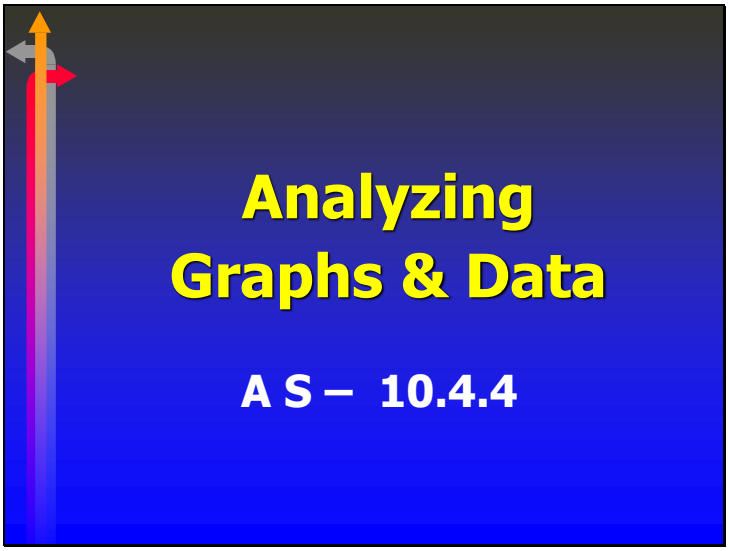
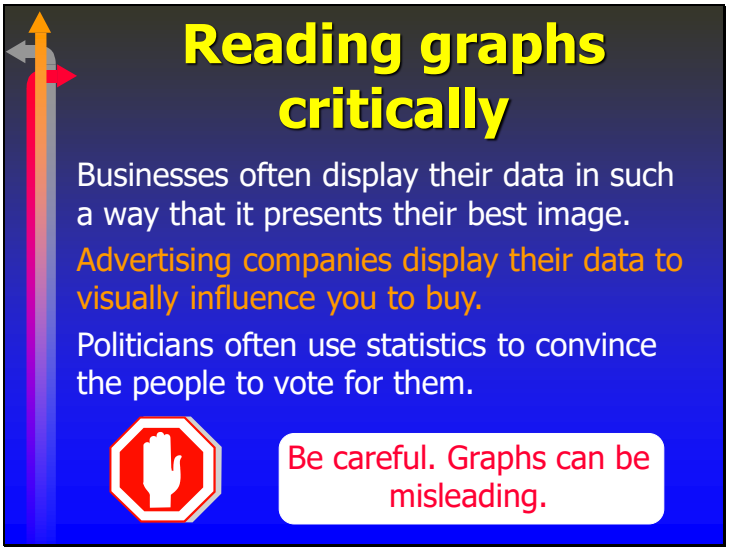
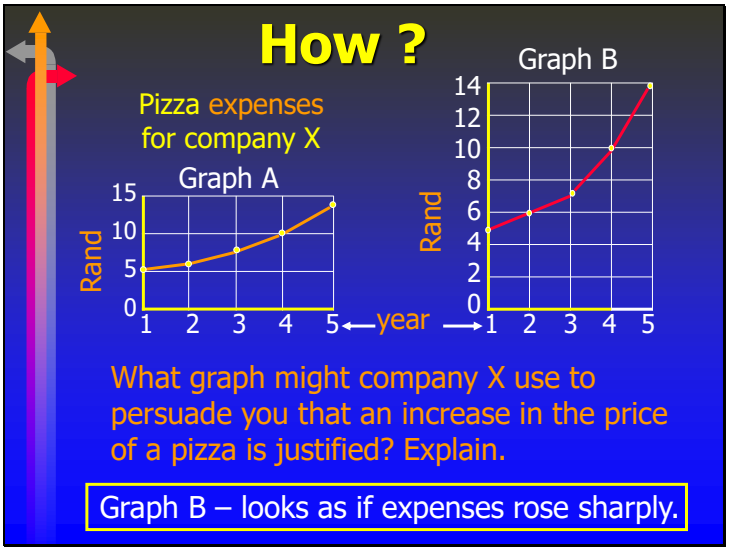
Slide 1



