

First Grade Posttest

Introduction

- This posttest should be completed with hard copy braille and a braillewriter instead of a refreshable braille display.
- All bracketed text should not be read aloud and is for reference only.
- The questions 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.
- It is highly recommended that this check-up be completed across two or more sessions.

Part 1

Part 1 Materials

- Counting to 120 Chart available in braille within the curriculum (Although the double-spaced chart is recommended for most first graders, a single-spaced alternative chart is also available in the curriculum.)
- Student Braille Document: G1-Posttest-Student.brf
- Braillewriter
- Braille paper
- Base ten units, rods, and flats in different containers, baskets, or bowls (Alternative: Digi-Blocks which is a different type of base ten blocks that nest)
- Place Value Chart 2 available in contracted and uncontracted braille within the curriculum (Alternative: three-compartment sorting tray with the right compartment labeled "ones", middle compartment labeled "tens", and left compartment labeled "hundreds" in braille.)
- G1-Posttest-Data-Table.docx

Part 1 Teacher Note

As the student completes Questions 1.19-1.21, carefully observe if the student presses the space key with the thumb to leave a space between symbols and record this information on the data table.

Part 1 Teacher Script

Question 1.1

Count aloud to 120, beginning with 1.

Question 1.2

Using a Counting to 120 Chart, skip count by 10s to 120, beginning with 10.

Question 1.3

Find the following numbers on this same braille chart.

45 101 94 118 2 78

73 108 80 120 66 37

114 100 54 109 29 106

117 46 102 113 75 91 62

Question 1.4

Use your braille chart and count to 120 beginning with the following numbers:

41 106 80 103 78 97 119 13

Question 1.5

Use your braille chart and skip count by 10 through the last row in the chart, beginning with the following numbers:

16 79 49 32 5 87 64

Question 1.6

Listen as I read each math problem, and then use your Counting to 120 chart to answer the question.

What number is ten less than 120?

Question 1.7

What number is ten more than 88?

Question 1.8

What number is ten less than 49?

Question 1.9

What number is ten more than 37?

Question 1.10

What number is ten less than 66?

Question 1.11

What number is ten less than 102?

Question 1.12

What number is ten more than 97?

Question 1.13

What number is ten more than 52?

This activity will help us find out how well you have learned to read the braille numbers 0 to 120.

Question 1.14

Read the numbers from 1-50 on page 1. There will be 4 numbers on each line.

Question 1.15

Read the numbers from 51-100, beginning at the top of page 2. There will be 4 numbers on each line.

Question 1.16

Read the numbers from 101-120 at the bottom of page 2. There will be 5 numbers on each line this time.

Question 1.17

Read the numbers in expanded form at the top of page 3.

• • • • •

• • • • •

Question 1.18

Let's try some more.

[Make sure that the student is viewing the last five problems on page 3.]

⠠⠠⠠⠠⠠⠠

⠠⠠⠠⠠⠠⠠

⠠⠠⠠⠠⠠⠠

⠠⠠⠠⠠⠠⠠

⠠⠠⠠⠠⠠⠠

This activity will help us find out how well you have learned to write the numbers 1-120 and build them by using base ten blocks (or Digi-Blocks) and a Place Value Chart.

Question 1.19

Now write the numbers in standard form that you hear and space one time between the numbers. Then build the number by using base ten blocks (or Digi-Blocks) and your Place Value Chart.

Don't forget to put your blocks back into the work tray each time before beginning to build a different number.

63

47

15

87

29

51

Question 1.20

Use the line spacing key twice to move to the next line before trying some more!

2

79

90

103

116

Question 1.21

Use the line spacing key twice to move to the next line before writing and building a few more numbers!

120

108

119

38

96

Part 2

Part 2 Materials

- Student Braille Document: G1-Posttest-Student.brf
- Five and ten frames available in braille within the curriculum (Alternatives: Tactile Five and Ten Frames from American Printing House for the Blind [APH], line segments from the APH Picture Maker Wheatley Tactile Diagramming Kit placed in the shape of a five or ten frame)
- Ten pennies (Alternatives: APH Tactile Tokens, small pieces of Wikki Stix®, magnetic counters, shapes from the APH Picture Maker Wheatley Tactile Diagramming Kit) in a bowl or work tray
- G1-Posttest-Data-Table.docx
- Optional: nonslip surface such as rubber shelf liner for the five and ten frame (Alternatives: cookie sheet, magnetic board)

Part 2 Teacher Note

The Tactile Tokens from APH fit perfectly into the five and ten frames and the two textures can represent the two addends.

Part 2 Teacher Script

You will need your five frame, pennies, and work tray for the first three problems.

Question 2.1

Begin by placing 3 pennies on the five frame. How many more pennies are needed to make 5?

