Facts for 3, 4 and 6

You know your twos and your fives. They hand you every fact with a 3, a 4 or a 6 in it.

WORDS TO KNOW

One more group: add one more of the other number. Three 8s are two 8s and one more 8.

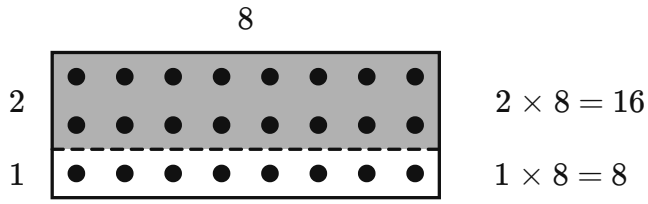
Double: add a number to itself, like 12 + 12.

KEY IDEAS

1. A three fact is a two fact and one more group

Cut 3 rows into 2 rows and 1 row. Two rows is a two fact you know. Then add one more row.

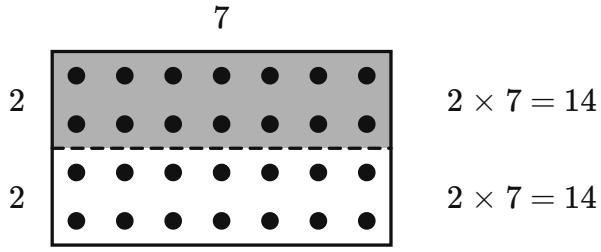
3 groups $=$ 2 groups $+$ 1 more group



2. A four fact is a two fact doubled

Cut 4 rows into 2 rows and 2 rows. Both halves are the same two fact. So double the number, then double again.

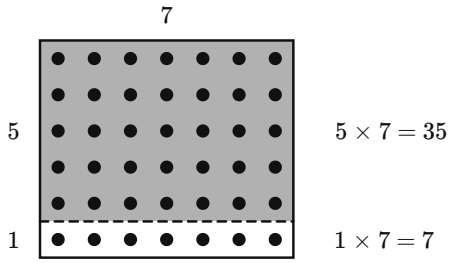
4 groups $=$ 2 groups $+$ 2 groups



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3. A six fact is a five fact and one more group

Cut 6 rows into 5 rows and 1 row. Five rows is a five fact you know. Then add one more row. You can also cut 6 rows into 3 and 3. Then double a three fact.



6 groups $=$ 5 groups $+$ 1 more group

WATCH OUT

- **The extra group is a whole row.** In 3 × 8, add one more 8, not one more 1.
- **Turn it around when that is easier.** 8 × 4 is the same as 4 × 8, a four fact.
- **The second double can cross a ten.** Add the tens, then the ones, then put them together.

WORKED EXAMPLES

Example 1. There are 8 toy cars. Each car has 4 wheels. How many wheels are there?

1. That is 8 × 4. Turn it around to 4 × 8, a four fact.
2. Double 8: 8 + 8 = 16.
3. Double again: 16 + 16 = 32.

Answer: 32 wheels. **Check:** count by fours: 4, 8, 12, 16, 20, 24, 28, 32.

Example 2. A garden has 6 rows of carrots. Each row has 6 carrots. How many carrots are there?

1. That is 6 × 6, a six fact.
2. Five rows is a five fact: 5 × 6 = 30.
3. Add one more row of 6: 30 + 6 = 36.

Answer: 36 carrots. **Check:** count by sixes: 6, 12, 18, 24, 30, 36.

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