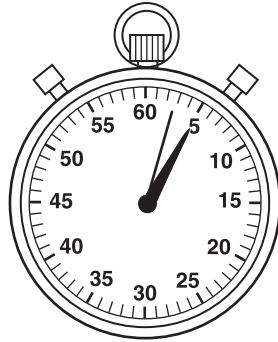# McGraw-Hill My Math

Enrich

Chapter 6

Grade 4

Lesson 1   Enrich

Divide Multiples of 10, 100, and 1,000

Use a stopwatch or a second hand to see how quickly you can complete these division chains using mental math. Ready, set, GO!

1. $3,500 \div 70 \rightarrow$ _____ $\div 10 \rightarrow$ _____ $\div 5 \rightarrow$ _____

2. $420 \div 6 \rightarrow$ _____ $\div 7 \rightarrow$ _____ $\div 2 \rightarrow$ _____

3. $81,000 \div 900 \rightarrow$ _____ $\div 3 \rightarrow$ _____ $\div 5 \rightarrow$ _____

4. $50,000 \div 50 \rightarrow$ _____ $\div 10 \rightarrow$ _____ $\div 5 \rightarrow$ _____

5. $560 \div 7 \rightarrow$ _____ $\div 4 \rightarrow$ _____ $\div 2 \rightarrow$ _____

6. $64,000 \div 80 \rightarrow$ _____ $\div 20 \rightarrow$ _____ $\div 10 \rightarrow$ _____

7. $2,400 \div 8 \rightarrow$ _____ $\div 6 \rightarrow$ _____ $\div 10 \rightarrow$ _____

8. $48,000 \div 10 \rightarrow$ _____ $\div 60 \rightarrow$ _____ $\div 4 \rightarrow$ _____

9. $5,400 \div 2 \rightarrow$ _____ $\div 30 \rightarrow$ _____ $\div 3 \rightarrow$ _____

10. $32,000 \div 80 \rightarrow$ _____ $\div 10 \rightarrow$ _____ $\div 5 \rightarrow$ _____

Rate Yourself:
90 seconds or less: Mental Mathemagician!
91 – 119 seconds: Magnificent Multiplier!
Two minutes or more: Dawdling Divider!

Lesson 2   Enrich

Estimate Quotients

Estimate. Check your answer.

1. 7)428 **2.** 3)605 **3.** 4)316

4. 9)8,140 **5.** 5)5,165 **6.** 8)3,999

7. 6)3,546 **8.** 2)196 **9.** 4)85

10. 9)98 **11.** 8)725 *90* **12.** 5)5,620

Use the exercises above to spell the name of the "treasure" state.
Write the estimated quotient from above beside the matching exercise
number below. The first one, Exercise 11, is done for you. Cross out
the letters above the quotients with two digits. Circle the letters above
the quotients with three or more digits.

H	I	A	D
11. *90*	9. _____	5. _____	10. _____

N	N	T	M
2. _____	4. _____	6. _____	8. _____

O	B	P	A
7. _____	1. _____	3. _____	12. _____

Use the circled letters. Unscramble the letters to spell the name of the
"treasure" state, where valuable ore is mined. _____

Grade 4 • Chapter 6 Divide by a One-Digit Number

Name _____ Date _____

Lesson 4   Enrich

Problem Solving: Make a Model

Read the question. Then, use the *make a model* strategy to solve. Explain your work.

1. The Tollivers live on a bike path. Last Saturday morning, in just 5 minutes, they counted 11 riders and 26 wheels passing by. There were no unicycles—only bicycles and tricycles with one rider each. How many more bicycles than tricycles did the Tollivers see?

_____

_____

_____

_____

_____

_____

_____

_____

2. A picture frame is 4 inches wide and 12 inches long. The frame is 1 inch wide on each side. What is the width and length of the picture?

_____

_____

_____

_____

_____

_____

_____

_____

_____

Lesson 5 Enrich

Divide with Remainders

Work across each row of exercises to discover a division rule.

