

**Lesson 1: Exploring One Million**

1. A baseball bat is about 1 m long.  
How long would a row of 1 million bats be?  
Give your answer in as many different units as you can.
2. Suppose you have 1 million pennies.  
How many loonies could you trade them for?  
How many toonies?  
How many \$5 bills? \$10 bills? \$20 bills? \$50 bills? \$100 bills?

**Lesson 2: Understanding Large Numbers**

1. Write each number in standard form.
  - a) 2 million 186 thousand 23
  - b)  $40\,000\,000 + 6\,000\,000 + 80\,000 + 1000 + 3$
  - c) six billion two hundred seventeen million three thousand eleven
2. Write each number in expanded form.
  - a) 13 463 121
  - b) 37 214 001 002
3. Write the value of each underlined digit.
  - a) 184 267 317
  - b) 4 300 627 803
  - c) 17 652 425
4. Use the digits from 1 to 8. Use each digit only once.  
Make an 8-digit number as close to 17 000 000 as possible.

**Lesson 3: Comparing and Ordering Numbers**

- Order the numbers from least to greatest.
  - 6 743 184, 6 740 301, 5 946 125
  - 97 126 142, 2 847 761 000, 99 404 326
- Replace each  with  $>$  or  $<$ .
  - 16 327 482  16 341 001
  - 2 176 314  846 327
- Use the digits 1, 2, 3, 4, 5, 6, 7, and 8.
  - Write the greatest number possible.
  - Write a number between 31 000 000 and 31 500 000

**Lesson 4: Exploring Multiples**

- List the first 10 multiples of each number.
  - 4
  - 9
  - 6
  - 25
  - 12
- Find the first 3 common multiples of each pair of numbers.
  - 6 and 8
  - 3 and 7
  - 9 and 10
- Find the first 2 common multiples of 15 and 20.
- Draw a large Venn diagram with 2 overlapping loops. Label the loops Multiples of 3 and Multiples of 4. Sort these numbers in the Venn diagram.  
48, 15, 24, 33, 60, 56, 40, 42, 21, 16, 28

**Lesson 5: Prime and Composite Numbers**

- List all the factors of each number.  
a) 14                      b) 48                      c) 24                      d) 60  
e) 75                      f) 15                      g) 35                      h) 17
- Tell if each number is prime or composite.  
a) 2                      b) 19                      c) 28                      d) 36  
e) 37                      f) 75                      g) 29                      h) 70
- Three numbers between 40 and 50 are prime numbers.  
What numbers are they?
- Two numbers between 50 and 60 are prime numbers.  
What numbers are they?

**Lesson 7: Using Mental Math**

Use mental math.

- Add.  
a)  $240 + 60 + 17$                       b)  $180 + 157 + 120$                       c)  $46 + 70 + 130$   
d)  $425 + 216 + 375$                       e)  $30 + 90 + 70$                       f)  $89 + 150 + 250$
- Subtract.  
a)  $784 - 263$                       b)  $214 - 203$                       c)  $862 - 461$   
d)  $2467 - 932$                       e)  $572 - 241$                       f)  $9376 - 4124$
- Multiply.  
a)  $5 \times 7 \times 20$                       b)  $5 \times 26$                       c)  $86 \times 4$   
d)  $93 \times 10 \times 10$                       e)  $50 \times 36 \times 2$                       f)  $350 \times 2 \times 2$

