1. Numbers & Operations

Place Value Gr. 6
N-1a

Materials: Ghetto Blaster
Cassette "NUMBERS"
Student recording cassette
answer sheet

On your answer sheet write the following as numbers:

1. Whole numbers:

a) five hundred ninety six
b) one million
c) three thousand five hundred five
d) thirty four million eight hundred thousand one
e) one hundred eleven
f) two hundred four thousand seventy

2. Decimal numbers:

a) one tenth
b) $\frac{3}{1000}$
c) five hundred and twelve thousandths
d) forty two hundreds
e) one thousand and one hundred seventy thousandths
f) eight and eight thousands

3. a) Find the Ghetto Blaster and the cassette labelled "NUMBERS". Rewind if necessary.

b) Listen to the cassette as you write the numbers on the answer sheet. REWIND!

c) Place the student recording cassette in the ghetto blaster.
Find the spot where the last student ended his or her recording.
You will need to record your name and then read the numbers on the other side of this card. Read clearly and slowly.
After you are finished number 10 say slowly "finished". Leave the cassette as is. DO NOT REWIND!

When you have completed this station,
place your answer sheet in your portfolio.
Do not forget to label your entry.

Please cleean the work area .

2. Numbers & Operations

Place Value **Gr.6**
N-1a, N-3

Materials: calculator
answer sheet
three envelopes labelled "Station # 2
blank cards
recycled envelopes

1. Using a calculator, find the value of:

a) 4 tens, 7 ones, 80 thousands, 2 hundreds

b) 300 thousands, 4 tens, 0 ones, 5 hundreds, 7 millions

c) 6 thousands, 7 ones, 2 hundreds, 4 millions, 3 tens, 3 ten thousands, 8 ten thousands

d) 6 hundreds, 8 thousands, 5 ten thousands, 3 ones, 7 millions, 1 ten million and 4 tens

2. Make up a similar question as above for the following numbers:

a) 68 324 b) 226 493 c) 274 928 063

3. Find three envelopes labelled station # 2
Read the number on the envelope in you head.
In the envelope you will find some cards, one of which is missing. Write the number of the missing card on your answer sheet.

4. Use the blank cards to create a question as in 3).
Write a large number on the envelope.

Fill in the blank cards to represent your number.
Remember to leave one out.
On one card write: "The Missing number is:_____ "

When you have completed this station,
place your answer sheet
and your recycled envelope in your portfolio.
Do not forget to label your entry.

Please tidy up the station and turn off the calculator!

3. Numbers & Operations

Place Value Gr.6
N-1, N-3

Materials: calculator
answer sheet
three envelopes labelled "Station # 3
blank cards
recycled envelopes

1. Using a calculator, find the value of:

a) 3 tenths, 7 ones, 7 thousandths, 2 hundredths

b) 20 thousands, 4 tenths, 0 ones, 5 hundreds,

c) 3 thousandths, 3 ones, 2 hundreds, 4 millions, 3 tenths, 4 ten thousands, 4 ten thousands, 2 hundredths

d) 6 hundredths, 8 thousands, 5 thousandths, 3 ones, and 4 tens

2. Make up a similar question as above for the following numbers:

a) 42.98 b) 300.003 c) 2 675.01

3. Find three envelopes labelled station # 3
Read the number on the envelope in you head.
In the envelope you will find some cards, one of which is missing. Write the number of the missing card on your answer sheet.

4. Use the blank cards provided and create a question as above in 3).

Write a large number on the envelope.

Fill in the blank cards to represent your number.
Remember to leave one out.

On one card write: "The Missing number is:_____ "

When you have completed this station,
place your answer sheet
and your recycled envelope in your portfolio.
Do not forget to label your entry.

Please tidy up the station and turn off the calculator!

4. Numbers & Operations

Place Value Gr. 6
N-1

Materials: cheque books
envelope of bills

1. You are the secretary treasurer for your student council. Your school has just had a social event and you need to write the cheques for the bills that have been handed in to you. Look at the six bills in the envelope and write the cheques in a cheque book.

When you have completed this station,
place your cheque book in your portfolio.
Do not forget to label your entry.

Please tidy up the station.
Return the bills into the envelope .

5. Numbers & Operations

Place Value 6
N-1, N-4
Real-World Applications

Materials: newspapers
magazines
Guiness Book of World Records
other Resources (flyers, videos, etc.)

