MATHS FIELD GUIDE · GRADE 1

Equal groups and skip counting

OPENING PROBLEM

Three bags, three marbles each. How many?

A 

B 

C 

02 Make the groups equal
03 Rules and worked cases
04 Count bicycle wheels
05 Compare the models
06 Turn rows into a count
07 Check your reasoning

ILLUSTRATED PROBLEM SHEET

Make the groups equal

Count the groups and the amount in each group separately.

1

A ○○○

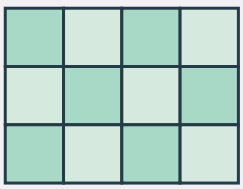
B ●●●

C ○○○

Three bags, three marbles each. How many?

Three plus three plus three is nine.

2



How does a rectangle show twelve?

Three rows of four. You can also see four columns of three.

3

A ○○

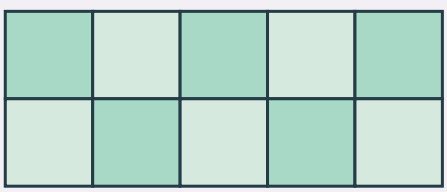
B ●●

C ○

Can you count these as three twos?

One group is short. There are five, one fewer than six.

4



Cover one full column. What is left?

Two rows of four, or eight counters.

Four pairs
eight objects.

Four groups with one missing from a pair
seven objects.

CHAPTER PROBLEM

Continue counting in fives: 5, 10, 15, __.

20. Add five to fifteen.

MATHS REFERENCE · GRADE 1

Equal groups and skip counting

Equal groups have the same number in each group.

Skip counting adds the same amount each time.

Cases to recognise

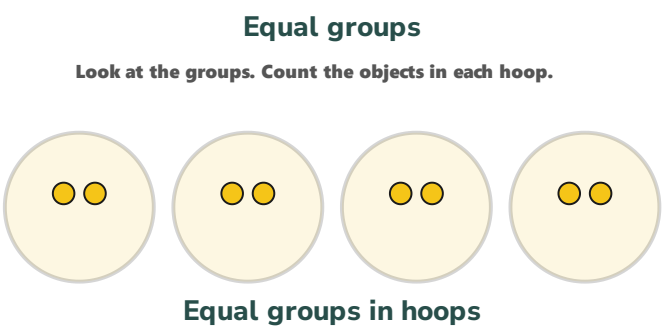
Situation	What to do and why
Three pairs of socks	Two in each pair gives 2 + 2 + 2 = 6.
Two plates have three biscuits each	Count 3, 6. There are six biscuits.

Read the model

Count pairs

Each hoop has two counters. Count one whole hoop at a time.

The totals are 2, 4, 6, 8. Each new pair adds two.

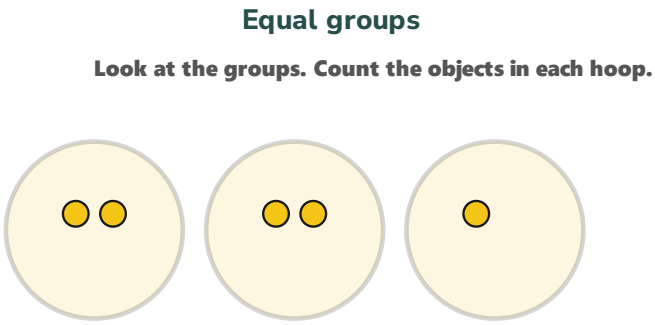


Equal groups in hoops

Check that groups match

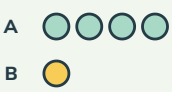
These hoops have two, two and one counter.

The last hoop is not a pair. Counting two for it would count a counter that is not there.



Equal groups in hoops

equal groups The same number of objects in every group.
pair A group of two.
skip count Count using the same jump each time.



Can you see five without counting from one?

See four together and one more. Five.

WORKED INVESTIGATION

Count bicycle wheels

Each bicycle in the row has two wheels. Point to one bicycle at a time and say the total wheels so far: two, four, six.

Look at this part	What it tells you
1 bike	2 wheels
2 bikes	4 wheels
4 bikes	8 wheels

Work it through

Draw three pairs of dots for three bikes. Counting the pairs by twos and counting all six single dots give the same total.

Catch the mistake

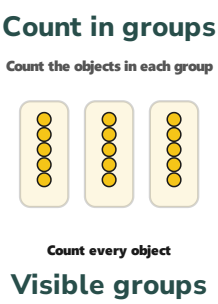
A tricycle has three wheels. If it joins the row, add three for that vehicle. Counting it as another pair would miss one wheel.

