

Represent grouped discrete data

1 Here are two tables of data from a survey of some houses in a street.

a) Which is a grouped frequency table?

House number	Number of houses	Number of people in house	Number of houses
0 to 9	3	1	4
10 to 19	8	2	12
20 to 29	8	3	9
30 to 39	9	4	3

b) How many houses have been surveyed so far?

c) House number 30 is not included in the table.

When this house is surveyed there are 3 people living in it.
Show how the tables will change.

House number	Number of houses	Number of people in house	Number of houses
0 to 9		1	
10 to 19		2	
20 to 29		3	
30 to 39		4	

2 Here are some lists of numerical data.

State whether a grouped or ungrouped table would be most appropriate and explain your answer.

a) 1, 1, 1, 2, 3, 3, 3, 4, 5, 6, 6, 6, 6, 6

b) 1, 1, 1, 2, 3, 5, 7, 7, 11, 15, 18, 18, 18, 22, 22, 25, 30, 31

c) 2.4, 2.6, 2.7, 2.7, 2.9, 3.2, 4.0, 4.1, 4.5, 5.2

Discuss your answers with a partner.

3 The amounts spent on 20 online purchases are shown.

The amounts have been rounded to the nearest £1

£90 £63 £19 £112 £64 £30 £52 £60 £103 £28
£85 £72 £66 £99 £115 £58 £73 £115 £72 £55

Put the data into this grouped frequency table.

Amount spent	Tally	Frequency
£0–£20		
£21–£40		
£41–£60		
£61–£80		
£81–£100		
£101–£120		

4 Here are the scores for an international singing competition.

Country	Total
Albania	90
Australia	284
Azerbaijan	302
Cyprus	109
Czech Republic	157
Denmark	120
Estonia	76
France	105
Greece	74
Iceland	232
Italy	472

Country	Total
Malta	107
Netherlands	498
North Macedonia	305
Norway	331
Russia	370
San Marino	77
Serbia	89
Slovenia	105
Sweden	334
Switzerland	364



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- a) Put the same data into both of these tables.

Table 1

Score	Tally	Frequency
0–100		
101–200		
201–300		
301–400		
401–500		

Table 2

Score	Tally	Frequency
50–200		
201–400		
401–500		

- b) Which table in part a) is more useful? Explain your answer.
c) Write one advantage of the grouped data and one disadvantage.

- 5 The number of cats spotted in the garden is recorded every day for a year.

Number of cats	Frequency
0–2	182
3–5	43
6–10	70
10+	29

- a) Has the whole year been recorded? How do you know?
b) Explain why you cannot use the table to work out the number of days 3 cats were spotted.
c) Explain why the maximum number of cats seen cannot be read from the table.

- 6 The table shows the number of cakes sold in a bakery every day in March. Complete the table using the information provided.

Number of cakes sold	0 to 5	6 to 10	11 to 15	16 to 20	21 to 25
Number of days					7

- On 6 days there were between 6 and 10 cakes sold.
- On 10 days there were over 15 cakes sold.
- 5 or fewer cakes were sold on 3 more days than between 6 and 10 cakes.