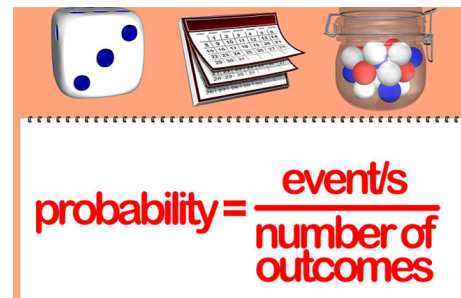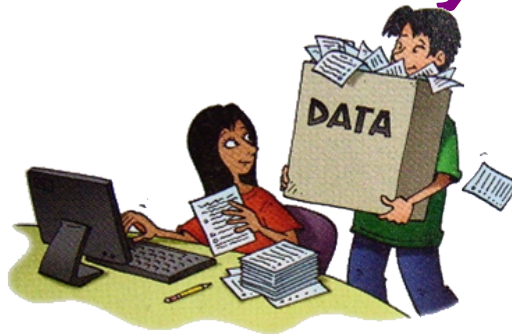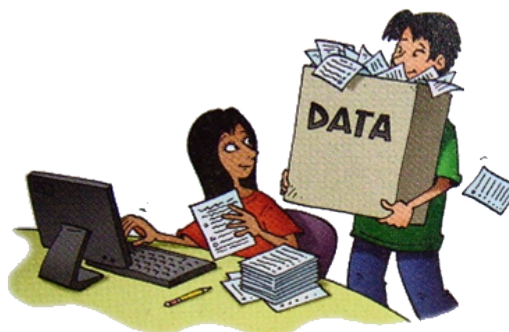Part of

Unit 7

Data Analysis

Measures of Central Tendency

Questionnaires, experiments, databases, and the Internet are used to collect data. These collected data can be displayed in tables and graphs, which can be used to make predictions.

Measures of central tendency allows us to describe a set of data with a single meaningful number.

Grade 7 Unit 7 Data Analysis Part 1

Mean and Mode

The **mode** is the **number that occurs most often** in a set of data.
You can have more than one mode if there is a tie

The **mean** is when you **add up all of the numbers and divide by the number of data that are in the set.**

Both the mode and the mean are called averages, however the mean is most often referred to as the average.

$\longrightarrow$ 12 numbers in data set

Ex.   4, 4, 5, 6, 6, 7, 7, 7, 8, 9, 9, 10

Repeated the most

1

Mode = 7

$$\text{Mean} = \frac{\text{Sum}}{\text{\# data}} = \frac{82}{12}$$

$$= 6.83$$

$$=$$

Ex 2)   Calculate the mean and mode of the data

a) 16, 18, 17, 15, 20, 18, 17, 25

mode = 17, 18

Mean = $\dfrac{146}{8}$

= 18.25

Class/Homework

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2, 3, 4, 5, 6, 7ab,

2. Calculate the mean of each set of data.

   a) 2, 4, 7, 4, 8, 9, 12, 4, 7, 3   b) 24, 34, 44, 31, 39, 32

3. Find the mode of each set of data in question 2.

4. Here are the weekly allowances for 10 Grade 7 students:
   $9, $11, $13, $15, $20, $10, $12, $15, $10, $15
   a) What is the mean allowance?
   b) What is the mode allowance?
   c) Suppose two allowances of $19 and $25 are added to the list.
      What is the new mean? What happens to the mode?

5. Here are the ages of video renters at *Movies A Must*
   during one particular hour: 10, 26, 18, 34, 64, 18, 21,
   32, 21, 54, 36, 16, 30, 18, 25, 69, 39, 24, 13, 22
   a) What is the mean age? The mode age?
   b) During another hour, the mode age of twelve video
      renters is 36. What might the ages of the renters be?
      Explain your answer.

5) b 10 12 36 36 36 36
       18 20 22 25 28 32

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6. Jordin Tootoo is the first Inuk athlete to play in the National Hockey League. On October 9, 2003, he played his first game for the Nashville Predators. This table shows Jordin's statistics when he played junior hockey for the Brandon Wheat Kings.

Jordin Tootoo's Scoring Records 1999-2003				
Year	Games Played	Goals	Assists	Points
1999-2000	45	6	10	16
2000-2001	60	20	28	48
2001-2002	64	32	39	71
2002-2003	51	35	39	74

Find the mean and mode for each set of data.
a) Games Played
b) Goals
c) Assists
d) Points

7. (Assessment Focus) The graph shows the most popular sports of 13–15-year-olds in Wesley.
a) Which sports are equally popular?
b) How could you use the bar graph to find the mode?
   Explain and show your work.
c) Calculate the mean.
   Use estimated values from the graph.

Most Popular Sports of 13-15-Year-Olds in Wesley

Sport (y-axis): Volleyball, Tennis, Swimming, Soccer, Skiing, Hockey, Golf, Cycling, Basketball, Baseball

Number of People (x-axis): 0, 500, 1000, 1500, 2000

8. **Take It Further** A data set has 6 numbers.