

### Fun Fact 7

Just like cars and trucks, trains have headlights at the front to make it easier to see that the train is coming. At night, engineers totally need that headlight to see because stuff gets on the tracks all the time. During the day, the headlight is so other people can see the train - like at road crossings, etc.

## Activity 5

You will need your flashcards from 0-10 and Unifix cubes or other cubes that can be snapped together. If you do not have the Unifix or snap cubes, you can also use MegaBlocks, Legos, or teddy bear manipulatives designed for preschoolers.

Draw a card and then read the numeral. Then build a train using that number of Unifix or snap cubes. If you would like, you and a friend (or your teacher) can take turns drawing cards and building a train!

That was super reading and counting, math all-star!

### Practice 3.10

Now read the numeral at the beginning of each line and then find its match on the line of braille. Make a fun train sound when you find the match!  
Chug-chug-chug!

[Make sure the student is viewing the eight lines of braille on page 16.]

## Activity 6

You will need your braillewriter, braille paper, and flashcards for numerals 0-10. Shuffle your flashcards and then draw a flashcard. Read the numeral on the flashcard and then braille that many full cells before pressing the line spacing key twice.

If you would like, you and a friend (or your teacher) can take turns drawing cards and brailleing that many full cells.

### Practice 3.11

Let's practice reading numerals 0 to 10 once more.

[Make sure the student is viewing the four lines of braille on page 17.]

The figure displays a 4x4 grid of 16 dot patterns. Each pattern is a 3x3 grid of dots. The number of black dots in each pattern increases from top-left to bottom-right. The patterns are as follows:

Row \ Column	1	2	3	4
1	1 black dot (top-left)	2 black dots (top-left, top-middle)	3 black dots (top-left, top-middle, top-right)	4 black dots (top-left, top-middle, top-right, middle-left)
2	2 black dots (top-left, top-middle)	3 black dots (top-left, top-middle, top-right)	4 black dots (top-left, top-middle, top-right, middle-left)	5 black dots (top-left, top-middle, top-right, middle-left, middle-middle)
3	3 black dots (top-left, top-middle, top-right)	4 black dots (top-left, top-middle, top-right, middle-left)	5 black dots (top-left, top-middle, top-right, middle-left, middle-middle)	6 black dots (top-left, top-middle, top-right, middle-left, middle-middle, middle-right)
4	4 black dots (top-left, top-middle, top-right, middle-left)	5 black dots (top-left, top-middle, top-right, middle-left, middle-middle)	6 black dots (top-left, top-middle, top-right, middle-left, middle-middle, middle-right)	7 black dots (top-left, top-middle, top-right, middle-left, middle-middle, middle-right, bottom-left)



## **Fun Fact 8**

High-speed passenger trains run on electric power picked up from overhead electricity lines.

## **Activity 7**

Use your flashcards to practice reading the numerals 0-10. Once you can read all of the numerals correctly, go back and time how quickly you can read the numerals! Do you think you can read the numerals even quicker? If so, try one more time! You can do it, train conductor!

# **Section 4: Writing Numeral 10**

## **Section 4 Materials**

- Braillewriter
- Braille paper
- Activity 8: in addition to the other materials used in Section 4,
  - Ten objects that remind the student of a train and can be glued or stuck onto the paper
  - Glue stick (Alternatives: double-sided tape, sticky tack, glue)

## **Section 4 Teacher Script**

Time for writing on your braillewriter!

### **Practice 4.1**

Begin the numeral 10 with a numeric indicator.

Use your ring finger on your left hand and all three fingers on your right hand to write the numeric indicator on your braillewriter. Next, use your middle finger on your left hand and press the dot 2. To finish the numeral 10 in the third cell, use your middle finger on your left hand and your middle and ring fingers on your right hand.

### **Practice 4.2**

Let's put the three cells together and practice writing the numeral 10 in Nemeth using your braillewriter. Space one time between your numerals.

When you finish writing your numerals several times, move your fingers across the braille and check your work!

## **Activity 8**

You will need a sheet of braille paper, your braillewriter, and ten objects that remind you of a train!

Write the numeral 10 in Nemeth. Then, glue your ten trains onto the paper!

## **Fun Fact 9**

Railroads are sometimes built in areas with mountains. Trains travel on bridges and in tunnels to pass through the steep mountains and valleys.

That was great counting and writing!