1. Look through the materials that are provided and find:
a) 5 situations in which large numbers are used
b) 5 situations where decimal numbers are used

2. Write the numbers you have found and write a few sentences to explain the context in which they were used.

3. List the ten numbers that you found from the greatest to the least. Explain your strategy.

When you have completed this station,
place your answer sheet in your portfolio.
Do not forget to label your entry.

Please tidy up the station.

6. Numbers & Operations

Place Value Gr.6
N-1, N-3

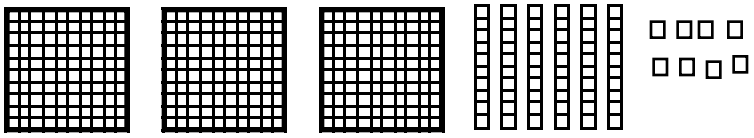
Materials: abacus (drinking straws and plasticine)
place value mat
recording sheet
paper money

1. Construct the following numbers on the abacus and record your work on the recording sheet. Use proper metric notation.

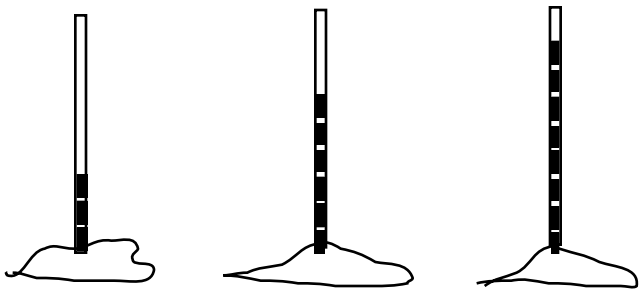
a) 506 231
b) 2 255. 234
c) five thousand three hundred thirty-six
d) three hundred forty and three tenths
e) 6 thousands, 4 ones, 2 hundreds, 3 tenths
f) 5 hundredths, 3 hundreds, 3 tenths, 3 tens, 0 ones, 6 thousandths, 8 thousands

2. We can represent "368" using several models.

BASE TEN BLOCKS



ABACUS



3. Represent five hundred forty six using Base ten blocks and and an abacus.

a) Represent this number as money by cutting and gluing the paper money on a piece of paper.

b) Does your money model look more like the Base ten blocks or more like the abacus. Explain your answer.

c) Give the advantages and disadvantages of each model.

When you have completed this station,
place your answer sheet in your portfolio.
Do not forget to label your entry.

Please tidy up the station.

7. Numbers & Operations

Fractions **Gr. 6**
N-43, N-50

Materials: fraction activity sheet
sorting mat
glue
fraction pieces
fraction strips
Fraction Stax

1. Separate each fraction by cutting on the dotted lines.

2. Use the manipulatives to determine if each fraction is
a) close to 0 b) close to $\frac{1}{2}$ c) close to 1.

3. Glue each fraction in the appropriate section on the mat.

4. Explain how you used the manipulatives to help you with this exercise.

5. On the six blank rectangles write two other fractions for each section on the mat and glue them in place.

6. How could you estimate to find your answers?

7. How many fractions are there between 0 and $\frac{1}{2}$?

Explain your answer.

When you have completed this station,
place your answer sheet in your portfolio.
Do not forget to label your entry.

Please tidy up the station.
Remember to put the fraction materials
in their proper containers

8. Numbers & Operations

Fractions **Gr. 6**
N-44, N-45, N-46, N-47, GM-48

Materials: metre stick
adding machine roll (long strip of paper 5cm wide)

1. Cut strip one metre long. Place the metre stick on the strip of paper and carefully make a mark on the strip to show each centimetre. Label at each decimetre (10 centimetres) starting at 10, 20 30 . . . 100

2. a) Fold in half. Open the strip.

b) Label the crease at the middle of the strip $\frac{1}{2}$.

c) How many centimetres are there in half a metre. Explain another strategy to calculate $\frac{1}{2}$ of a metre.

d) Name two things that are about half a metre in length.

3. a) Fold the strip in half and in half again. Open the strip.

b) Label the creases $\frac{1}{4}$, $\frac{2}{4}$, $\frac{3}{4}$, respectively.

c) How many centimetres are there in one quarter, two quarters and three quarters of a metre? Explain another strategy to explain this.

d) Name two things that are about a quarter of a metre in length.