Question 2.2

Remove the pennies from the five frame and place them back in the work tray. Now place 4 pennies on the five frame. How many more pennies are needed to make 5?

Question 2.3

Use your five frame and show me 3 different ways to make 5.

For the next problem, you will need your ten frame, pennies, and work tray.

Question 2.4

Use your ten frame and show me 4 different ways to make 10.

Question 2.5

Read the following equations in braille at the top of page 4.

$3 + 2 = 5$

$4 + 1 = 5$

$2 + 3 = 5$

$1 + 4 = 5$

$5 = 5$

Question 2.6

Let's try some more.

[Make sure the student is viewing the last 5 problems on page 4.]

$2 + 3 = 5$

$4 + 5 = 9$

$6 + 7 = 13$

$8 + 9 = 17$

$10 + 11 = 21$

Question 2.7

Now read the equations at the top of page 5 and then tell me what number the long dash stands for each time.

$2 + 3 = 5$

$4 + 5 = 9$

$6 + 7 = 13$

$8 + 9 = 17$

$10 + 11 = 21$

$12 + 13 = 25$

Question 2.8

Let's try some more, beginning in the middle of page 5.

$2 + 3 = 5$

$4 + 5 = 9$

$$\frac{1}{2} \times \frac{3}{4} = \frac{3}{8}$$

$$\frac{1}{2} \times \frac{3}{4} = \frac{3}{8}$$

$$\frac{1}{2} \times \frac{3}{4} = \frac{3}{8}$$

$$\frac{1}{2} \times \frac{3}{4} = \frac{3}{8}$$

Question 2.9

Let's try some more, beginning at the top of page 6. Once again read the equations below and tell me what number the long dash stands for each time.

$$\frac{1}{2} \times \frac{3}{4} = \frac{3}{8}$$

$$\frac{1}{2} \times \frac{3}{4} = \frac{3}{8}$$

$$\frac{1}{2} \times \frac{3}{4} = \frac{3}{8}$$

$$\frac{1}{2} \times \frac{3}{4} = \frac{3}{8}$$

$$\frac{1}{2} \times \frac{3}{4} = \frac{3}{8}$$

$$\frac{1}{2} \times \frac{3}{4} = \frac{3}{8}$$

$$\frac{1}{2} \times \frac{3}{4} = \frac{3}{8}$$

$$\frac{1}{2} \times \frac{3}{4} = \frac{3}{8}$$

$$\frac{1}{2} \times \frac{3}{4} = \frac{3}{8}$$

$$\frac{1}{2} \times \frac{3}{4} = \frac{3}{8}$$

Part 3

Part 3 Materials

- Braillewriter
- Braille paper
- Work tray
- 12 different sized, 2-dimensional shapes (2 circles, 2 triangles, 2 rectangles, 2 half-circles, 2 trapezoids, and 2 squares) which can be found in the following kits from APH:
 - MathBuilders, Unit 1: Matching, Sorting, and Patterning Kit
 - Fractional Parts of Wholes: Circles
 - Focus in Math Kit
 - Feel 'n Peel Sheets: Carousel of Textures has a variety of non-adhesive backed textured paper that can be used to create shapes
- Tactile drawing film and
- inTACT Sketchpad or a DRAFTSMAN: Tactile Drawing Board (Alternatives: Wikki Stix® or graphic art tape on braille paper)
- G1-Posttest-Data-Table.docx

Part 3 Teacher Notes

- As the student completes Question 3.2, carefully observe if the student moves to the next line in braille by pushing the line spacing key twice and record this information on the data table.
- For Question 3.5, the orientation of the shapes should vary.
- If the student calls a square a rectangle, tell them that they are correct, but it is a special kind of rectangle. What is its special name?
- If students seem to struggle in providing a description, you can offer a 2-dimensional shape.
- For Question 3.12, the following shapes should be drawn in random order from left to right: 1) circle; 2) half-circle; 3) rectangle; 4) square; 5) trapezoid; and 6) triangle on the inTACT Sketchpad or a DRAFTSMAN: Tactile Drawing Board. You may also use Wikki Stix® or graphic art tape on braille paper to create the shapes.

Part 3 Teacher Script

Question 3.1

Listen as I read a series of braille symbols. Then write the symbols in braille and space one time between them.

equals sign

plus sign

general omission symbol

Nemeth long dash

minus sign

Question 3.2

Write the following numbers in expanded form and use the line spacing key twice to move to the next line.

72

99

41

65

30

58

Question 3.3

Continue to listen and then braille what you hear. You may need another piece of paper. Remember that all of the problems will be horizontally aligned and numbered. Use the line spacing key to move to the next line each time.

Let me know if you need for me to repeat what you should braille. Let's get started!