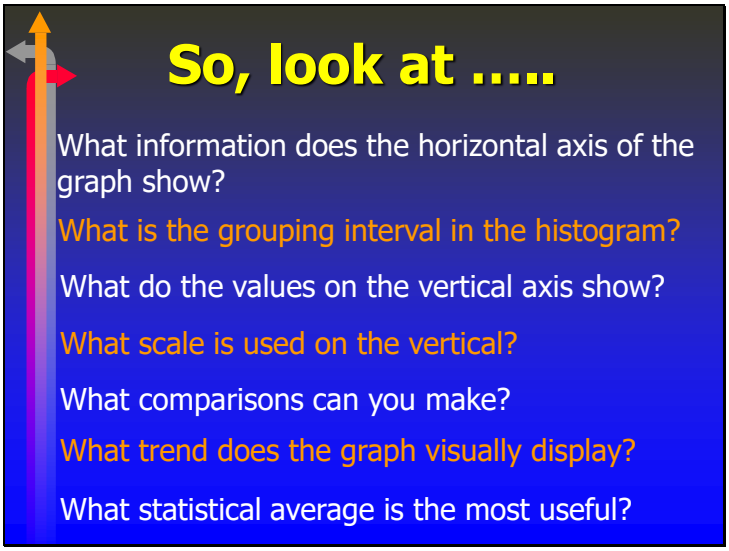
Slide 2


Reading graphs critically
Businesses often display their data in such a way that it presents their best image.
Advertising companies display their data to visually influence you to buy.
Politicians often use statistics to convince the people to vote for them.
Be careful. Graphs can be misleading.

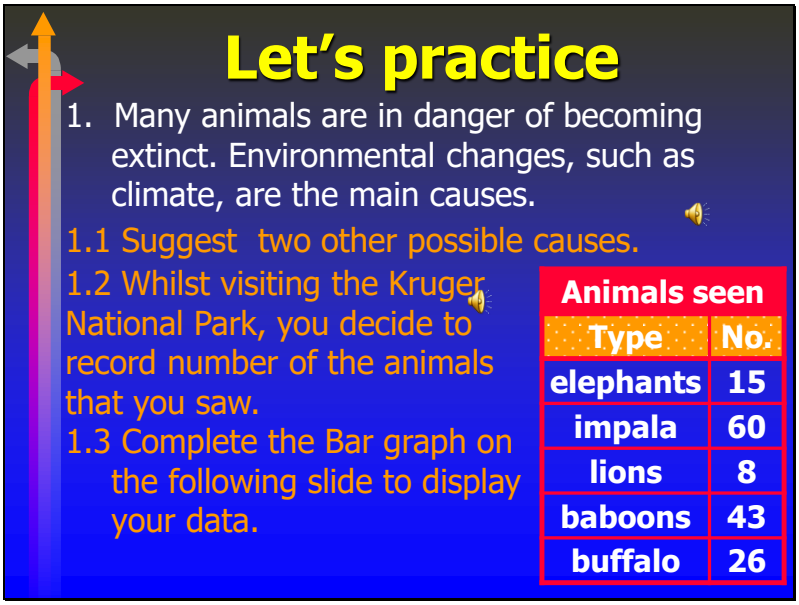
Slide 3


How ?
Pizza expenses for company X
Graph A
Rand
15
10
5
0
1 2 3 4 5
year
Graph B
Rand
14
12
10
8
6
4
2
0
1 2 3 4 5
What graph might company X use to persuade you that an increase in the price of a pizza is justified? Explain.
Graph B – looks as if expenses rose sharply.