Please turn the card over

4. **a)** **Fold the strip in half and in half again and another time. Open the strip.**

b) **Label the creases**

$$\frac{1}{8} \quad \frac{2}{8} \quad \frac{3}{8} \quad \frac{4}{8} \quad \frac{5}{8} \quad \frac{6}{8} \quad \frac{7}{8}$$

c) **How many centimetres are there in one eighth two eighths, three eighths, four eighths, five eighths, six eighths, seven eighths of a metre? Explain another strategy to explain this.**

d) **Name two things that are about an eighth of a metre in length.**

5. **Why are certain places along the metre strip labelled with more than one fraction?**

6) **a)** **Explain why the following are all at the same place on the metre stick.**

$$\frac{1}{1} \quad \frac{2}{2} \quad \frac{4}{4} \quad \frac{8}{8}$$

b) **What do they represent?**

c) **What is the meaning of the numerator and the denominator in each case?**

7) **How could you fold a one-metre paper strip to show tenths and fifths. Explain in your own words and/or construct a strip to show this process.**

When you have completed this station,
place your strip (s) and your answer sheet in your portfolio.
Do not forget to label your entry.

Please tidy up the station.

9. Numbers & Operations

Fractions Gr. 6
N-45b

Materials: fraction blocks
egg cartons

1. Find the pattern blocks. Suppose that a hexagon is worth one whole.

a) Which blocks show what happens when you divide one whole hexagon into two equal pieces. Use a diagram to record this on your worksheet.

b) Which blocks show what happens when you divide one whole hexagon into three equal pieces. Use a diagram to record this on your worksheet.

c) Which blocks show what happens when you divide one whole hexagon into six equal pieces. Use a diagram to record this on your worksheet.

2. a) Use the egg cartons to show

1) 12 ÷ 2
Which fraction does this represent?

2) 12 ÷ 3
Which fraction does this represent?

3) 12 ÷ 4
Which fraction does this represent?

4) 12 ÷ 6
Which fraction does this represent?

5) 12 ÷ 12
Which fraction does this represent?

3. In your own words explain the concept of fractions as division.

When you have completed this station,
place your answer sheet in your portfolio.
Do not forget to label your entry.

Please tidy up the station.

10. Numbers & Operations

Fractions Gr. 6
N-55a, N-56b

Materials: activity sheet # 11
Base ten unit cubes (two colors), linking cubes
or two colored counters
fraction strips, Fraction Stax
pattern blocks and/or fraction blocks
crayons

1. a) There are five circles on your activity sheet. Color one half of each circle pink.

b) Notice that each circle has been divided into a different number of pieces. Use fractions to show how many pieces of each circle are colored.

c) In your own words explain why these are all equivalent fractions.

d) Record five other fractions that are equivalent to $\frac{1}{2}$.

2. a) With the help of pattern blocks demonstrate that $\frac{2}{6}$ and $\frac{1}{3}$ are equivalent fractions.

b) Explain why they are in your own words.

3 a) Use fraction strips or Fraction Stax to find 10 pairs of equivalent fractions.

b) Explain your strategy.

When you have completed this station,
place your activity sheet and your answer sheet
in your portfolio.

Do not forget to label your entry.

Please tidy up the station.

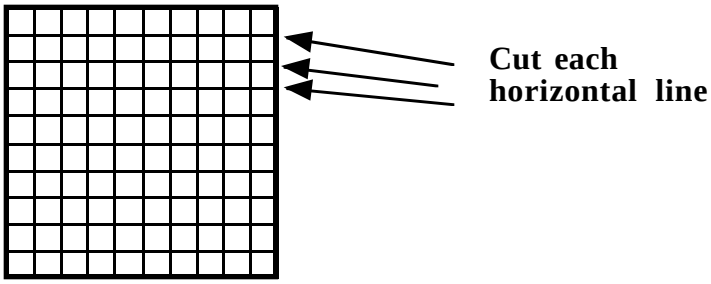
11. Numbers & Operations

Fractions Gr. 6
N-46a, N-47b

Materials: multiplication table
scissors
recycled envelope

1. a) Carefully fill in the multiplication table. Check your answers by looking at the patterns that are formed.

b) Cut each strip horizontally.



c) Place the 1 times strip over the 2 times strip.

1:	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
2:	**2**	**4**	**6**	**8**	**10**	**12**	**14**	**16**	**18**	**20**

d) Carefully observe the fractions that these form:

$\frac{1}{2}$ $\frac{2}{4}$ $\frac{3}{6}$ $\frac{4}{8}$ **etc.**

e) Explain why this forms equivalent fractions.

f) Continue the pattern and record the next five equivalent fractions after $\frac{10}{20}$ **.**

g) Use other combinations of strips and record at least six more sets of equivalent fractions. Use diagrams to explain.

When you have completed this station, place your answer sheet in your portfolio and your multiplication strips in a recycled envelope. Write your name on the envelope and label your portfolio entry.

Please tidy up the station.

