

Equal groups must contain the same number of objects.

If groups contain different numbers of objects, they are not equal groups.

There must be more than one group to show equal groups.

Objects must look the same to form equal groups.

Changing the space between objects changes whether the groups are equal.

An array shows equal groups.

Equal groups can be represented using repeated addition.

Equal groups can be represented using multiplication.

A picture of equal groups always tells us which operation to use.

The same equal-groups picture can represent multiplication and division.

Multiplication can be used to find a total when the number of groups and the number in each group are known.

Division can be used when the total is known but either the number of groups or the number in each group is unknown.

3×4 and 4×3 can be represented by different equal-groups arrangements.

3×4 and 4×3 have the same product.

$4 + 4 + 4$ represents three equal groups of four.

$3 + 3 + 3 + 3$ represents the same total as three groups of four.

If 20 objects are shared equally into five groups, each group contains four objects.

Equal groups must contain the same number of objects.	True Equal refers to the quantity in each group.
If groups contain different numbers of objects, they are not equal groups.	True Unequal group sizes do not represent equal groups.
There must be more than one group to show equal groups.	Depends This depends on the class definition of “groups”; one group cannot demonstrate equality between groups.
Objects must look the same to form equal groups.	False Equality concerns number, not appearance.
Changing the space between objects changes whether the groups are equal.	False Arrangement does not determine group size.
An array shows equal groups.	True Rows and columns can be treated as equal groups.
Equal groups can be represented using repeated addition.	True Repeated equal addends can represent equal groups.
Equal groups can be represented using multiplication.	True Multiplication represents a number of equal groups.
A picture of equal groups always tells us which operation to use.	False The question and unknown determine the operation.
The same equal-groups picture can represent multiplication and division.	True The representation can support multiplication or division; the question and unknown determine the operation.

Multiplication can be used to find a total when the number of groups and the number in each group are known.	True The number of groups and number in each group are known, and the total is unknown.
Division can be used when the total is known but either the number of groups or the number in each group is unknown.	True Division can determine either the number of equal groups or the number in each group.
3×4 and 4×3 can be represented by different equal-groups arrangements.	True One may show three groups of four and the other four groups of three.
3×4 and 4×3 have the same product.	True Multiplication is commutative.
$4 + 4 + 4$ represents three equal groups of four.	True There are three equal addends of four.
$3 + 3 + 3 + 3$ represents the same total as three groups of four.	True It represents four groups of three. This has the same total as three groups of four, although the group structure is different.
If 20 objects are shared equally into five groups, each group contains four objects.	True $20 \div 5 = 4$.