

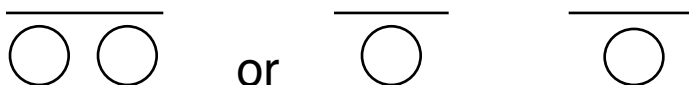
# Prime and Composite Numbers

26/11/07

**These numbers take in all whole numbers (not 0 or 1) when we work with equal groups, as in multiplication and division.**

⊗ One is the **unit** we count with. It isn't important when we multiply or divide as it makes no change.

When we work with two balls they can be made in one group of two, or two groups of one, but the number one isn't important when we multiply or divide.



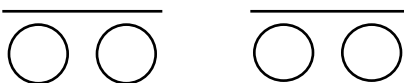
Three balls also can be made in equal groups in only two ways, both in one group, or groups of one.



Four balls can be made in equal groups just like 2 and 3.

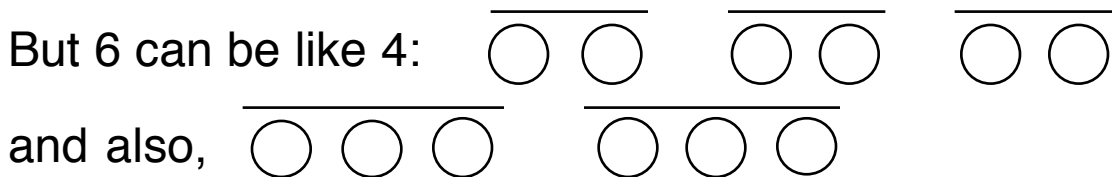
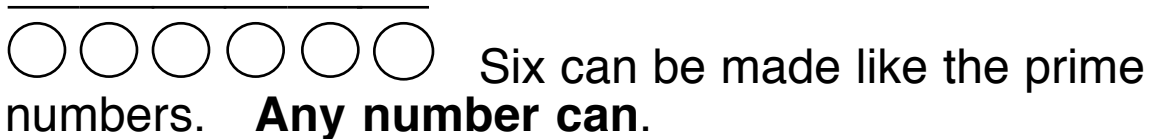


But four can also be made in twos. Four is different. It is called a **Composite** number because it can made of something besides 1 and itself.

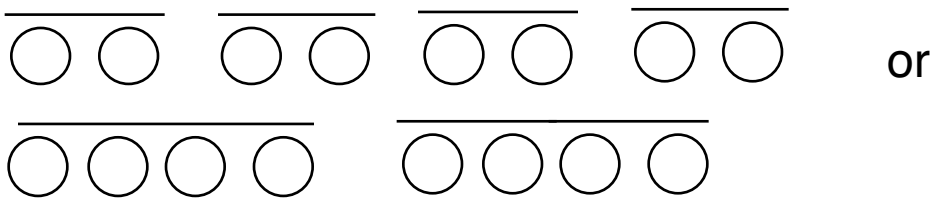
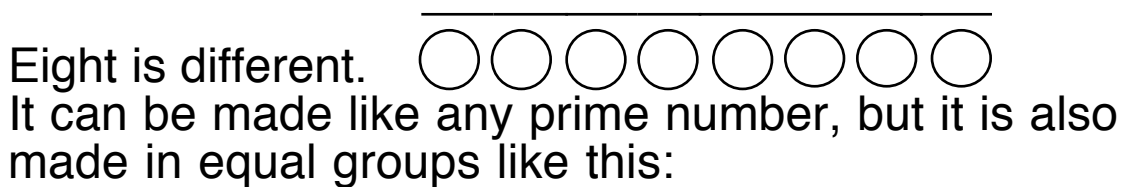
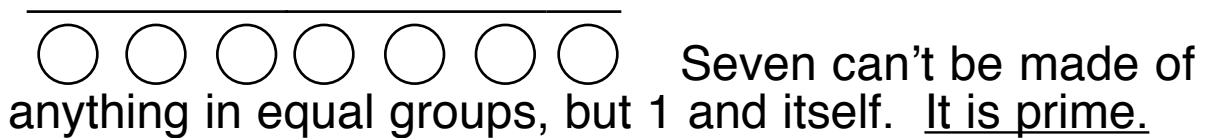




Five is like 2 and 3, but not like 4.  
It is called a **Prime** number. So are 2 and 3.