12. Numbers & Operations

Fractions Gr. 6
N-46a, N-47

Materials: two sided counters or red and yellow counters
(you can also cut small red and yellow squares of construction paper)

1. Place 4 red counters and two yellow counters in a row. Keep each of the colored counters together.

b) What fraction do the red counters represent?

c) Now add another row right under the first row using the same pattern.

d) Now what fraction do the red counters represent?

e) Extend the pattern three more times and record the fraction represented by the red counters after you add each row.

f) Explain why these fractions are equivalent.

2. a) Repeat this activity to show several fractions which are equivalent to $\frac{2}{5}$.

b) Use multiplication to find two fractions that are equivalent to $\frac{8}{12}$.

c) Use division to find two fractions that are equivalent to $\frac{8}{12}$.

d) Describe another strategy for finding equivalent fractions.

When you have completed this station,
place your answer sheet
in your portfolio.

Do not forget to label your entry.

Please tidy up the station.

13. Numbers & Operations

Fractions Gr. 6
N-43

Materials: newspapers
magazines

1. Read through the newspaper to find four items in which fractions are used.

2. Cut these out and paste them on a looseleaf two per sheet.

3. Beside each item, use two to three sentences to explain the fraction (s) which was (were) used in that particular situation.

When you have completed this station,
place your answer sheet in your portfolio.
Label your portfolio entry.

Please tidy up the station.

14. Numbers & Operations

Fractions Gr. 6
N-46b, N-47b, N-48

Materials: pattern blocks
egg cartons
fraction strips

1. Explain how you can use pattern blocks to simplify the fraction 4/6? (Use diagrams in your explanation.)

2. Explain how you can use the egg cartons to simplify the fraction 6/12? (Use diagrams in your explanation.)

3. a) Find all the fraction strips that are equivalent to 1/2.

b) Record these fractions and draw them to show how they are equivalent.

c) Explain why we say that 1/2 is the simplest form for all these fractions.

When you have completed this station,
place your answer sheet in your portfolio.
Label your portfolio entry.

Please tidy up the station.

15. Numbers & Operations

Fractions Gr. 6
N-45, N-46c, N-48, N-49

Materials: cardboard fraction pieces
pattern blocks

1. a) Find 11 halves. Write this as an improper fraction.

b) Place the halves so that they make whole pieces. Are there any pieces left over?

c) How many wholes do you have all together?

d) Represent this as a mixed number.

e) Explain how this is related to division.

2. Copy this chart on looseleaf. Use the fraction pieces to represent each improper fraction and mixed number below. Draw to record your work.

improper fraction	mixed number
$\frac{18}{4}$	
	$3\frac{3}{4}$
$\frac{15}{8}$	
	$2\frac{1}{2}$

3. a) If the value of a yellow hexagon is one whole, make a pattern with a value $2\frac{1}{2}$.

b) Suppose the trapezoid is one whole, can $2\frac{1}{2}$ be represented using pattern blocks? Explain your answer.

When you have completed this station,
place your answer sheet in your portfolio.
Label your portfolio entry.

Please tidy up the station.

16. Numbers & Operations

Fractions Gr. 6
N-46a, N-47, N-48

Materials: 20 cm paper strips: pink, blue, yellow, green, white
metric ruler
scissors
glue stick

1. a) Take one pink strip and fold it in half.

b) Take a second pink strip and fold it in half two times.

c) Take a third pink strip and fold it in half three times

d) Take a blue strip and carefully fold it in three equal pieces.

e) Take a blue strip and carefully fold it in three equal pieces and then in half.

f) Take a yellow strip and fold it in half then use a ruler to mark your strip at each 2cm interval. Fold on these marks.

g) Take second yellow strip and mark it at 4 cm intervals. Fold.

h) Take a green strip and leave it as is.

i) Open your strips and place them on a piece of white paper in order from the largest segments to smallest segments being careful to line them up at the left. They should also line up at the right because they are all the same length. Glue them in place.

j) Label the segments $\frac{1}{1}$ $\frac{1}{2}$ $\frac{1}{4}$ $\frac{2}{4}$ $\frac{3}{4}$ etc.

2. Looking at your strips find at least 5 sets of equivalent fractions. Record these on a sheet of looseleaf.

3. Explain how could you use this model to find the fraction that is written in simplest form in each case.

When you have completed this station,
place your fraction strips sheet and answer sheet in your portfolio.
Label your portfolio entry.

Please tidy up the station.