The problems are: number 1: 0 plus 5 equals what number, number 2: 3 plus 2 equals 5, number 3: 5 minus 4 equals what number, and number 4: 5 plus 5 equals 10.

1. $0+5 = ?$

2. $3+2 = 5$

3. $5-4 = ?$

4. $5+5 = 10$

Question 3.4

Let's try some more. This time the problems will contain a long dash.

Write the following problems: number 5: blank minus 1 equals 4, number 6: 1 plus blank equals 6, number 7: 8 minus blank equals 3, number 8: 10 plus 0 equals blank, number 9: blank minus 8 equals 1, number 10: blank plus 5 equals 7, number 11: 10 minus blank equals 2, and number 12: blank minus 3 equals 4.

5. ____ -1 = 4

6. 1+ ____ = 6

7. 8- ____ = 3

8. 10+0 = ____

9. ____ -8 = 1

10. ____ +5 = 7

11. 10- ____ = 2

12. ____ -3 = 4

Question 3.5

I have placed 12 shapes into a work tray. Pick up one shape at a time and tell me if it is a square, rectangle, triangle, half-circle, circle, or trapezoid.

Question 3.6

Now place the shapes back in the work tray and tell me about each shape, as I give you the name.

circle

Question 3.7

triangle

Question 3.8

rectangle

Question 3.9

half-circle

Question 3.10

square

Question 3.11

trapezoid

Question 3.12

I have used the inTACT Sketchpad (or the DRAFTSMAN: Tactile Drawing Board) to draw several shapes. Use both hands and scan the drawing film from left to right. Then tell me the name of each shape, moving from left to right!

Question 3.13

How is a half-circle like a circle?

Question 3.14

How is a trapezoid different from a rectangle?

Question 3.15

How is a triangle different from a circle?

Question 3.16

How is a trapezoid like a rectangle?

Question 3.17

Now place a new sheet of tactile drawing film in the Sketchpad (or the DRAFTSMAN) and draw each shape as I give you the name.

rectangle

Question 3.18

square

Question 3.19

trapezoid

Question 3.20

circle

Question 3.21

half-circle

Question 3.22

triangle

Part 4

Part 4 Materials

- Student Braille Document: G1-Posttest-Student.brf
- Braillewriter
- Braille paper
- G1-Posttest-Data-Table.docx

Part 4 Teacher Note

- Starting with Question 4.13, this part of the posttest should be completed with hard copy braille.
- Once you finish reading the problems in Questions 4.13 and 4.14, keep the pages because we will use them again in Section 5.

Part 4 Teacher Script

Question 4.1

Begin at the top of page 7 by reading each problem and answer choices. Pay attention to the sign of operation and then figure out the answer to the problem. Afterwards, write the problem number and letter of the correct answer choice. Then press your line spacing key twice to move to the next line of braille before beginning the next problem.

$$\frac{123456}{789012} = \frac{123456}{789012}$$

Question 4.2

[Make sure the student is viewing the second problem on page 7.]

$$\frac{123456}{789012} = \frac{123456}{789012}$$

Question 4.3

Turn to page 8 and continue reading each problem and then writing your answer.

$$\frac{123456}{789012} = \frac{123456}{789012}$$

Question 4.4

[Make sure the student is viewing the second problem on page 8.]

Figure 1 shows five 3x3 dot patterns labeled (a) through (e). Each pattern consists of a 3x3 grid of positions, with some positions containing a dot. The patterns are as follows:

- (a) Dots at (1,1), (1,2), (1,3), (2,1), (2,2), (2,3), (3,1), (3,2), (3,3).
- (b) Dots at (1,1), (1,2), (1,3), (2,1), (2,2), (2,3), (3,1), (3,2), (3,3).
- (c) Dots at (1,1), (1,2), (1,3), (2,1), (2,2), (2,3), (3,1), (3,2), (3,3).
- (d) Dots at (1,1), (1,2), (1,3), (2,1), (2,2), (2,3), (3,1), (3,2), (3,3).
- (e) Dots at (1,1), (1,2), (1,3), (2,1), (2,2), (2,3), (3,1), (3,2), (3,3).

Question 4.5

Turn to page 9 and continue reading each problem and then writing your answer.

Question 4.6

[Make sure the student is viewing the second problem on page 9.]