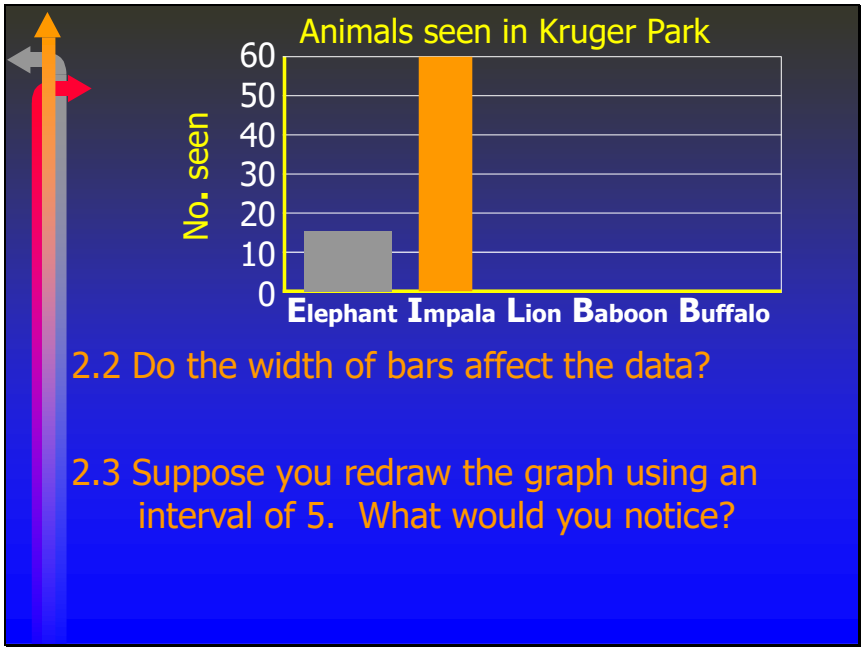
Slide 4


So, look at .....
What information does the horizontal axis of the graph show?
What is the grouping interval in the histogram?
What do the values on the vertical axis show?
What scale is used on the vertical?
What comparisons can you make?
What trend does the graph visually display?
What statistical average is the most useful?

Slide 5


Let's practice
1. Many animals are in danger of becoming extinct. Environmental changes, such as climate, are the main causes.
1.1 Suggest two other possible causes.
1.2 Whilst visiting the Kruger National Park, you decide to record number of the animals that you saw.
1.3 Complete the Bar graph on the following slide to display your data.
Animals seen
Type
No.
elephants
15
impala
60
lions
8
baboons
43
buffalo
26

Slide 6


Animals seen in Kruger Park
No. seen
60
50
40
30
20
10
0
Elephant Impala Lion Baboon Buffalo
2.2 Do the width of bars affect the data?
2.3 Suppose you redraw the graph using an interval of 5. What would you notice?

Slide 7

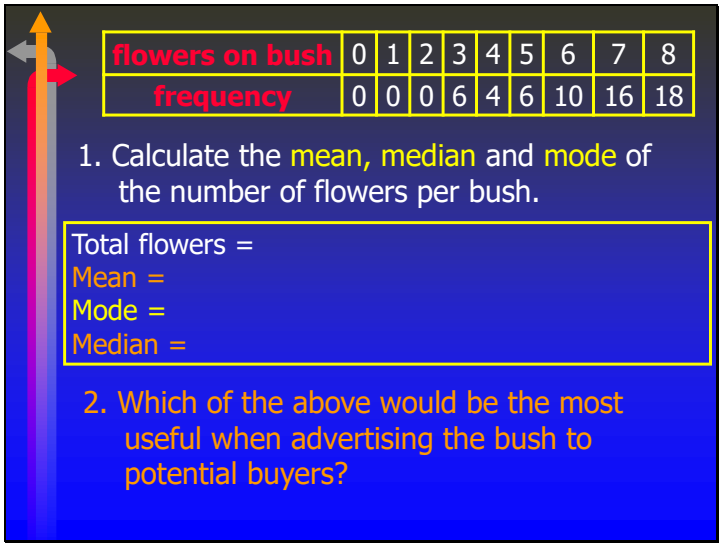
2. Sixty flowering bushes are planted. At their flowering peak, the number of flowers are counted and recorded. The results are shown in the table below.