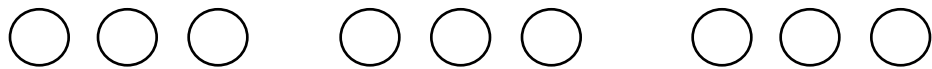
Six is a composite number.



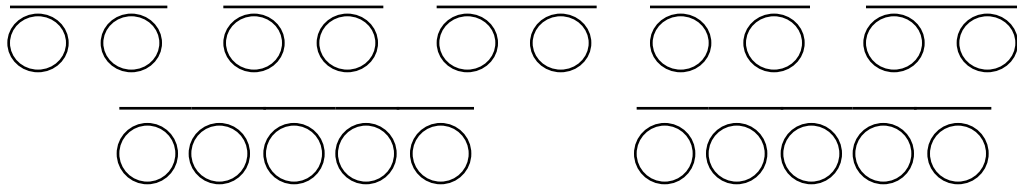
Eight is another composite number, like 4 and 6.

Primes so far are: 2, 3, 5, 7. Composites are 4, 6, 8.

Nine is also composite.

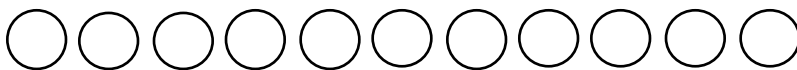


So is ten:



or

But not eleven. Eleven is another prime number.



If we kept on like this we would find 12 was really composite:



2's, or



3's, or

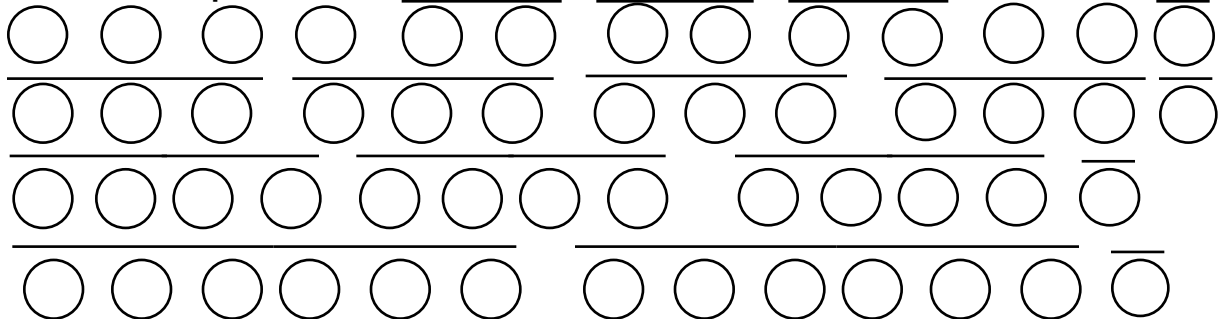


4's, or



6's

But 13 is prime. (Note I didn't try past groups of 6 as  $2 \times 7 = 14$ .)



### To review:

Multiplication and Division always work with equal groups. When those groups are whole numbers (no fractions) then the number of things you are working with separate themselves into two types:  
**prime and composite.**

All whole numbers are made of groups of ones.

One is called a **unit**.

Numbers can be made of groups of two; 2, 4, 6, 8, 10, 12, 14, are examples.

Numbers can be made of groups of three; 3, 6, 9, 12, 15, are examples.

We could go on with groups of four, five, six, and so on.

So far we've talked about

1, 2, 3, 4, 6, 8, 9, 10, 12, 14, 15,  
but some numbers are missing: 5, 7, 11, 13.

These can't be made made in equal groups  
except groups of themselves or groups of 1.

These are **the prime numbers**. 2 and 3 are also prime.

The primes are: 2, 3, 5, 7, 11, 13...

All numbers that can be made of equal groups besides 1 and themselves are **composite numbers**.

**Composites** are the ones we really have to learn  
multiplication and division facts for in the primary grades.

**Primes** are simple. They all work the same.

2, 3, **4**, 5, **6**, 7, **8**, **9**, **10**, 11, **12**, 13, **15**, **16**, 17, **18**, 19, ....

Any composite number can be made of equal groups of  
primes, or other composites. Try them yourself.