123456789101112131415161718192021222324252627282930313233343536373839404142434445464748495051525354555657585960616263646566676869707172737475767778798081828384858687888990919293949596979899100101102103104105106107108109110111112113114115116117118119120121122123124125126127128129130131132133134135136137138139140141142143144145146147148149150151152153154155156157158159160161162163164165166167168169170171172173174175176177178179180181182183184185186187188189190191192193194195196197198199200201202203204205206207208209210211212213214215216217218219220221222223224225226227228229230231232233234235236237238239240241242243244245246247248249250251252253254255256257258259260261262263264265266267268269270271272273274275276277278279280281282283284285286287288289290291292293294295296297298299300301302303304305306307308309310311312313314315316317318319320321322323324325326327328329330331332333334335336337338339340341342343344345346347348349350351352353354355356357358359360361362363364365366367368369370371372373374375376377378379380381382383384385386387388389390391392393394395396397398399400401402403404405406407408409410411412413414415416417418419420421422423424425426427428429430431432433434435436437438439440441442443444445446447448449450451452453454455456457458459460461462463464465466467468469470471472473474475476477478479480481482483484485486487488489490491492493494495496497498499500501502503504505506507508509510511512513514515516517518519520521522523524525526527528529530531532533534535536537538539540541542543544545546547548549550551552553554555556557558559560561562563564565566567568569570571572573574575576577578579580581582583584585586587588589590591592593594595596597598599600601602603604605606607608609610611612613614615616617618619620621622623624625626627628629630631632633634635636637638639640641642643644645646647648649650651652653654655656657658659660661662663664665666667668669670671672673674675676677678679680681682683684685686687688689690691692693694695696697698699700701702703704705706707708709710711712713714715716717718719720721722723724725726727728729730731732733734735736737738739740741742743744745746747748749750751752753754755756757758759760761762763764765766767768769770771772773774775776777778779780781782783784785786787788789790791792793794795796797798799800801802803804805806807808809810811812813814815816817818819820821822823824825826827828829830831832833834835836837838839840841842843844845846847848849850851852853854855856857858859860861862863864865866867868869870871872873874875876877878879880881882883884885886887888889890891892893894895896897898899900901902903904905906907908909910911912913914915916917918919920921922923924925926927928929930931932933934935936937938939940941942943944945946947948949950951952953954955956957958959960961962963964965966967968969970971972973974975976977978979980981982983984985986987988989990991992993994995996997998999100010011002100310041005100610071008100910101011101210131014101510161017101810191020102110221023102410251026102710281029103010311032103310341035103610371038103910401041104210431044104510461047104810491050105110521053105410551056105710581059106010611062106310641065106610671068106910701071107210731074107510761077107810791080108110821083108410851086108710881089109010911092109310941095109610971098109911001101110211031104110511061107110811091110111111121113111411151116111711181119112011211122112311241125112611271128112911301131113211331134113511361137113811391140114111421143114411451146114711481149115011511152115311541155115611571158115911601161116211631164116511661167116811691170117111721173117411751176117711781179118011811182118311841185118611871188118911901191119211931194119511961197119811991200120112021203120412051206120712081209121012111212121312141215121612171218121912201221122212231224122512261227122812291230123112321233123412351236123712381239124012411242124312441245124612471248124912501251125212531254125512561257125812591260126112621263126412651266126712681269127012711272127312741275127612771278127912801281128212831284128512861287128812891290129112921293129412951296129712981299130013011302130313041305130613071308130913101311131213131314131513161317131813191320132113221323132413251326132713281329133013311332133313341335133613371338133913401341134213431344134513461347134813491350135113521353135413551356135713581359136013611362136313641365136613671368136913701371137213731374137513761377137813791380138113821383138413851386138713881389139013911392139313941395139613971398139914001401140214031404140514061407140814091410141114121413141414151416141714181419142014211422142314241425142614271428142914301431143214331434143514361437143814391440144114421443144414451446144714481449145014511452145314541455145614571458145914601461146214631464146514661467146814691470147114721473147414751476147714781479148014811482148314841485148614871488148914901491149214931494149514961497149814991500150115021503150415051506150715081509151015111512151315141515151615171518151915201521152215231524152515261527152815291530153115321533153415351536153715381539154015411542154315441545154615471548154915501551155215531554155515561557155815591560156115621563156415651566156715681569157015711572157315741575157615771578157915801581158215831584158515861587158815891590159115921593159415951596159715981599160016011602160316041605160616071608160916101611161216131614161516161617161816191620162116221623162416251626162716281629163016311632163316341635163616371638163916401641164216431644164516461647164816491650165116521653165416551656165716581659166016611662166316641665166616671668166916701671167216731674167516761677167816791680168116821683168416851686168716881689169016911692169316941695169616971698169917001701170217031704170517061707170817091710171117121713171417151716171717181719172017211722172317241725172617271728172917301731173217331734173517361737173817391740174117421743174417451746174717481749175017511752175317541755175617571758175917601761176217631764176517661767176817691770177117721773177417751776177717781779178017811782178317841785178617871788178917901791179217931794179517961797179817991800180118021803180418