

Pre-Kindergarten Module 5

Numerals 8-9

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 8

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-M5-Student-Materials.brf
- Activity 1
 - Timer
 - Five flashcards for each numeral from 1-8 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 8:

- Stomp a foot
- Underline or circle the numeral 8
- Place a small sticker on top of each numeral 8

Section 1 Teacher Script

All aboard the Nemeth train to learn about the numeral 8!

Just like the numerals 1-7 that you have learned, the numeral 8 begins with the numeric indicator in the first braille cell! It ends with dots 2-3-6 in the second braille cell.

[Make sure the student is viewing the numeral 8 at the top of page 1.]

8



Use the swing cells to build the numeral 8. 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, math superstar!

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 2-3-6.

Practice 1.1

Now it is your turn to find the numeral 8 in each line. Move your fingers across each line of braille and say "all aboard" whenever you find the numeral 8! Remember to keep your fingers curved and use a light touch!

[Six lines of dots 2-5 on page 1 with a numeral 8 inserted in each line.]



Good job, train conductor! You found the numeral 8 in each line.

Practice 1.2

Now find the numeral 8 hidden in a line of railroad cars, which are really full braille cells.

[Six lines of full braille cells on page 2 with a numeral 8 inserted in each line.]

The sequence consists of five dot patterns arranged horizontally. The first three patterns are identical 3x2 grids of dots. The fourth pattern is a 3x2 grid where the top-right dot is missing. The fifth pattern is a 3x2 grid where the top-right dot is missing, and there is an additional dot to the right of the middle-right position.

Practice 1.3

Sometimes a line of braille may have more than one numeral 8. Move your fingers lightly across the next two lines of braille and find the numeral 8s.

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

Fun Fact 1

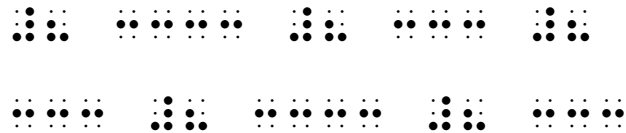
There are 489 subway train stations in New York City! Is there a subway train station where you live?

Practice 1.4

Continue to the next five lines of braille and find the numeral 8s. Say "tickets please" when you find the numeral 8.

The figure shows a sequence of 15 diagrams, each representing a 3x3 grid of dots. The dots are black, and the background is white. The sequence starts with a single dot in the center (Diagram 1) and grows to fill the entire grid by the 15th diagram. The growth follows a specific rule: in each step, a dot is added to a cell that is adjacent (horizontally, vertically, or diagonally) to a cell that already contains a dot. The sequence of diagrams is as follows:

- Diagram 1: Center dot.
- Diagram 2: Center and top-center dots.
- Diagram 3: Center, top-center, and top-left dots.
- Diagram 4: Center, top-center, top-left, and top-right dots.
- Diagram 5: Center, top-center, top-left, top-right, and bottom-center dots.
- Diagram 6: Center, top-center, top-left, top-right, bottom-center, and bottom-left dots.
- Diagram 7: Center, top-center, top-left, top-right, bottom-center, bottom-left, and bottom-right dots.
- Diagram 8: Center, top-center, top-left, top-right, bottom-center, bottom-left, bottom-right, and middle-left dots.
- Diagram 9: Center, top-center, top-left, top-right, bottom-center, bottom-left, bottom-right, middle-left, and middle-right dots.
- Diagram 10: Center, top-center, top-left, top-right, bottom-center, bottom-left, bottom-right, middle-left, middle-right, and middle-top dots.
- Diagram 11: Center, top-center, top-left, top-right, bottom-center, bottom-left, bottom-right, middle-left, middle-right, middle-top, and middle-bottom dots.
- Diagram 12: Center, top-center, top-left, top-right, bottom-center, bottom-left, bottom-right, middle-left, middle-right, middle-top, middle-bottom, and top-left dot.
- Diagram 13: Center, top-center, top-left, top-right, bottom-center, bottom-left, bottom-right, middle-left, middle-right, middle-top, middle-bottom, top-left, and top-right dots.
- Diagram 14: Center, top-center, top-left, top-right, bottom-center, bottom-left, bottom-right, middle-left, middle-right, middle-top, middle-bottom, top-left, top-right, and top-center dots.
- Diagram 15: All 9 dots in the 3x3 grid are present.