1. $36 \div 2 =$ _____ $\rightarrow$ _____ $\div 3 =$ _____ $\rightarrow 36 \div 6 =$ _____

2. $42 \div 2 =$ _____ $\rightarrow$ _____ $\div 3 =$ _____ $\rightarrow 42 \div 6 =$ _____

3. $12 \div 2 =$ _____ $\rightarrow$ _____ $\div 3 =$ _____ $\rightarrow 12 \div 6 =$ _____

4. $54 \div 3 =$ _____ $\rightarrow$ _____ $\div 2 =$ _____ $\rightarrow 54 \div 6 =$ _____

5. $48 \div 3 =$ _____ $\rightarrow$ _____ $\div 2 =$ _____ $\rightarrow 48 \div 6 =$ _____

6. $30 \div 3 =$ _____ $\rightarrow$ _____ $\div 2 =$ _____ $\rightarrow 30 \div 6 =$ _____

Complete this statement:

7. If a number can be divided evenly by 2 and, by 3, then it is also divisible by _____.

Keep in mind:

All even numbers are divisible by 2.

If the sum of the digits in a number is divisible by 3, then the number is divisible by 3.

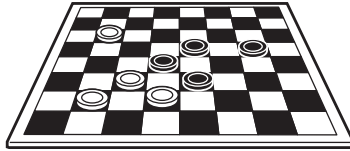**8.** Circle the numbers that are divisible by 6.

432   746   330   895   546

9. Write 3 more 3-digit numbers that are divisible by 6.

Lesson 6   Enrich

Interpret Remainders

Watch for patterns as you solve these division exercises.

1. $9\overline{)189}$ **2.** $6\overline{)144}$ **3.** $7\overline{)189}$

What is one way the first three quotients are similar?

_____

_____

4. $2\overline{)486}$ **5.** $3\overline{)486}$ **6.** $6\overline{)486}$

What is one way Exercises 4, 5, and 6 are similar?

_____

_____

7. $9\overline{)108}$ **8.** $5\overline{)65}$ **9.** $8\overline{)112}$

What pattern do you see in Exercises 7, 8 and 9?

_____

_____

10. $5\overline{)248}$ **11.** $5\overline{)722}$ **12.** $3\overline{)244}$

What pattern do you see in Exercises 10, 11, and 12?

_____

_____

13. Write two exercises to continue the patterns above.

Lesson 7   Enrich

Place the First Digit

Write and solve a division exercise for each set of clues.

1. The quotient is 7.
There is no remainder.
The dividend is a square number less than 50.

2. The remainder is 2.
The quotient is 4.
The quotient equals the divisor.

3. The divisor is 3.
The quotient is $2 \times 2 \times 2$.
The remainder is 2.

4. The quotient is 5.
The dividend is 48.
The remainder is an odd number.

5. The dividend is 65.
The remainder is 1.
The quotient is between 5 and 10.

6. Write your own set of clues. Have a friend write and solve the division exercise.

_____

_____

_____

Lesson 9   Enrich

Divide Greater Numbers

Play division tic-tac-toe. First, solve all the division exercises.

4)81,332	6)60,624	3)30,737
5)15,102	9)72,275	2)61,279
8)16,726	4)32,364	7)42,284

How many ways can you make tic-tac-toe by finding three exercises in a row that all have remainders?

_____

Make your own division tic-tac-toe exercises.

Lesson 10   Enrich

Quotients with Zeros

Use one-digit divisors to create 20 division exercises. Choose divisors carefully to earn points as follows:

Zeros in the quotient's hundreds place are not worth any points.

Zeros in the quotient's tens place are worth 2 points.

Zeros in the quotient's ones place are worth 1 point.

1. $\overline{)604}$	**2.** $\overline{)781}$	**3.** $\overline{)852}$	**4.** $\overline{)509}$	**5.** $\overline{)619}$
6. $\overline{)775}$	**7.** $\overline{)423}$	**8.** $\overline{)170}$	**9.** $\overline{)875}$	**10.** $\overline{)181}$
11. $\overline{)363}$	**12.** $\overline{)725}$	**13.** $\overline{)211}$	**14.** $\overline{)321}$	**15.** $\overline{)354}$
16. $\overline{)104}$	**17.** $\overline{)545}$	**18.** $\overline{)323}$	**19.** $\overline{)906}$	**20.** $\overline{)806}$

Zeros in the 10s place = _____ × 2 = _____

Zeros in the 1s place = _____ × 1 = _____

Total Points Earned = _____

Lesson 11 Enrich

Solve Multi-Step Word Problems

1. Start with 27 pennies. Divide them into three equal piles.

Now move just six pennies so that one pile has nine more than the other two.

_____

_____

_____

_____

_____

_____

Prove your answer.

_____

_____

_____

2. Place six pennies as shown. Now move one penny so that the row and column each have four pennies.

_____

_____

_____