MATHS FIELD GUIDE · GRADE 1

Sort, count and show what you found

OPENING PROBLEM

How many chose cat?



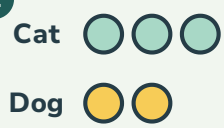
02 Make one mark for each vote
03 Rules and worked cases
04 Choose a playground game
05 Compare the models
06 Organise a count so you can check it
07 Check your reasoning

ILLUSTRATED PROBLEM SHEET

Make one mark for each vote

With a one-for-one key, each counter stands for one person's choice.

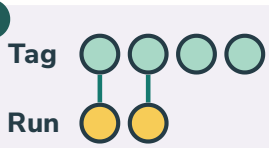
1



How many chose cat?

Three. Point to each counter once.

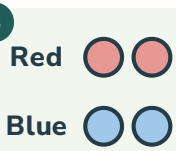
2



How many more chose tag?

Two tag counters have no partner in the run row.

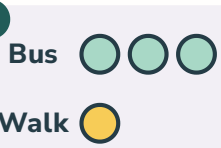
3



Did either colour win?

No. Each got two votes.

4



One bus voter changes to walking. What happens?

Two now ride and two walk. There are still four voters.

Three votes and no votes three altogether.

Three votes and a second group of three a tie.

CHAPTER PROBLEM

What does one picture stand for in our display?

One object or one choice.

MATHS REFERENCE · GRADE 1

Sort, count and show what you found

Data is information we collect.

Sorting and counting help us answer a question about that information.

Cases to recognise

Situation	What to do and why
Cats get three votes and dogs get five	Dogs lead by two votes. Pair the votes to see the gap.
Draw one mark for each of six children	Six marks record six votes if each child votes once.

Read the model

Begin with a question

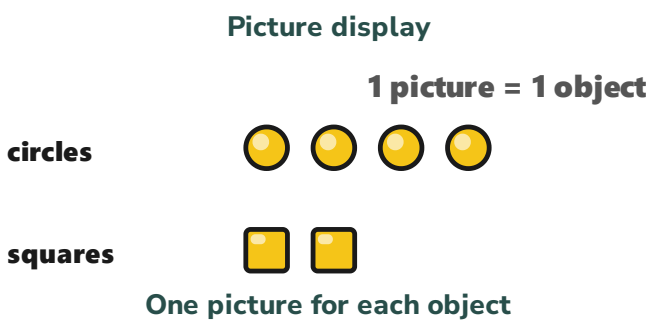
Our question is: which shape appears most often?

Sort the shapes into circles and squares. Count each group once.

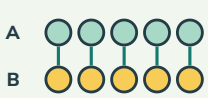
One picture for one object

This display shows four circles and two squares.

Each picture stands for one object. Start both rows at the same place.



data Information we collect.
sort Put things into groups using a rule.
display A way to show information.



Which row has more?

Every counter finds one partner. The rows are equal.

WORKED INVESTIGATION

Choose a playground game

Each child places one token beside a favourite game. Tag gets four tokens and hopscotch gets three. Each token stands for one child's vote.

Look at this part	What it tells you
Tag	4
Hopscotch	3
Votes counted	7

Work it through

Match the rows token by token. Three pairs leave one tag token over. Tag has one more vote.

Catch the mistake

If a child places two tokens, the chart counts that child twice. Agree on one token per child before collecting votes.

Compare the cases

Read the answer

Four circles is more than two squares.

Circles appear most often. We know because we counted the pictures.

The labels tell us what

This new display has three stars and five hearts.

Read the row labels before answering. A row's length alone does not tell its name.

Picture display

1 picture = 1 object

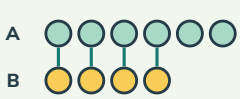
stars ★ ★ ★

hearts ♥ ♥ ♥ ♥ ♥

One picture for each object

Change one condition

One new child votes for hopscotch. Both rows now show four. The earlier winner has become a tie.



How many extra are in A?

Match four pairs. Two in A are left.

SORT, COUNT AND SHOW WHAT YOU FOUND

Compare the models

Keep the rule fair

Do not draw one large picture for two objects in this display.

Our rule is one picture for one object. Count every object only once.

An empty category

If no one chooses a shape, its row has no pictures.

An empty row means zero, not missing information, when we have counted everyone.

Collect your own data

Ask a few people to choose a circle or a square.

Draw one picture for each choice. Count the rows and answer your question.

Explain your reasoning

Which shape appears more often in this display?

Picture display

1 picture = 1 object

stars ★ ★ ★ ★ ★

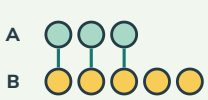
circles ● ● ●

One picture for each object

Stars. There are five stars and three circles.

Two more worked cases

Situation	Reasoning
One child changes from dogs to cats in the 3–5 vote	The counts become four and four. The total stays eight.
Two games both receive four votes	Both are most popular if every other game has fewer.



How could you make A equal B?

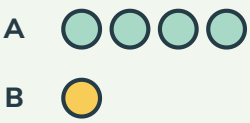
Add two to A, or take two from B.

ILLUSTRATED PROBLEM SHEET

Organise a count so you can check it

The arrangement can help you count without changing how many objects there are.

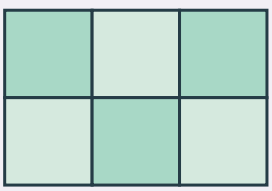
1



Can you see five without counting from one?

See four together and one more. Five.

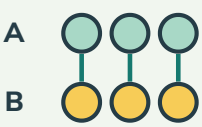
2



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.

3



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

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

4



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.

Four pairs
eight counters.

Four singles
four counters.

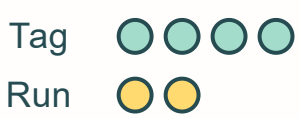
CHAPTER PROBLEM

A counted row has no pictures. What amount does it show?

Zero.

QUESTION BANK · FOLD OR COVER THE RIGHT COLUMN

Check your reasoning

Try the problem	Solution and reasoning
01 A pupil votes twice. What goes wrong with the display?	It now counts an extra vote from the same person. Keep one mark per voter.
02 A friend counts “one, two, four” while touching three buttons. Which part needs fixing?	Use the counting words in order. The last word should be three.
03 Five children choose skipping and two choose catch. How many children voted, and how many more chose skipping?	Seven voted. Pair two votes on each side. Three skipping votes are left over.
04 A vote records 4 for swings, 2 for slides and 3 for tag. How many voted?	Add the three groups once: 4 + 2 + 3 = 9.
05 One tag vote changes to slides. Which games now tie?	Slides rise to three and tag falls to two. No games tie; swings still have four.
06 Each dot is one vote. How many more chose tag? 	Four minus two gives two more votes for tag.



Move one counter from A to B. What happens?

The rows become three and three. Moving one closes a gap of two.

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