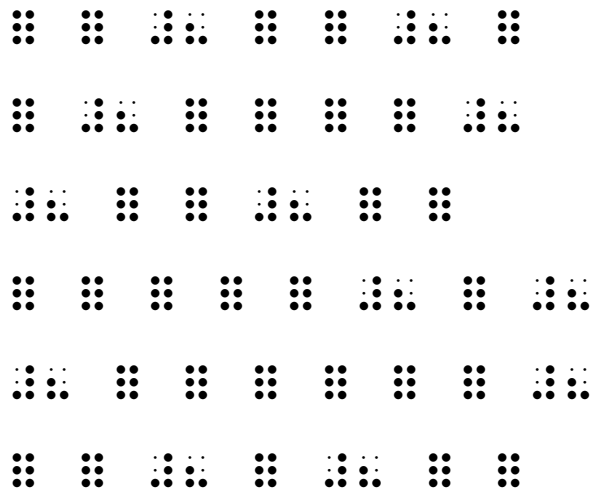


Chug-chug-chug-chug!

Practice 1.5

Find the numeral 8s that are hiding in the line of magnet railroad cars, which are really full braille cells. Remember to keep your fingers curved!

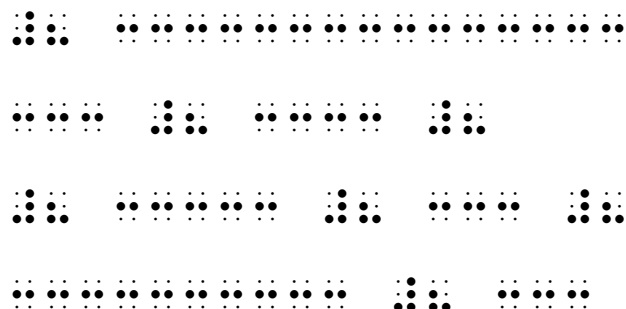
[Six lines of full braille cells on page 4 with two numeral 8s inserted in each line.]



Practice 1.6

Let's find the numeral 8 again! This time say "wwwwooo" like a train whistle when you find the numeral 8! You may find only one numeral 8 on a line, or you may find lots of numeral 8s on a line.

[Seven lines of dots 2-5 on page 5 with one or more numeral 8s inserted in each line.]



Fun Fact 2

There are 142 subway train stations in Chicago.

Practice 1.7

Sometimes a line of braille will have more than one numeral. Find the numeral 8 in each line. Say "next stop" like a train conductor when you find the numeral 8 in each line. Be careful to make sure it is a numeral 8 and not 1, 2, 3, or 4. Just find the 8s.

[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 8 again.

Super job!

Fun Fact 3

Did you know that there are no subway train stations in some states, including South Carolina and North Dakota?

Have you ever been on a subway or visited a subway train station? If so, tell me about your experience.

Practice 1.9

Move your fingers lightly over the braille lines and find some more numeral 8s that are hiding in a line of magnet railroad cars and other numerals. Be careful to make sure it is a numeral 8 and not 1, 2, 3, 4, 5, 6, or 7. Just find the 8s.

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

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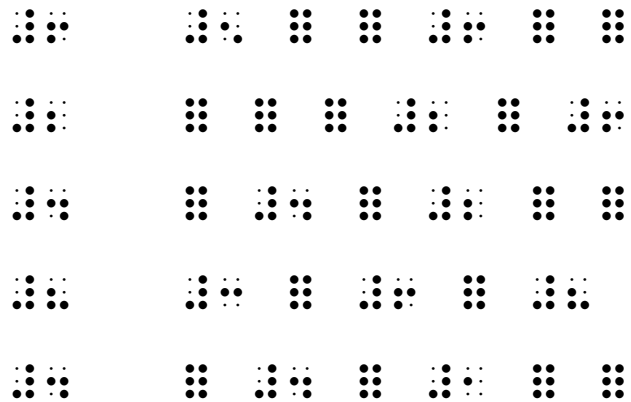
Chugga chugga CHOO CHOOOOOOOOO!

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 seven lines of braille on page 8.]

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Activity 1

Use your flashcards to practice reading the numerals 1-8. 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

Some train horns sound like “waaank”.

Section 2: Writing Numeral 8

Section 2 Materials

- Braillewriter
- Braille paper
- Two swing cells (or two muffin tins and balls if you don't have access to swing cells)
- Activity 2: same as the materials in Section 2
- Activity 3
 - Sorting tray with dividers
 - Timer
 - Five flashcards for each numeral from 1-8 shuffled

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.