051806180718081809181018111812181318141815181618171818181918201821182218231824182518261827182818291830183118321833183418351836183718381839184018411842184318441845184618471848184918501851185218531854185518561857185818591860186118621863186418651866186718681869187018711872187318741875187618771878187918801881188218831884188518861887188818891890189118921893189418951896189718981899190019011902190319041905190619071908190919101911191219131914191519161917191819191920192119221923192419251926192719281929193019311932193319341935193619371938193919401941194219431944194519461947194819491950195119521953195419551956195719581959196019611962196319641965196619671968196919701971197219731974197519761977197819791980198119821983198419851986198719881989199019911992199319941995199619971998199920002001200220032004200520062007200820092010201120122013201420152016201720182019202020212022202320242025202620272028202920302031203220332034203520362037203820392040204120422043204420452046204720482049205020512052205320542055205620572058205920602061206220632064206520662067206820692070207120722073207420752076207720782079208020812082208320842085208620872088208920902091209220932094209520962097209820992100210121022103210421052106210721082109211021112112211321142115211621172118211921202121212221232124212521262127212821292130213121322133213421352136213721382139214021412142214321442145214621472148214921502151215221532154215521562157215821592160216121622163216421652166216721682169217021712172217321742175217621772178217921802181218221832184218521862187218821892190219121922193219421952196219721982199220022012202220322042205220622072208220922102211221222132214221522162217221822192220222122222223222422252226222722282229223022312232223322342235223622372238223922402241224222432244224522462247224822492250225122522253225422552256225722582259226022612262226322642265226622672268226922702271227222732274227522762277227822792280228122822283228422852286228722882289229022912292229322942295229622972298229923002301230223032304230523062307230823092310231123122313231423152316231723182319232023212322232323242325232623272328232923302331233223332334233523362337233823392340234123422343234423452346234723482349235023512352235323542355235623572358235923602361236223632364236523662367236823692370237123722373237423752376237723782379238023812382238323842385238623872388238923902391239223932394239523962397239823992400240124022403240424052406240724082409241024112412241324142415241624172418241924202421242224232424242524262427242824292430243124322433243424352436243724382439244024412442244324442445244624472448244924502451245224532454245524562457245824592460246124622463246424652466246724682469247024712472247324742475247624772478247924802481248224832484248524862487248824892490249124922493249424952496249724982499250025012502250325042505250625072508250925102511251225132514251525162517251825192520252125222523252425252526252725282529253025312532253325342535253625372538253925402541254225432544254525462547254825492550255125522553255425552556255725582559256025612562256325642565256625672568256925702571257225732574257525762577257825792580258125822583258425852586258725882589259025912592259325942595259625972598259926002601260226032604260526062607260826092610261126122613261426152616261726182619262026212622262326242625262626272628262926302631263226332634263526362637263826392640264126422643264426452646264726482649265026512652265326542655265626572658265926602661266226632664266526662667266826692670267126722673267426752676267726782679268026812682268326842685268626872688268926902691269226932694269526962697269826992700270127022703270427052706270727082709271027112712271327142715271627172718271927202721272227232724272527262727272827292730273127322733273427352736273727382739274027412742274327442745274627472748274927502751275227532754275527562757275827592760276127622763276427652766276727682769277027712772277327742775277627772778277927802781278227832784278527862787278827892790279127922793279427952796279727982799280028012802280328042805280628072808280928102811281228132814281528162817281828192820282128222823282428252826282728282829283028312832283328342835283628372838283928402841284228432844284528462847284828492850285128522853285428552856285728582859286028612862286328642865286628672868286928702871287228732874287528762877287828792880288128822883288428852886288728882889289028912892289328942895289628972898289929002901290229032904290529062907290829092910291129122913291429152916291729182919292029212922292329242925292629272928292929302931293229332934293529362937293829392940294129422943294429452946294729482949295029512952295329542955295629572958295929602961296229632964296529662967296829692970297129722973297429752976297729782979298029812982298329842985298629872988298929902991299229932994299529962997299829993000300130023003300430053006300730083009301030113012301330143015301630173018301930203021302230233024302530263027302830293030303130323033303430353036303730383039304030413042304330443045304630473048304930503051305230533054305530563057305830593060306130623063306430653066306730683069307030713072307330743075307630773078307930803081308230833084308530863087308830893090309130923093309430953096309730983099310031013102310331043105310631073108310931103111311231133114311531163117311831193120312131223123312431253126312731283129313031313132313331343135313631373138313931403141314231433144314531463147314831493150315131523153315431553156315731583159316031613162316331643165316631673168316931703171317231733174317531763177317831793180318131823183318431853186318731883189319031913192319331943195319631973198319932003201320232033204320532063207320832093210321132123213321432153216321732183219322032213222322332234322532263227322832293230323132323233323432353236323732383239324032413242324332443245324632473248324932503251325232533254325532563257325832593260326132623263326432653266326732683269327032713272327332743275327632773278327932803281328232833284328532863287328832893290329132923293329432953296329732983299330033013302330333043305330633073308330933103311331233133314331533163317331833193320332133223323332433253326332733283329333033