**Lesson 8: Order of Operations**

1. Solve each expression. Use the order of operations.

a)  $27 - (7 \times 3)$

b)  $8 + (16 \div 4) \times 3$

c)  $8 \times 3 - 2$

d)  $50 + (10 \times 5)$

e)  $9 \div 3 + 7$

f)  $72 \div 8 \times 3$

2. Use brackets to make each number sentence true.

a)  $15 - 6 \div 3 + 7 = 20$

b)  $50 - 6 \times 6 = 14$

c)  $60 + 14 \div 2 = 67$

d)  $100 + 7 \times 6 = 142$

3. Use mental math to solve.

a)  $(70 \times 2) \div 7$

b)  $10\,000 - 3000 \times 3$

c)  $500 + 250 \times 2$

d)  $2500 \div (50 \times 2)$

e)  $(3000 + 2000) \div 50$

f)  $180 \div (2 \times 9)$

**Lesson 9: Adding and Subtracting Whole Numbers**

1. Add. Use estimation to check.

a) 
$$\begin{array}{r} 436 \\ 715 \\ 924 \\ + 673 \\ \hline \end{array}$$

b) 
$$\begin{array}{r} 169 \\ 836 \\ 573 \\ + 944 \\ \hline \end{array}$$

c) 
$$\begin{array}{r} 761 \\ 143 \\ 876 \\ + 510 \\ \hline \end{array}$$

d) 
$$\begin{array}{r} 847 \\ 362 \\ 718 \\ + 49 \\ \hline \end{array}$$

2. Subtract. Use the inverse operation to check.

a) 
$$\begin{array}{r} 9763 \\ - 4872 \\ \hline \end{array}$$

b) 
$$\begin{array}{r} 6009 \\ - 4378 \\ \hline \end{array}$$

c) 
$$\begin{array}{r} 5408 \\ - 369 \\ \hline \end{array}$$

d) 
$$\begin{array}{r} 7284 \\ - 2548 \\ \hline \end{array}$$

3. Find the missing digits.

a) 
$$\begin{array}{r} \square\square\square\square \\ - 3\ 5\ 8\ 9 \\ \hline 4\ 0\ 5\ 3 \end{array}$$

b) 
$$\begin{array}{r} \square\square\square\square \\ - 7\ 3\ 6 \\ \hline 8\ 1\ 6\ 8 \end{array}$$

c) 
$$\begin{array}{r} \square\square\square\square \\ - 2\ 6\ 0\ 9 \\ \hline 4\ 5\ 3\ 1 \end{array}$$

**Lesson 10: Multiplying Whole Numbers**

1. Multiply.

a) 
$$\begin{array}{r} 736 \\ \times 43 \\ \hline \end{array}$$

b) 
$$\begin{array}{r} 984 \\ \times 17 \\ \hline \end{array}$$

c) 
$$\begin{array}{r} 862 \\ \times 95 \\ \hline \end{array}$$

d) 
$$\begin{array}{r} 579 \\ \times 56 \\ \hline \end{array}$$

e) 
$$\begin{array}{r} 879 \\ \times 23 \\ \hline \end{array}$$

f) 
$$\begin{array}{r} 604 \\ \times 63 \\ \hline \end{array}$$

g) 
$$\begin{array}{r} 747 \\ \times 73 \\ \hline \end{array}$$

h) 
$$\begin{array}{r} 829 \\ \times 35 \\ \hline \end{array}$$

2. Find each product.

a)  $24 \times 709$

b)  $18 \times 932$

c)  $41 \times 672$

d)  $80 \times 270$

e)  $91 \times 531$

f)  $37 \times 700$

g)  $62 \times 853$

h)  $12 \times 246$

3. Estimate the product  $31 \times 398$ .

Will the product be closer to 11 000 or 12 000?

How do you know?

**Lesson 11: Dividing by a 2-Digit Number**

1. Divide. Multiply to check.

a)  $26 \overline{)8979}$

b)  $43 \overline{)1806}$

c)  $18 \overline{)4564}$

d)  $33 \overline{)4681}$

e)  $19 \overline{)1684}$

f)  $53 \overline{)7689}$

2. Find each quotient.

a)  $5842 \div 21$

b)  $6793 \div 16$

c)  $2175 \div 15$

d)  $1941 \div 64$

e)  $9922 \div 22$

f)  $8532 \div 38$

3. Joopa says she is 186 months old.

How many years is that?

**Lesson 12: Another Method for Dividing**

1. Divide. Multiply to check.

a)  $56 \overline{)7952}$

b)  $37 \overline{)8429}$

c)  $17 \overline{)4328}$

d)  $29 \overline{)7134}$

e)  $21 \overline{)7304}$

f)  $42 \overline{)8432}$

2. Estimate each quotient. Then divide.

a)  $738 \div 25$

b)  $2594 \div 50$

c)  $7584 \div 98$

d)  $5321 \div 12$

e)  $1285 \div 41$

f)  $3847 \div 19$

3. Write a division question with a divisor of 41, a quotient of 123, and a remainder of 13.