Name(s)_____

D-I-V-I-S-I-B-I-L-E LAB

Visit each station, in any order, with your partner(s). You may NOT use a calculator or use division to help you work on the problems.

D	Which number is divisible by 3? 61,333 or 62,100 Why?
I^1	Which number is divisible by 4? 1,400,426 or 1,400,652 Why?
V	Which number is divisible by 6? 400,426 or 400,662 Why?
I^2	Which number is divisible by 9? 123,456,789 or 177,188,199 Why?
S	Which number is divisible by 9 and 2? 33,015 10,098 35,540 Why?
I^3	Which number is divisible by 6? 1,936 4,762 2,058 Why?
B	Which number is divisible by 3? 888, 777, 666, 555, 444 Why?
L	Which number is divisible by 3? 81, 72, 63, 54 Why?
E	Challenge: All of the following numbers are divisible by 7. Choose one and explain how the rule proves the divisibility. 147, 203, 287, 1,008

DIVISIBILITY LAB

Answer Key

D	Which number is divisible by 3? 61,333 or **62,100** Why?
I^1	Which number is divisible by 4? 1,400,426 or **1,400,652** Why?
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I^3	Which number is divisible by 6? 1,936 4,762 **2,058**
B	Which number is divisible by 3? **888, 777, 666, 555, 444**
L	Which number is divisible by 3? **81, 72, 63, 54**
E	Challenge: All of the following numbers are divisible by 7. Choose one and explain how the rule proves the divisibility. 147, 203, 287, 1,008

STATION D

A number is divisible by 3 if the sum of its digits is divisible by 3.

Example: 11,301 is divisible by 3 because 1+1+3+0+1 = 6, and 6 is divisible by 3.

STATION I[1]

A number is divisible by 4 if the tens and ones digits form a number that is divisible by 4.

(Do not add them together.)

A quick way to check is to divide the number by 2 and then divide the result by 2.

(That is the same as dividing by 4.)

STATION V

A number is divisible by 6 if it is divisible by both 2 and 3.

The number must be even, and the sum of the digits must be divisible by 3.

STATION $\underline{\mathbf{I}}^2$

A number is divisible by 9 if the sum of its digits is divisible by 9.

Example: 51,345 is divisible by 9 because 5+1+3+4+5 = 18, and 18 is divisible by 9.

STATION **S**

A number is divisible by 9 if the sum of its digits is divisible by 9.

Example: 51,345 is divisible by 9 because 5+1+3+4+5 = 18, and 18 is divisible by 9.

STATION $\underline{I}^3$

A number is divisible by 6 if it is divisible by both 2 and 3.

The number must be even, and the sum of the digits must be divisible by 3.

STATION **B**

A number is divisible by 3 if the sum of its digits is divisible by 3.

Example: 11,301 is divisible by 3 because 1+1+3+0+1 = 6, and 6 is divisible by 3.

STATION L

A number is divisible by 3 if the sum of its digits is divisible by 3.

Example: 11,301 is divisible by 3 because 1+1+3+0+1 = 6, and 6 is divisible by 3.

STATION E

A number is divisible by 7 if when you take the last digit, double it and subtract from remaining digits, your **answer** is 0, 7, or can be divided by 7.