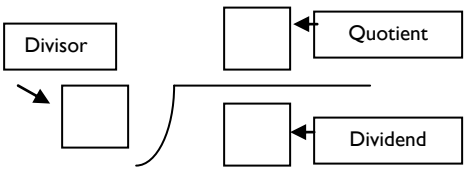
Divisibility & Divisibility Rules

Division



Rule:

A dividend is divisible by a divisor if there is no remainder in the quotient.

Example 1:

$$3 \overline{)\,9}$$
$$9$$
$$0$$

9 is divisible by 3 because there is no remainder.

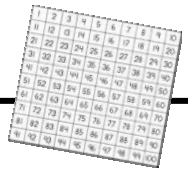
Example 2:

$$3 \overline{)\,13}\quad 4\ r\ 1$$
$$12$$
$$1$$

13 is not divisible by 3 because there is a remainder.

Divisibility Rules

We can use divisibility rules as shortcuts to tell if numbers are divisible by particular numbers.



A number is divisible by……..

	2	3	4	5	6	9	10
If:	The dividend is an even number	the sum of the digits is a multiple of 3	the number formed by the last two digits is divisible by 4	The dividend ends in 5 or 0	The dividend is divisible by 2 and 3	the sum of the digits is a multiple of 9	The dividend ends in 0
Example:	18 is divisible by 2 because it is an even number	18 is divisible by 3 because the sum of the digits (1+8) = 9, which is a number divisible by 3	324 is divisible by 4 because 24 (the last two digits) is divisible by 4	15 is divisible by 5 because it ends in a 5. 10 is divisible by 5 because it ends in a 0.	168 is divisible by 6 since it is divisible by 2 AND it is divisible by 3. (use the divisibility rules for 2 and 3)	693 is divisible by 9 because 6+9+3=18; 18 is a multiple of 9	20 is divisible by 10 because it ends in a 0.

You can also tell if a dividend is divisible by a divisor by **skip-counting** by the divisor up to the dividend. If the dividend is stopped on in skip counting, it is divisible by that number. If you pass over it while skip-counting, it is not divisible by that divisor.

Tips:

Have student fill out the following skip counting table to use skip counting to find if a number is a multiple. Store in notebook/binder for quick reference.

However, the first line of defense ideally would be for student to orally skip count each time he needs to check if a number is a multiple as this will help sharpen skip counting skills, In sha Allah. Have student use this table as a fall back.

Multiples (aka Skip Counting) of:

2													
3													
4													
5													
6													
7													
8													
9													
10													
11													
12													

References:

Divisibility at MathGoodies.com

Divisibility Rules from HelpingWithMath.com