ORGANIZING DATA

- Organizing data refers to collecting, organizing, and interpreting data.

- Data is usually mathematical information in a set of numbers. If collecting data about the ages of people living on one street, the data is all the ages.

- The data can then be organized into groups, and evaluated. **Mean**, **mode**, **median** and **range** are different ways to evaluate data.
  - o The **mean** is the average of the data.
  - o The **mode** refers to the number that occurs the most often in the data.
  - o The **median** is the middle number when the data is arranged

PREVIEW

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How

- If there is a list of data given, the **mean** or average of the data can be found by adding the numbers together and dividing by the total number of data.

- Given the data below of ages, the mean can be found as follows:

Ex. 23, 35, 22, 45, 40, 22, 16, 33, 41   Added together = **277**

277 ÷ 9 = a mean of 30.777 or 30.8

- If the **mean** is given, but one of the numbers of the data is missing, the missing number can be found.

Example:

Sue wants to have a 90 average in math. Her tests scores are 85, 92, 87, and 95. She has to take one more test. What should her score be to have a 90 average?

Since Sue wants a 90 average, the total she would need is 5 · 90 or 450. So far, she has an 85, 90, 87, and 95 for a total of 357. She would need 450 - 357, or a 93 on her next test to receive a 90 average.

- The **median** of a set of data is the middle number. Given the data below of ages, the median can be found as follows:

the numbers that occur the most are the mode. If all the numbers occur one time, the set of data has no mode.

- The **range** of the data: 16, 22, 22, 23, 33, 35, 40, 41, 45, is the highest number, 45, minus the lowest number, 16, which equals 29.

- Tables display data so it is easy to read. A **frequency table** is used to display intervals or categories, and how many times that interval or category is picked.

  o For example, if 25 students were asked what their favorite number was out of the numbers 1-6, a frequency table would display the numbers 1-6 and each number would have tally marks to show how many times that number was picked as shown below.

Favorite numbers	Frequency
1	||||
2	╫╫

Try

Find

Make a **frequency table** to record the following data:

- sharks- 8

- sea turtles- 4

- angel fish- 15

- dolphins- 2