Practice 2.2

Now let's finish the numeral 8. With your second swing cell, place the pegs in dots 2-3-6. Now open the swing cell. Use the middle and ring fingers on your left hand as well as the ring finger 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 8 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 2

You will need a sheet of braille paper and your braillewriter. Use your braillewriter to create 8 lines of full braille cells and numeral 8s for you, a teacher and/or a friend to read.

Make some of your lines long and some of the lines short. Use your thumb to space one time between your full braille cells and the numeral 8s. Also push your line spacing key twice at the end of a line to double space your lines of braille.

When you are finished, check your work and have fun reading the lines of braille you created! Then count how many numeral 8s are on each line.

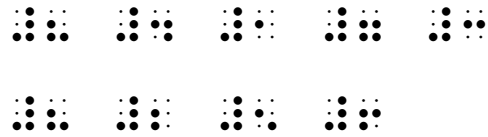
Now try to find the shortest line and then the longest line. Don't forget to let a teacher or friend read the braille too!

That was great reading and writing, math superstar.

Practice 2.4

Let's practice reading numerals one more time.

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



Activity 3

Use your flashcards and find all of the numeral 8s. Place all the 8s in one stack and all of the other numerals in a different stack.

Do you think you can find all the numeral 8s even quicker? Shuffle the flashcards and try one more time! Good luck, math superstar!

Section 3: Reading Numeral 9

Section 3 Materials

- Two swing cells (or two muffin tins and balls if you don't have access to swing cells)
- Student Braille Document: GPK-M5-Student-Materials.brf
- Activity 4
 - Unifix or snap cubes (Alternatives: MegaBlocks, Legos, or teddy bear manipulatives designed for preschoolers)
 - Five flashcards for each numeral from 1-9 shuffled
- Activity 5
 - Timer
 - Five flashcards for each numeral from 1-9 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 9:

- Stomp a foot
- Underline or circle the numeral 9
- Place a small sticker on top of each numeral 9

Section 3 Teacher Script

Let's explore the numeral 9 in Nemeth!

[Make sure the student is viewing the numeral 9 at the top of page 10.]

9



Numeral 9 begins with the numeric indicator in the first braille cell and ends with dots 3-5 in the second braille cell! Now let's use the swing cell. It is your turn to build the numeral 9 with a swing cell. Do you remember the dots that make a numeric indicator? That's right! Dots 3-4-5-6 make a numeric indicator!

Begin by using the pegs to make the numeric indicator in the first swing cell. Then move to the second swing cell and place pegs in dots 3-5. Congratulations! You made the numeral 9.

Practice 3.1

Now it is your turn to find the numeral 9 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 9!

[Seven lines of dots 2-5 on page 10 with a numeral 7 inserted in each line.]



Whooooosh along the rails! You found the numeral 9s.

Practice 3.2

Now move your fingers across each line of braille and find the numeral 9 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 9 inserted in each line.]

The sequence consists of 8 dot patterns. The first 7 patterns are 3x3 grids of dots. The 8th pattern is a 3x3 grid with some dots missing, forming a specific shape.

Practice 3.3

Sometimes a line of braille may have more than one numeral 9. Move your fingers lightly across the line of braille and find the numeral 9s. 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.]

Excellent reading, train conductor!

Practice 3.4

Continue to the next six lines of braille and make a sound like a train whistle when you find each numeral 9!

Let's keep going!

Practice 3.5

Now move your fingers like a train on train tracks across the line of braille and find all of the numeral 9s. 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 9!

[Seven lines of full braille cells on page 13 with two numeral 9s inserted in each line.]

Fun Fact 5

Many trains use air brakes today, just like 18 wheelers.

Practice 3.6

Let's find more numeral 9s. Say "clickety clack" when you find the numeral 9 in each line. Be careful to make sure it is a numeral 9 and not a numeral 6, 7, or 8. Just find the 9s.

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

Way to go, math superstar!

Practice 3.7

Continue to the next seven lines of braille and find the numeral 9s. Say “the wheels on the train go round and round” when you find the numeral 9.

The figure displays a 5x5 grid of 25 dot patterns, each representing a unique combination of the five senses (sight, hearing, touch, taste, smell) using a 3x3 dot matrix. The patterns are arranged in a grid where each row and column contains five distinct patterns. The patterns are as follows:

Practice 3.8

Find the numeral 9s that are hiding in a line of railroad cars and numerals 1-8. Remember to find only the numeral 9s.

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

[illegible]

Activity 4

You will need your flashcards and Unifix cubes or other cubes that can be snapped together.