17. Numbers & Operations

Fractions Gr. 6
N-48, N-50

Materials: fraction strips
pattern blocks

1. a) With the help of the fraction strips you made in activity 15, cut and label pieces of the white paper strips to represent the following fractions:

$\frac{1}{2}$ $\frac{5}{6}$ $\frac{3}{8}$ $\frac{7}{10}$ $\frac{3}{5}$

b) Glue them on a piece of paper in order of increasing size.

2. a) Make four other strips to represent 4 different fractions. Cut them and label them.

b) This time glue them in order of <u>decreasing</u> size.

3. Explain other strategies that you could use to order fractions in either increasing or decreasing order.

When you have completed this station,
place your fraction strips and answer sheet in your portfolio.
Label your portfolio entry.

Please tidy up the station.

18. Numbers & Operations

Fractions **Gr. 6**
N-42, N-48, N-56, N-57

Materials: pattern blocks
(or fraction blocks)

Consider the hexagon as one whole.

1. Give the fractional value of each of the following:

the trapezoids
the parallelograms
the triangles

2. How many different ways can you make a hexagon using different combinations of blocks? Record by drawing and by writing the whole as a sum of its parts (an addition statement)

3. Demonstrate the following operations with fractions using fraction blocks. Draw to record and explain your work.

a. $\frac{1}{3} + \frac{1}{3} = \frac{2}{3}$

b. $\frac{2}{6} + \frac{3}{6} = \frac{5}{6}$

c. $\frac{1}{2} + \frac{3}{2} = ?$

d. $\frac{1}{3} + \frac{2}{6} + \frac{1}{2} = \frac{7}{6} = 1\ \frac{1}{6}$

e. $1\frac{1}{3} + 4\frac{2}{3} = \frac{18}{3} = 6$

f. $2\frac{1}{3} + 1\frac{4}{6} = ?$

When you have completed this station,
place answer sheet in your portfolio.
Label your portfolio entry.

Please tidy up the station.

19. Numbers & Operations

Fractions Gr. 6
N-56, N-57

Materials: pattern blocks
(or fraction blocks)

Consider the hexagon as one whole.

1. Demonstrate the following operations with fractions using fraction blocks. Draw to record and explain your work.

a. $\frac{2}{3} - \frac{1}{3} = \frac{1}{3}$

b. $\frac{5}{6} - \frac{2}{6} = \frac{3}{6}$

c. $\frac{3}{2} - \frac{1}{2} = ?$

d. $\frac{2}{3} - \frac{1}{6} = \frac{4}{6} - \frac{1}{6} = \frac{1}{6} = \frac{1}{2}$

e. $\frac{1}{2} - \frac{1}{3} = ?$

e. $3\frac{1}{3} - 1\frac{1}{3} = \frac{10}{3} - \frac{4}{3} = \frac{6}{3} = 2$

f. $2\frac{1}{3} - 1\frac{4}{6} = ?$

When you have completed this station,
place answer sheet in your portfolio.
Label your portfolio entry.

Please tidy up the station.

20. Numbers & Operations

Fractions Gr. 6
N-46

Materials: fraction calculator

1. Choose the correct key sequence to display two quarters.

2. Record the sequence of both the numeric and operation keys.

3. Which key do you use to find out if the fraction is in its simplest form?

4. Using the calculator simplify the fraction and record the key sequence.

5. How do you use the calculator to find the factor?

6. How do you know if a fraction is simplified to its lowest terms?

7. Display 80/100 and simplify. Does the calculator simplify immediately to the lowest term or do you need to repeat the procedure? Record the sequence of the keys you used from the time the fraction appeared as 80/100 to its simplest from, 4/5.

8. Using a paper and pencil explain how to simplify 120/100.

9. Show how you can use the calculator to find equivalent fractions.

When you have completed this station,
place answer sheet in your portfolio.
Label your portfolio entry.

Please tidy up the station.

21. Numbers & Operations

Fractions Gr. 6
N-51

Materials: fraction calculator

1. Use the calculator to add 2/3 and 4/6.

2. How does the calculator display the sum?

3. Convert the improper fraction into a mixed number. Record the sequence of keys that you used.

4. Explain how you can switch back and forth from a mixed number to an improper fraction.

5. Now convert your improper fraction into a decimal. Record the keys you needed to accomplish this.

6. How do you display your original fraction?

7. Copy this chart and use the calculator to fill in the blanks.

improper fraction	mixed number	decimal number
2/4		
	2 3/5	
		2.75
6/10		
		1.20
	10 1/2	

When you have completed this station,
place answer sheet in your portfolio.
Label your portfolio entry.

Please tidy up the station.