# **Section 5: Review**

## **Section 5 Materials**

- Braillewriter
- Braille paper
- Student Braille Document: GPK-M6-Student-Materials.brf
- Optional: GPK-M6-Writing-Answers.brf
- Activity 9: same as the materials used in Section 5
- Activity 10
  - One flashcard for each numeral from 0-10 shuffled
  - Optional: hard copy of Nemeth numerals 0-10 in order
- Activity 11
  - Railroad cars with numerals 1-9 from the last module
  - Brightly colored construction paper or braille paper cut into train car shapes – shapes available in the curriculum
  - Glue stick
  - Braille numerals 0 and 10 on small cards
  - Optional: scented stickers, Wikki Stix®, buttons, textured paper
- Activity 12
  - Book made of poster board
  - Variety of small objects that can be easily counted
  - Glue stick
  - Sticky-back strips and circles of Velcro
  - Braille numerals 1 through 10 on small cards

## Section 5 Teacher Notes

- Activity 10
  - Provide the student with a hard copy of numbers in order to use as a model as needed.
  - It may also help to place the flashcards on a nonslip surface such as rubber shelf liner so they will not move as much. You may also use a strip of sticky back Velcro on the back side of each flashcard and then arrange the flashcards on a long strip of Velcro on the student's desk. You can also paste the flashcards in place on a large piece of construction paper when they are correctly laid out.
  - If additional practice is needed, this activity can be completed two or more times.
- Activity 12
  - You can use a book made of cardboard from a craft store.
  - Removable objects can also be changed by the child to easily create a different counting book.
  - If preferred, you can use hot glue instead of Velcro to attach the objects.
  - More information about making counting books is available on the Paths to Literacy website ([www.pathstoliteracy.org](http://www.pathstoliteracy.org)) and in Beginning with Braille: Firsthand Experiences with a Balanced Approach to Literacy by Anna Swenson from AFB Press (<https://www.afb.org/product-category/aph-press/>).

## Section 5 Teacher Script

Let's practice writing numerals with another activity.

### Activity 9

#### Practice 5.1

Count the number of full braille cells in each line. Then write the number using your braillewriter. Space one time between your answers.

[Make sure the student is viewing the eight lines of braille on page 18.]

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### Fun Fact 10

When there is a lot of snow on the railroad tracks in winter, special trains with a snowplow or snow blower clear the track so that other trains can travel safely!

All aboard the Nemeth train!

### Practice 5.2

Read the numbers that are in order from 0 to 10.

[Make sure the student is viewing the first two lines of braille on page 19.]

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### Practice 5.3

Go to the third and fourth line of braille and read the numbers from 0 to 10 again.

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### Activity 10

You will need flashcards with numbers from 0 to 10. Shuffle the flashcards. Then place the numbers in order from 0 to 10.

Using the numbers 0 to 10 in braille or your flashcards in order, tell me what number comes after 9. That's right! 10 comes after 9. Now tell me what number comes after 3. That's right! 4 comes after 3. What number comes after 7? You got it now! 8 comes after 7.

Using the numbers in braille or your flashcards in order, tell me what number comes before 4. Way to go! 3 comes before 4. Let's try another one. Tell me what number comes before 10. That's right. 9 comes before 10.

### **Practice 5.4**

Now practice writing your numerals 0 to 10 using your brailewriter. Space one time between your numerals. When you finish writing, move your fingers across the braille and read the numerals that you wrote!

### **Activity 11**

Let's continue to build our number train. You will need: railroad cars with numerals 1-9 from the last module, brightly colored construction paper or braille paper cut into train car shapes, glue stick, and braille numerals 0 and 10 on small cards.

First, find the numeral 0 and glue it onto a railroad car. Then, find the numeral 10 and glue it onto another railroad car. Then put the railroad cars into order from 0 to 10. If you would like, you can "decorate" with scented stickers, Wikki Stix®, buttons, or textured paper.

### **Activity 12**

Create a counting book from 1 to 10 by using objects that can be easily counted like one smooth button, two birthday candles, three foam triangles, four keys, etc.

You will need: book made of poster board, a variety of small objects, glue stick, sticky-back strips of Velcro, sticky-back circles of Velcro, and braille numerals 1 through 10 on small cards. We will use Velcro so that you can take the objects out of the book easily when counting!

First, find the numeral 1 and glue it onto the upper left corner of the first page of the book. Afterwards, find the numeral 2 and glue it onto the upper left corner of the next page. Continue to find the numbers in order and then glue each one onto the upper left corner of a different page.

Once you have finished locating and gluing the numerals onto the pages, attach a Velcro strip horizontally in the middle of each page. For the pages with numerals 6-10 on them, attach a second Velcro strip slightly below the first Velcro strip.

Next decide which object will be used with the numeral 1 and then glue a Velcro circle onto the back of the item. Then attach the item with the Velcro circle onto the long Velcro strip on the page with the numeral 1. Complete the same process for all of the numerals.

Then have fun reading and counting the objects in your counting book!

Now you are ready for the last train stop: module 6 check-up! Thank you for all of your hard work! You are a Nemeth all-star!