

Reasoning and Problem Solving

Step 4: Tables

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](#)

Differentiation:

Questions 1, 4 and 7 (Problem Solving)

Developing Complete tables with up to two headings; answer questions with one step problems.

Expected Complete tables with multiple headings; answer questions with one and two step problems.

Greater Depth Complete tables with multiple headings and larger data sets; answer questions with multi-step problems and making inferences when possible.

Questions 2, 5 and 8 (Problem Solving)

Developing Identify errors in tables with up to two headings; one step problems.

Expected Identify errors in tables with multiple headings; one and two step problems.

Greater Depth Identify errors in tables with multiple headings and larger data sets; multi-step problems and making inferences when possible.

Questions 3, 6 and 9 (Reasoning)

Developing Use tables with up to two headings to identify which questions can be answered.

Expected Use tables with multiple headings to identify which questions can be answered.

Greater Depth Use tables with multiple headings and larger data sets to identify which questions can be answered.

More [Year 3 and Year 4 Statistics](#) resources.

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Tables

1a. The table shows how many sweets are shared into party bags for different age groups. The sweet numbers increase for each age group by 5 each time. There are 5 age groups in total.

Age Group	4-5	6-7	8-9	10-12	12+
Number of sweets	8	13		23	

Complete the table and answer the questions.

- a. How many age groups will get an even number of sweets?
- b. How many sweets will the 8-9 age group get?



3 PS

2a. Afifa writes the following statements using the information in the table, spot two mistakes she has made.

Twenty children answered the survey.
 Less than half of the children have no pets.
 Girls have more pets than boys.
 There are no even numbers in the boys' results.

	No pets	1 pet	2 pets
Boys	3	7	3
Girls	2	8	1



3 PS

3a. Felicity creates some questions using the table below.

How many prefer the seaside?

How many people didn't vote?

Do more people prefer the countryside or the mountains?

Beach Holiday	Countryside	Mountain walks	Sailing
18	12	6	5

Which of Felicity's questions cannot be answered using the table? Explain why not.



3 R

Tables

1b. The table shows the weekly points score for a local rugby team. The score increases each match by 2 each time. There are 6 matches in total.

Match	1	2	3	4	5	6
Final Score	6		10			16

Complete the table and answer the questions.

- a. How many points were scored at the fifth match ?
- b. How many points did they have after they had played three matches?



3 PS

2b. Roy writes the following statements using the information in the table, spot two mistakes he has made.

There are 40 trains per day altogether.
 More trains travel to London on both railways.
 The Magnificent Line runs ten more trains to London than Edinburgh.

	London	Edinburgh
Greatest Railway	10	9
Magnificent Line	14	8



3 PS

3b. Wilf creates some questions using the table below.

How many more people prefer jigsaws than painting?

Which is the most popular activity for adults?

How many adults prefer reading?

	Children	Adults
Jigsaws	7	6
Painting	8	4
Building Bricks	15	12

Which of Wilf's questions cannot be answered using the table? Explain why not.



3 R

Tables

4a. The table shows how many pupils got on the bus at the first two stops. The number of people increase at each stop by four each time. There are 8 stops in total.

Bus stop	1	2	3	4	5	6	7	8
Number of pupils	3	7						

Complete the table and answer the questions.

- a. How many children will get on at bus stop number seven?
- b. How many were on the bus after stop number five?



3 PS

5a. Lola writes the following statements using the information in the table, spot three mistakes she has made.

There are 120 children in Key Stage 1 and 241 children in Key Stage 2.
There is an odd number of boys in both Key Stages. There are 365 children in total.

	Key Stage 1	Key Stage 2	Total in Key Stage
Boys	64	127	191
Girls	59	114	173



3 PS

6a. Sally creates some questions using the table below.

How many children like coffee?

How many adults take sugar with their tea?

Did more children or adults like crisps?

	Crisps	Coffee	Tea	Chocolate
Children	19	12	28	30
Adults	20	45	52	54

Which of Sally's questions cannot be answered using the table? Explain why not.



3 R

Tables

4b. The table shows how many bins get collected on the recycling round. The number of bins increase on each street by three each time. There are 9 streets in total.

Bus stop	1	2	3	4	5	6	7	8	9
Number of bins	4	7							

Complete the table and answer the questions.

- a. How many bins will be collected in the eighth street?
- b. How many bins had been collected by the time they had been to five streets?



3 PS

5b. Danny writes the following statements using the information in the table, spot three mistakes he has made.

There are 150 guests staying in the Hotel Argan and half as many in Hotel Fleur.
There is an even number of French guests in both hotels. There are more French guests than German.

	French	German	Total in hotel
Argan	60	86	150
Fleur	42	33	80







3 PS

6b. Ryan creates some questions using the table below.

