Teaching The Fundamentals: Level 1 Grouping Discrete Data

Chris Briggs
Product Manager Post 16 English, Maths and Digital Skills

Pearson

Grouping Discrete Data

What the learners need to do

This is new content at Level 1.

- Group data into groups of equal sizes
- Create data tables
- Use tallies
- Complete data tables
- Create graphs and charts

Grouping Discrete Data

Group data into groups of equal sizes

Learners need to understand that the groups should be of equal sizes when they are creating them. Often the table has been started, but, on occasion, they will need to draw a table from scratch.
These cause different issues for the learners.
They can use and over for the last part.

Here is information about the distances travelled in miles by some people yesterday.

distance (miles)

5	4	12	8
1	2	8	7
18	7	9	11
11	22	7	6
2	3	3	1

Sandro starts to show this information in a grouped frequency table.

Complete the grouped frequency table.
Use five equal groups.

distance (miles)	tally	frequency
1 to 5	JHI III	8
6 to 10		

Here the groupings are started, learners just need to continue it.

Grouping Discrete Data

Group data into groups of equal sizes

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These cause different issues for the learners.
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Belinda asks 20 people

'How many hours of TV did you watch last week?'

Here are the results.

3	17	4	4	6
11	14	14	1	20
9	8	9	6	12
7	8	13	13	9

Belinda wants to show these results in a frequency table.
She will use 4 equal groups.
The first group will start with 1 hour and the last group will end with 20 hours.

Design and complete a suitable frequency table.

(3)

I wonder if this was for more or less than 20 people, would it be harder or easier?

Grouping Discrete Data

Group data into groups of equal sizes

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These cause different issues for the learners.
They can use and over for the last part.

Martyn clears all the rubbish left at the sports club.

He counts all the plastic drink bottles left each day for 60 days.

The table shows the results.

number of plastic bottles	frequency
0 – 9	2
10 – 19	12
20 – 29	15
30 – 39	23
40 – 49	8

Grouping data from zero often confuses learners as to the size of the groupings.

Grouping Discrete Data

Create Data Tables

Assessment questions have examples of what a table should look like.

The table gives some information about the number of visits to a gym last month.

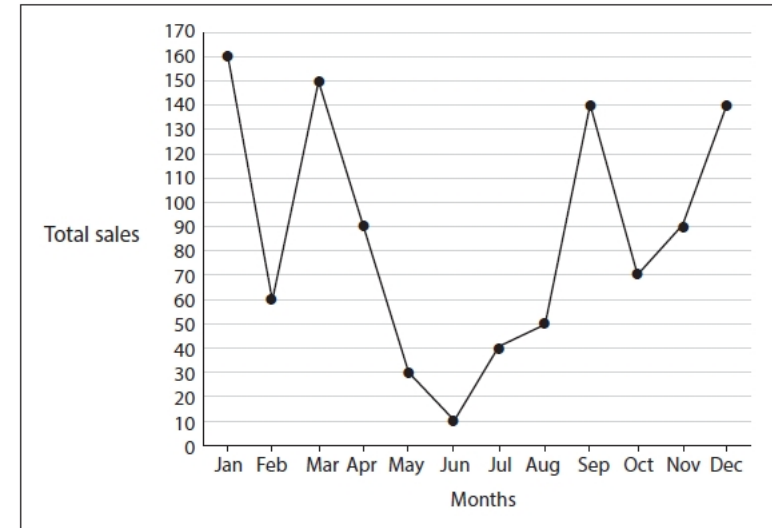| number of visits	tally	frequency
1 – 5	卌 卌	
6 – 10	卌卌 卌 卌卌 卌卌卌 |||	
11 – 15	卌 卌 卌卌 ||	
more than 15	卌 卌|	

Table drawn with headings for at least groups **and** frequency **AND** input opportunities

Grouping Discrete Data

Create Data Tables

On occasion learners need to decipher what is being asked of them.

Kate has this information about the total monthly sales for a shop in 2018

Kate needs to put this information in a table.
The table must show the total sales for each quarter of the year.

quarter 1 (Jan to Mar)
quarter 2 (Apr to Jun)
quarter 3 (Jul to Sep)
quarter 4 (Oct to Dec)

Draw and complete a suitable table for Kate.

Grouping Discrete Data

Use Tallies

Learners should be prepared to use tallies. It makes the counting of the frequencies easier.

Here is information about the distances travelled in miles by some people yesterday.

distance (miles)

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18	7	9	11
11	22	7	6
2	3	3	1

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distance (miles)	tally	frequency
1 to 5	⊪⊪ |||	8
6 to 10		

Learners often write the numbers in order, but don't use tallies.

Grouping Discrete Data

Complete Data Table

Learners do need to be accurate when completing tables.

On occasion they:

Do not count the frequencies
Do not use tallies correctly
Miscount the frequencies

Top Tip

Encourage the learners to add up the frequencies. Does it add up to the same number?

Grouping Discrete Data

Complete Graphs and Charts

Question	Process	Mark	Mark Grid	Evidence
(a)	Begins to draw graph or bar chart	1 or	A	One of: Linear scale Completes labels on horizontal and vertical axes Accurate plotting
	Develops graph or bar chart	2 or	AB	Two of: Linear scale Completes labels on horizontal and vertical axes Accurate plotting
	Fully correct graph or bar chart	3	ABC	All of: Suitable linear scale Completes labels on horizontal and vertical axes Accurate plotting Minimum labels Under 18, 18-34, 35-54, >55, age, people

Grouping Discrete Data

Teaching The Topic Ideas

- It is advised to practise setting grouped frequency table up then inputting tallies rather than raw data or totals of raw data. Include values on the boundaries so learners can see that overlaps mean there are two places the data can go.
- Learners should understand why they should do this.
    - Makes the data more manageable.
    - Makes it easier to present.
- Look for opportunities where this might arise in a learner's chosen field.

Grouping Discrete Data

ESOL learner activity

- Create an activity which involves the learners creating the data.
- Learners think of a question they would like to ask the class, preferably one with multiple answers (what's your favourite animal?)
- Learners go round asking everyone the question.
- Each learner then collates that data into a tally, grouped frequency table and then presents the data in the form of a graph.