Compare the cases

Count groups of five

Each group holds five counters.

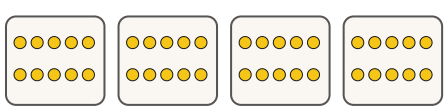
Count the group totals: 5, 10, 15. Each new group adds five.



Count groups of ten

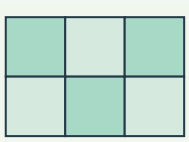
Each full tray holds ten counters.

Count: 10, 20, 30, 40. Four groups of ten make forty.



Change one condition

If you know four bicycles have eight wheels, add one more pair to find the total for five bicycles: ten wheels.



How many dots would fit if you put one in each cell?

Two rows of three give six. Counting three pairs gives the same six.

EQUAL GROUPS AND SKIP COUNTING

Compare the models

Keep the same jump

For counting in twos, 8 is followed by 10, not 9.

A jump of one changes the counting rule.

Check by counting ones

Count all the objects one by one to check a group total.

Both ways count the same objects. Group counting can be quicker.

Use equal groups

Put two large blocks on each of three mats.

Count in twos, then count all the blocks. Explain why both totals are six.

Explain your reasoning

Count three groups of two. Say the totals.

2, 4, 6.

Two more worked cases

Situation	Reasoning
Two bags hold two and four marbles	Six marbles altogether, but the two groups differ in size.
Add one wheel to each of three two-wheel toy bikes	Now each toy has three wheels. The total rises from six to nine.



Pair the rows. How many pairs and how many counters?

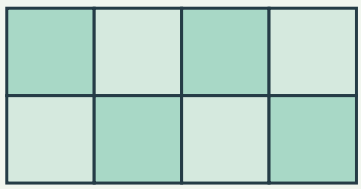
Three pairs. Each pair uses two counters, so there are six counters.

ILLUSTRATED PROBLEM SHEET

Turn rows into a count

A complete array has equal-length rows and equal-height columns.

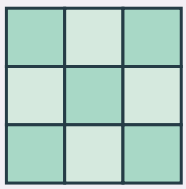
1



Count by rows. Count again by columns.

Two fours make eight. Four twos give the same total.

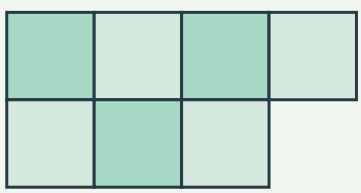
2



What is special about a square array?

It has just as many rows as columns. Three threes make nine.

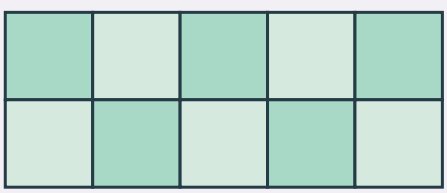
3



One place is empty. May you still count eight objects?

No. Eight places minus one empty place gives seven objects.

4



A new column joins this array. How many objects join?

Two. Each of the two rows gains one object.

Two rows of five
ten spaces.

One empty space in that array
nine objects.

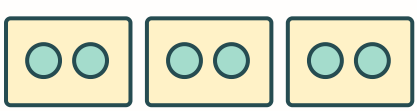
CHAPTER PROBLEM

Two groups have two objects each. A third has one. Can you count all three as pairs?

No. The third group is not a pair. There are five objects altogether.

QUESTION BANK · FOLD OR COVER THE RIGHT COLUMN

Check your reasoning

Try the problem	Solution and reasoning
01 Add one counter to every bag when there are three bags. How does the total change?	It grows by three, one for each bag.
02 Could six counters make two full rows and also three full rows?	Yes. Use two rows of three or three rows of two.
03 There are three bicycles and a one-wheeled unicycle. How many wheels are there?	Three pairs give six wheels. Add the single wheel for a total of seven.
04 How many ears do four toy rabbits have if each has two?	Four pairs make 2 + 2 + 2 + 2 = 8 ears.
05 Twelve beads in groups of three. How many groups?	Count 3, 6, 9, 12. Four groups use all the beads.
06 How many counters if a fourth box has the same number? 	Four boxes of two give eight. The new box adds two to the six shown.



Which is easier to count, all the shapes or just the squares?

There are three squares and three circles. Use those groups to check the total of six.

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