How many children walk to school in total?

How many boys come to school by car in Key Stage 1?

Did more children catch the bus or walk to school?

				
Key Stage 1	36	48	12	0
Key Stage 2	40	56	3	2

Which of Ryan's questions cannot be answered using the table? Explain why not.



3 R

Tables

7a. The table shows how many children prefer different flavoured ice cream. A pattern emerges and the number of votes decreases by 6 each time. There are 8 flavours in total.

Ice cream Flavour	vanilla	strawberry	mint choc chip	chocolate	toffee	pistachio	rum and raisin	rocky road
Number of children		47						11

Complete the table and answer the questions.

- How many children like vanilla flavour?
- How many children like pistachio and rum and raisin flavours?



3 PS

8a. Shelley writes the following statements using the information in the table, spot three mistakes she has made.

Both teams have more home games. 43 games were played in total. Foxley Wanderers played away twice as many times as Riverpool FC. The total home games of both teams together is double the total away games.

	Home Games	Away Games	Total games
Riverpool FC	14	4	19
Foxley Wanderes	10	12	24



3 PS

9a. Billy creates some questions using the table below.

How many people use aeroplanes to go on holiday?

Why do you think more people in the South travel by ferry?

How many people use more than one mode of transport?

	Aeroplane	Ferry	Car	Train
North of England	19	12	28	30
Southern England	20	45	52	54

Which of Billy's questions cannot be answered using the table? Explain why not.



3 R

Tables

7b. The table shows how many customers visit the shop during the week. The number of customers decrease on each day by 8 each time.

Day	Sat	Sun	Mon	Tues	Wed	Thurs	Fri
Number of customers			38			14	

Complete the table and answer the questions.

- a. How many customers will have visited on Thursday and Friday?
- b. How many customers came to the shop on Saturday?



3 PS

8b. Stan writes the following statements using the information in the table, spot three mistakes he has made.

There are 62 people in the survey. Over half of the participants were women. An even number of women could speak two other languages. Less than ten men could speak another language.

	Can speak another language	Can speak two other languages	Total
Women over 35	21	23	45
Men over 35	11	8	15



3 PS

9b. Kamil creates some questions using the table below.

How many people shop at Foodgiant in Wales?

Which supermarket is the most popular?

Which supermarket is the best value for money?

	Ladi	Desco	Foodgiant	Dasa
England	24	48	30	9
Wales	38	52	14	18

Which of Kamil's questions cannot be answered using the table? Explain why not.



3 R

Reasoning and Problem Solving Tables

Developing

1a.

Age Group	4-5	6-7	8-9	10-12	12+
Number of sweets	8	13	18	23	28

a. 3

b. 18

2a. Error 1: 24 children answered the survey. Error 2: Boys have more pets.

3a. How many people didn't vote? because there is no information in or included with the table to explain how many people were involved.

Expected

4a.

Bus stop	1	2	3	4	5	6	7	8
Number of pupils	3	7	11	15	19	23	27	31

a. 27

b. 55

5a. Error 1: 123 children in KS1; Error 2: 364 children in total; Error 3: Even number of boys in KS1.

6a. 'How many children take sugar with their tea' because this information is not provided in the table.

Greater Depth

7a.

Ice cream Flavour	vanilla	straw berry	mint choc chip	choc-olate	toffee	pist-achio	rum and raisin	rocky road
Number of children	53	47	41	35	29	23	17	11

a. 53

b. 40

8a. Error 1: Foxley have more away games; Error 2: Foxley played 8 more away games; Error 3: There were 16 away games and 24 home games.

9a. How many people use more than one mode of transport? because the table does not include that information.

Reasoning and Problem Solving Tables

Developing

1b.

Match	1	2	3	4	5	6
Final Score	6	8	10	12	14	16

a. 14

b. 24

2b. Error 1: There are 41 trains that run each day altogether. Error 2: The Magnificent Line runs 6 more trains to London

3b. How many adults prefer reading? can't be answered as this information is not in the table.

Expected

4b.

Street	1	2	3	4	5	6	7	8	9
Number of bins	4	7	10	13	16	19	22	25	28

a. 25

b. 50

5b. Error 1: 146 guests staying in Hotel Argan; Error 2: 75 guests staying in Hotel Fleur; Error 3: More German guests than French.

6b. How many boys come to school by car in Key Stage 1? The table doesn't show the number of boys and girls separately.

Greater Depth

7b.

Day	Sat	Sun	Mon	Tues	Wed	Thurs	Fri
Number of customers	54	46	38	30	22	13	6

a. 20

b. 54

8b. Error 1: There are 63 people in the survey; Error 2: An odd number of women can speak two other languages; Error 3: Men who speak another language is more than 10.

9b. Which supermarket is the best value for money? because the table only states popularity not price.