Question 4.8

[Make sure the student is viewing the second problem on page 10.]

Question 4.9

Turn to page 11 and continue reading each problem and then telling me the answer.

Question 4.10

[Make sure the student is viewing the second problem on page 11.]

Question 4.11

Turn to page 12 and continue reading each problem and then telling me the answer.

Figure 1 shows four 3x3 dot patterns labeled (a), (b), (c), and (d). Each pattern is a subset of the 9 dots in a 3x3 grid. Pattern (a) has 5 dots, (b) has 6 dots, (c) has 7 dots, and (d) has 8 dots.

Question 4.12

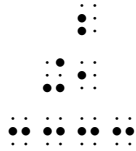
[Make sure the student is viewing the second problem on page 12.]

[illegible]

Question 4.13

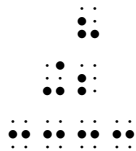
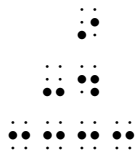
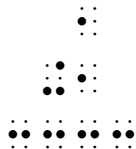
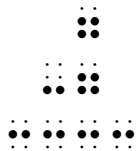
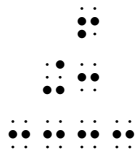
Read the vertically aligned problems involving addition and subtraction within 10 on page 13. Pay attention to each sign of operation and tell me the answer before moving to the next problem.

A 5x10 grid of dots forming a complex pattern. The pattern consists of several connected shapes: a small cluster at the top, a larger central shape with multiple protrusions, and a long horizontal bar at the bottom. The dots are arranged in a way that suggests a specific geometric or mathematical structure.



Question 4.14

Turn to page 14 and continue reading each problem and then telling me the answer.



Question 4.15

Now read each numbered problem involving addition or subtraction that contains a general omission symbol on page 15, and then tell me what number is missing.

$$\frac{12}{12} = 1$$

$$\frac{12}{12} = 1$$

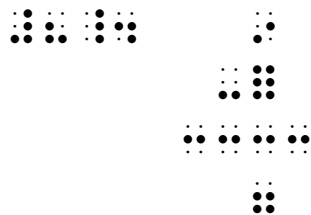
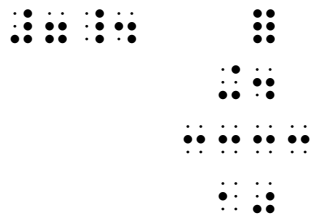
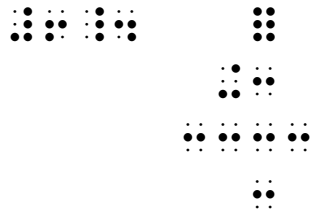
$$\frac{12}{12} = 1$$

$$\frac{12}{12} = 1$$

Question 4.16

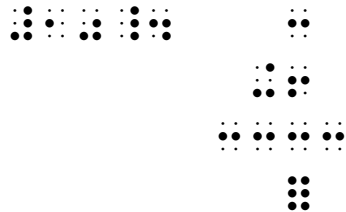
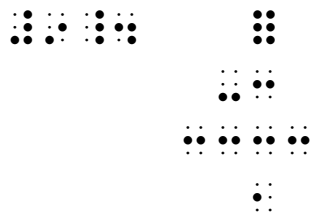
Now turn to page 16 and continue to read each numbered problem and then tell me the answer.

$$\frac{12}{12} = 1$$



Question 4.17

Now turn to page 17 for the last two problems.



Part 5

Part 5 Materials

- Student's set of problems for Questions 4.13-4.14 (pages 13-14)
- Braillewriter
- Braille paper
- Tactile drawing film
- inTACT Sketchpad or a DRAFTSMAN: Tactile Drawing Board
- G1-Posttest-Data-Table.docx

Part 5 Teacher Notes

- This part should be completed with hard copy braille and a braillewriter instead of a refreshable braille display.
- Before moving to Question 5.5, place a sheet of tactile drawing film into the Sketchpad (or DRAFTSMAN) and draw a rectangle. Then draw a vertical line that divides the rectangle into two equal parts.
- Before moving to Questions 5.6 and 5.7, place a new sheet of tactile drawing film into the Sketchpad (or DRAFTSMAN) and draw six circles of different sizes. Then divide two of the circles into two equal parts; two of the circles into two unequal parts; one of the circles into four equal parts; and one of the circles into four unequal parts. If preferred, you may use Wikki Stix® or graphic art tape on braille paper to create the shapes.
- Before moving to Questions 5.8 and 5.9, place a new sheet of tactile drawing film into the Sketchpad (or DRAFTSMAN) and draw six rectangles of different sizes and orientation. Then divide two of the rectangles into two equal parts; one of the rectangles into two unequal parts; two of the rectangles into four equal parts; and one of the rectangles into four unequal parts.