Draw a card and 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!

Practice 3.9

Now let's practice reading numerals 1 to 9.

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

Activity 5

Use your flashcards to practice reading the numerals 1-9. 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! You can do it, train conductor!

Section 4: Writing Numeral 9

Section 4 Materials

- Braillewriter
- Braille paper
- Two swing cells (or two muffin tins and balls if you don't have access to swing cells)

Section 4 Teacher Script

Time for writing! Let's go back to the swing cell and use the pegs to make a numeric indicator. Which dots make the numeric indicator? That's right! Dots 3-4-5-6 make the numeric indicator. Since the swing cell is closed, open the swing cell. This will help you know where your fingers will go!

Practice 4.1

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

Practice 4.2

Now let's finish the numeral 9. On the second swing cell, place the pegs in dots 3-5. Use your ring finger on your left hand and your middle finger on your right hand. Since the swing cell is closed, open the swing cell. This will help you know where your fingers will go for the second part of the numeral! You try it now in the air and then on your braillewriter.

Practice 4.3

Let's put the two cells together and practice writing the numeral 9 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!

Section 5: Review

Section 5 Materials

- Braillewriter
- Braille paper
- Student Braille Document: GPK-M5-Student-Materials.brf

- Optional: one flashcard for each numeral from 1-9 in order on a nonslip surface, GPK-M5-Writing-Answers.brf
- Activity 6
 - Bin or bucket
 - Nine objects
- Activity 7: one flashcard for each numeral from 1-9 shuffled
- Activity 8
 - Railroad cars with numerals 1-7 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 8-9 on small cards
 - Optional: scented stickers, Wikki Stix®, buttons, textured paper
- Activity 9: graham crackers, vanilla wafers, Cheerios

Section 5 Teacher Note

Activity 7: Provide the student with a hard copy of numbers in order to use as a model. It may help to place the flashcards on a nonslip surface such as rubber shelf liner so they will not move as the student is reading the cards. You may 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.

Section 5 Teacher Script

Let's practice with another activity.

Activity 6

Place 9 objects in a bin or bucket. Select some or all of the objects. Then count the items and braille the Nemeth numeral. Afterwards place the objects back in the bin or bucket. Now have a teacher or a friend select some objects. Then count the items and braille the Nemeth numeral!

All aboard the Nemeth train!

Practice 5.1

Read the numbers that are in order from 1 to 9.

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

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Practice 5.2

Go to the third and fourth lines of braille and read the numbers from 1 to 9 again.

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Activity 7

You will need flashcards with numbers from 1 to 9. Shuffle the flashcards. Then place the numbers in order from 1 to 9.

Using the numbers 1 to 9 in braille or your flashcards in order, tell me what number comes after 8. That's right! 9 comes after 8. Now tell me what number comes after 3. That's right! 4 comes after 3. What number comes after 6? You got it now! 7 comes after 6.

Using the numbers in braille or your flashcards in order, tell me what number comes before 3. Way to go! 2 comes before 3. Let's try another one. Tell me what number comes before 9. That's right. 8 comes before 9.

Practice 5.3

Now practice writing your numerals 1 to 9 using your braillewriter. Space one time between your numerals. When you finish writing, move your fingers across the braille and read the numerals that you wrote!

Activity 8

Let's continue to build our number train. You will need: railroad cars with numerals 1-7 from the last module, brightly colored construction paper or braille paper cut into train car shapes, glue stick, and braille numerals 8-9 on small cards.

First, find the numeral 8 and glue it onto a railroad car. Then, find the numeral 9 and glue it onto another railroad car. Then put the railroad cars into order from 1 to 9. If you would like, you can “decorate” with scented stickers, Wikki Stix®, buttons, or textured paper.

Activity 9

Let's wash our hands before beginning this activity.

It is fun to make a graham cracker train snack! You will need graham crackers, vanilla wafers, and Cheerios. The first step in building your train snack is to break a sheet of graham crackers into four parts. Then count out 8 vanilla wafers and 8 Cheerios. Then use the graham crackers to create 4 railroad cars with two vanilla wafers for wheels on each railroad car. The Cheerios can be used to create the exhaust and steam coming from the engine.

Once you finish making your train, enjoy your snack! Eat one of your railroad cars and its wheels, and then figure out how many railroad cars and wheels you have left. Then if you are still hungry, eat another railroad car and its wheel, and then figure out how many railroad cars and wheels you have left.

Now you are ready for the next train stop: module 5 check-up! Thank you for all of your hard work!