

Two-Way Tables Worksheet

Activity 1: Reading a Two-Way Table

The table below shows the number of students in Year 8 who prefer different types of sports, separated by gender.

	Football	Basketball	Tennis	Total
Boys	14	9	7	?
Girls	8	10	11	?
Total	?	?	?	?

1. How many boys participated in total?
2. How many girls participated in total?
3. How many students preferred tennis?
4. What is the total number of students surveyed?

Activity 2: Constructing a Two-Way Table

A survey was conducted among 30 students about their favourite fruit: apples or bananas. The results are:

- 12 boys like apples
- 6 boys like bananas
- 5 girls like apples
- 7 girls like bananas

Fill in the two-way table below:

	Apples	Bananas	Total
Boys			
Girls			
Total			

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Activity 3: Interpreting Data from a Two-Way Table

The following table shows the number of students who brought their lunch or bought lunch at school, split by year group.

	Brought Lunch	Bought Lunch	Total
Year 7	15	10	?
Year 8	12	13	?
Total	?	?	?

1. How many students in Year 7 were surveyed?
2. How many students bought lunch in total?
3. What is the total number of students surveyed across both years?

Activity 4: Creating Questions from a Two-Way Table

Below is a two-way table showing the number of students who own a bicycle and/or a skateboard.

	Bicycle	No Bicycle	Total
Skateboard	10	4	?
No Skateboard	7	9	?
Total	?	?	?

Write two questions that can be answered using this table, and provide their answers.

Activity 5: Word Problem Involving a Two-Way Table

In a class, students were asked whether they like reading fiction or non-fiction books. The results were:

- 10 students like fiction and are boys
- 8 students like fiction and are girls
- 7 boys like non-fiction
- 5 girls like non-fiction

1. Draw a two-way table to represent this data.
2. How many students like fiction?
3. How many girls were surveyed?

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Activity 6: Analysing Errors in a Two-Way Table

A student filled in the following two-way table about pets incorrectly:

	Dog	Cat	Total
Boys	6	4	9
Girls	7	5	12
Total	13	9	22

Spot and explain any errors in the table. Correct the mistakes and present the corrected table.

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Answer Key

Activity 1:

1. $14 + 9 + 7 = \mathbf{30 \text{ boys}}$
2. $8 + 10 + 11 = \mathbf{29 \text{ girls}}$
3. $7 \text{ (boys)} + 11 \text{ (girls)} = \mathbf{18 \text{ students}}$
4. $30 \text{ (boys)} + 29 \text{ (girls)} = \mathbf{59 \text{ students}}$

Completed table:

	Football	Basketball	Tennis	Total
Boys	14	9	7	30
Girls	8	10	11	29
Total	22	19	18	59

Activity 2:

	Apples	Bananas	Total
Boys	12	6	18
Girls	5	7	12
Total	17	13	30

Activity 3:

1. $15 + 10 = \mathbf{25 \text{ students in Year 7}}$
2. $10 \text{ (Year 7)} + 13 \text{ (Year 8)} = \mathbf{23 \text{ students bought lunch}}$
3. $25 \text{ (Year 7)} + 25 \text{ (Year 8)} = \mathbf{50 \text{ students in total}}$

Completed table:

	Brought Lunch	Bought Lunch	Total
Year 7	15	10	25
Year 8	12	13	25
Total	27	23	50

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Activity 4:

Sample questions:

1. How many students have a skateboard but not a bicycle? **Answer: 4**
 2. How many students do not have a skateboard? **Answer: 7 (with bicycle) + 9 (no bicycle) = 16**
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Activity 5:

	Fiction	Non-Fiction	Total
Boys	10	7	17
Girls	8	5	13
Total	18	12	30

2. $10 \text{ (boys)} + 8 \text{ (girls)} = \mathbf{18 \text{ students like fiction}}$
 3. $8 \text{ (fiction)} + 5 \text{ (non-fiction)} = \mathbf{13 \text{ girls were surveyed}}$
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Activity 6:

Errors:

- Boys' total should be $6 + 4 = 10$, not 9.
- Girls' total should be $7 + 5 = 12$ (correct).
- Total for Dog: $6 + 7 = 13$ (correct).
- Total for Cat: $4 + 5 = 9$ (correct).
- Total overall: $10 \text{ (boys)} + 12 \text{ (girls)} = 22 \text{ (correct)}$, or $13 \text{ (dog)} + 9 \text{ (cat)} = 22 \text{ (correct)}$.

Corrected table:

	Dog	Cat	Total
Boys	6	4	10
Girls	7	5	12
Total	13	9	22