Part 5 Teacher Script

Question 5.1

Use your braillewriter to answer the problems on pages 13-14 in the student document. Begin by placing each page in your braillewriter. Finish by taking each page out of the braillewriter.

Question 5.2

Listen and then braille what you hear. Remember that all of the problems will be vertically aligned. After you write each problem, press your line spacing key twice. Let me know if you need for me to repeat what you should braille.

Write the following spatial problems: 5 plus 3 equals, 2 plus 6 equals, 10 minus 0 equals, 9 minus 1 equals, 7 plus 3 equals, and 8 minus 4 equals.

$$\begin{array}{r} 5 \\ +3 \end{array}$$

$$\begin{array}{r} 2 \\ +6 \end{array}$$

$$\begin{array}{r} 10 \\ -0 \end{array}$$

$$\begin{array}{r} 9 \\ -1 \end{array}$$

$$\begin{array}{r} 7 \\ +3 \end{array}$$

$$\begin{array}{r} 8 \\ -4 \end{array}$$

Question 5.3

Let's braille some more vertically aligned problems. This time the problems are numbered. After you write each problem, don't forget to press your line spacing key twice. Let me know if you need for me to repeat what you should braille.

The problems are: number 1: 5 plus 1 equals, number 2: 9 minus 2 equals, number 3: 6 plus 3 equals, number 4: 10 minus 4 equals, number 5: 7 minus 4 equals, and number 6: 5 plus 5 equals.

$$\begin{array}{r} 1. \quad 5 \\ \quad +1 \end{array}$$

$$\begin{array}{r} 2. \quad 9 \\ \quad -2 \end{array}$$

$$\begin{array}{r} 3. \quad 6 \\ \quad +3 \end{array}$$

$$\begin{array}{r} 4. \ 10 \\ \underline{-4} \end{array}$$

$$\begin{array}{r} 5. \ 7 \\ \underline{-4} \end{array}$$

$$\begin{array}{r} 6. \ 5 \\ \underline{\pm 5} \end{array}$$

Question 5.4

Listen and then braille what you hear. Remember that all of the problems will be vertically aligned. After you write each problem, press your line spacing key twice. Let me know if you need for me to repeat what you should braille.

Now write the following problems: 3 plus 4 equals what number, what number plus 2 equals 7, 10 minus 6 equals what number, what number plus 0 equals 8, 5 minus what number equals 1, and 7 minus what number equals 4.

$$\begin{array}{r} 3 \\ \underline{+4} \\ ? \end{array}$$

$$\begin{array}{r} ? \\ \underline{+2} \\ 7 \end{array}$$

$$\begin{array}{r} 10 \\ \underline{-6} \\ ? \end{array}$$

$$\begin{array}{r} ? \\ \underline{+0} \\ 8 \end{array}$$

$$\begin{array}{r} 5 \\ \underline{-?} \\ 1 \end{array}$$

$$\begin{array}{r} 7 \\ \underline{-?} \\ 4 \end{array}$$

Question 5.5

I have drawn a line and divided a rectangle into two parts. Are the parts equal or unequal? How do you know?

Question 5.6

I have drawn six circles. Use both hands and scan the drawing film from left to right. Then tell me which circles have been divided into two equal parts.

Question 5.7

Now use your hands again and find the circle that has been divided into four equal parts.

Question 5.8

I have drawn six rectangles. Use both hands and scan the drawing film from left to right. Then tell me which rectangles have been divided into two equal parts.

Question 5.9

Now use your hands again and find the rectangles that have been divided into four equal parts.

Question 5.10

Place a sheet of tactile drawing film into the Sketchpad and draw a rectangle on the left side of the sheet. Then use a ruler and divide the rectangle into two equal parts.

Question 5.11

Begin by drawing a circle on the right side of the sheet. Then use a ruler and divide the circle into four equal parts.

Part 6

Part 6 Materials

- Student Braille Document: G1-Posttest-Student.brf
- Braillewriter
- Braille paper
- G1-Posttest-Data-Table.docx

Part 6 Teacher Note

This part of the posttest should be completed with hard copy braille.

