

Discussion Problems

Step 1: Pictograms

National Curriculum Objectives:

Mathematics Year 3: (3S1) [Interpret and present data using bar charts, pictograms and tables](#)

Mathematics Year 3: (3S2) [Solve one-step and two-step questions \[for example, 'How many more?' and 'How many fewer?'\] using information presented in scaled bar charts and pictograms and tables](#)

About this resource:

This resource has been designed for pupils who understand the concepts within [this step](#). It provides pupils with more opportunities to enhance their reasoning and problem solving skills through more challenging problems. Pupils can work in pairs or small groups to discuss with each other about how best to tackle the problem, as there is often more than one answer or more than one way to work through the problem.

There may be various answers for each problem. Where this is the case, we have provided one example answer to guide discussion.

We recommend self or peer marking using the answer page provided to promote discussion and self-correction.

More [Year 3 Statistics](#) resources.

Did you like this resource? Don't forget to [review](#) it on our website.

Pictograms

1. Katie begins creating the pictogram below. She completes the board games and dominoes sections but runs out of time to fill in the rest. Explore the possible value of the key and complete the pictogram.



48 children voted in total.

Key: 😊 = ___ children

Toy	Number of children
Board games	😊 😊
Spinning tops	
Action figures	
Dominoes	😊 😊 😊 🍷

Investigate the different statements that can be created using inequality symbols which each compare the value of three items shown in the pictograms above.

_____ < _____ > _____

DP

2. Indi and Isaiah spill pizza sauce on the pictogram below. They know that in total, more than 70 but less than 100 pizzas were made.

Flavours	Number of pizzas made
Vegetarian	🍕 🍕 🍷
Margherita	🍕 🍕 🍕
Olive	🍕 🍷
Pepperoni	🍕 🍷



Most people chose pepperoni.

Between 8 and 16 people chose vegetarian.



Key: 🍕 = ___

Use the clues to investigate what each pizza is worth and how many people chose olive and pepperoni pizzas.

DP

Pictograms

1. Katie begins creating the pictogram below. She completes the board games and dominoes sections but runs out of time to fill in the rest. Explore the possible value of the key and complete the pictogram.



48 children voted in total.

Key: 😊 = 4 children

Toy	Number of children
Board games	😊 😊
Spinning tops	😊 😊 😊 🍷
Action figures	😊 😊 😊 🍷
Dominoes	😊 😊 😊 🍷

Various answers, one example shown above.

Investigate the different statements that can be created using inequality symbols which each compare the value of three items shown in the pictograms above.

Board games < Dominoes > Action figures

DP

2. Indi and Isaiah spill pizza sauce on the pictogram below. They know that in total, more than 70 but less than 100 pizzas were made.

Flavours	Number of pizzas made
Vegetarian	🍕 🍕 🍷
Margherita	🍕 🍕 🍕
Olive	🍕 🍕 🍕 🍷
Pepperoni	🍕 🍕 🍕 🍕 🍕



Most people chose pepperoni.

Between 8 and 16 people chose vegetarian.



Key: 🍕 = 6

Use the clues to investigate what each pizza is worth and how many people chose olive and pepperoni pizzas.

Various answers, one example shown above.

Vegetarian = 15; Margherita = 18; Olive = 21; Pepperoni = 30

DP