Part 6 Teacher Script

Question 6.1

Now read the vertically aligned problems involving addition within 20 on page 18. After reading each problem, use a strategy if needed, and tell me the answer.

$$\begin{array}{r} 12 \\ + 8 \\ \hline \end{array}$$

$$\begin{array}{r} 15 \\ + 7 \\ \hline \end{array}$$

$$\begin{array}{r} 18 \\ + 6 \\ \hline \end{array}$$

$$\begin{array}{r} 14 \\ + 9 \\ \hline \end{array}$$

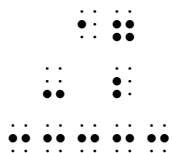
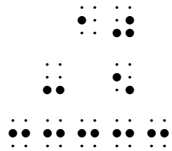
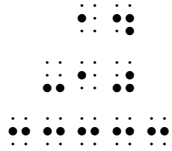
Question 6.2

Turn to page 19 and continue reading the problems and telling me the answer.

$$\begin{array}{r} 16 \\ + 5 \\ \hline \end{array}$$

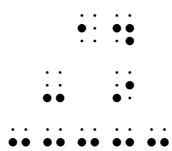
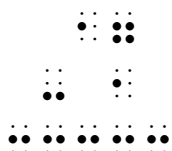
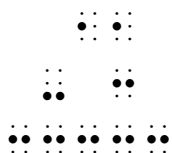
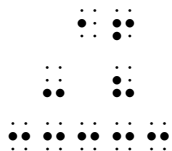
Question 6.3

Now read the vertically aligned problems involving subtraction within 20 on page 20. After reading each problem, use a strategy if needed, and tell me the answer.



Question 6.4

Turn to page 21 and continue reading the problems and telling me the answer.



Question 6.5

Read the following inequalities, beginning at the top of page 22.

$4 > 1$

Question 6.6

$9 > 7$

Question 6.7

$2 < 5$

Question 6.8

$3 > 2$

Question 6.9

$5 < 6$

Question 6.10

Continue reading the inequalities, beginning in the middle of page 22.

$84 > 61$

Question 6.11

96 > 87

Question 6.12

$14 < 51$

Question 6.13

$$23 > 22$$

Question 6.14

$47 < 59$

Question 6.15

93 < 94

Question 6.16

Read the expressions, beginning at the top of page 23, and then write the missing signs of comparison. Don't forget to number your problems.

1. 3 _____ 6

Question 6.17

2. 7 8

Question 6.18

3. 5 _____ 4

Question 6.19

4. 3 ____ 2

⠠⠨⠠⠢ ⠠⠨⠠⠨ ⠠⠨⠠⠢ ⠠⠨⠠⠨⠠⠨⠠⠨⠠⠨ ⠠⠨⠠⠢

Question 6.20

5. 8 ____ 9

⠠⠨⠠⠢ ⠠⠨⠠⠢ ⠠⠨⠠⠢ ⠠⠨⠠⠨⠠⠨⠠⠨⠠⠨ ⠠⠨⠠⠢

Question 6.21

6. 1 ____ 5

⠠⠨⠠⠢ ⠠⠨⠠⠢ ⠠⠨⠠⠢ ⠠⠨⠠⠨⠠⠨⠠⠨⠠⠨ ⠠⠨⠠⠢

Question 6.22

Continue reading the expressions, beginning in the middle of page 23. Then write the missing sign of comparison. Don't forget to number your problems.

7. 73 ____ 72

⠠⠨⠠⠢ ⠠⠨⠠⠢ ⠠⠨⠠⠢ ⠠⠨⠠⠨⠠⠨⠠⠨⠠⠨ ⠠⠨⠠⠢

Question 6.23

8. 14 ____ 29

⠠⠨⠠⠢ ⠠⠨⠠⠢ ⠠⠨⠠⠢ ⠠⠨⠠⠨⠠⠨⠠⠨⠠⠨ ⠠⠨⠠⠢

Question 6.24

9. 46 ____ 44

⠠⠨⠠⠢ ⠠⠨⠠⠢ ⠠⠨⠠⠢ ⠠⠨⠠⠨⠠⠨⠠⠨⠠⠨ ⠠⠨⠠⠢

Question 6.25

10. 91 ____ 81

⠠⠨⠠⠢ ⠠⠨⠠⠢ ⠠⠨⠠⠢ ⠠⠨⠠⠨⠠⠨⠠⠨⠠⠨ ⠠⠨⠠⠢

Question 6.26

11. 39 _____ 40

Question 6.27

12. 62 _____ 65

Part 7

Part 7 Materials

- Braillewriter
- Braille paper
- G1-Posttest-Data-Table.docx

Part 7 Teacher Script

Listen and then braille what you hear. Don't forget to number your problems. Let me know if you need for me to repeat what you should braille. I will repeat it as many times as you need.

Question 7.1

1. greater than sign
2. less than sign

Question 7.2

3. 3 blank 7
4. 8 blank 4

Question 7.3

5. 15 blank 21
6. 89 blank 84

Question 7.4

7. 4 is less than 8.

8. 2 is greater than 1.

9. 9 is greater than 7.

10. 5 is less than 6.

Question 7.5

11. 61 is greater than 60.

12. 57 is less than 77.

13. 82 is less than 83.

14. 63 is greater than 59.