flowers on bush	0	1	2	3	4	5	6	7	8
frequency	0	0	0	6	4	6	10	16	18

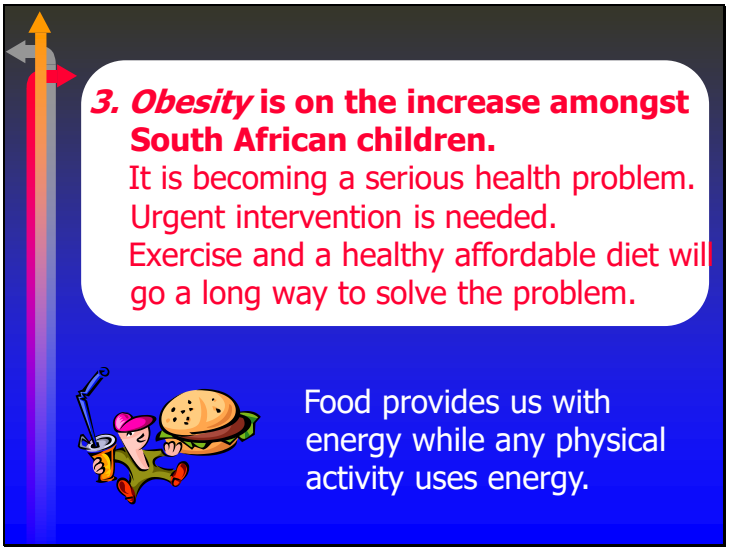
What is the minimum number of flowers per bush?

What is the maximum number of Flowers per bush?

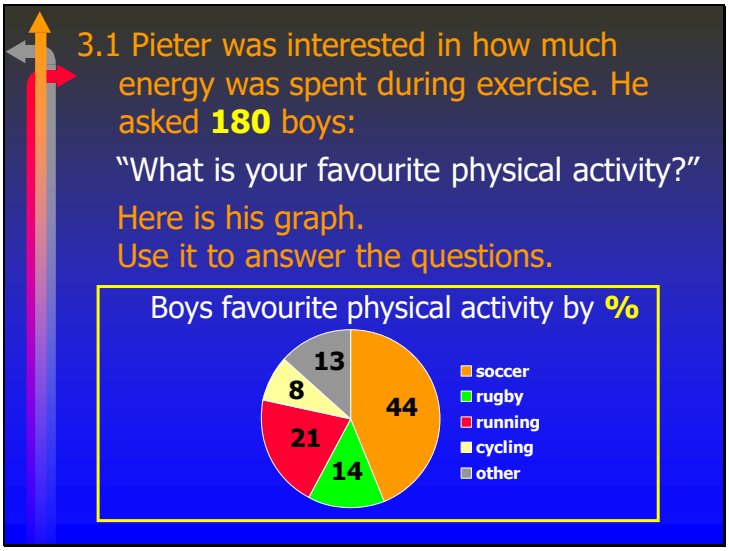
Slide 8


flowers on bush 0 1 2 3 4 5 6 7 8
frequency 0 0 0 6 4 6 10 16 18
1. Calculate the mean, median and mode of the number of flowers per bush.
Total flowers =
Mean =
Mode =
Median =
2. Which of the above would be the most useful when advertising the bush to potential buyers?

Slide 9


3. Obesity is on the increase amongst South African children.
It is becoming a serious health problem.
Urgent intervention is needed.
Exercise and a healthy affordable diet will go a long way to solve the problem.
Food provides us with energy while any physical activity uses energy.

Slide 10


3.1 Pieter was interested in how much energy was spent during exercise. He asked 180 boys:
"What is your favourite physical activity?"
Here is his graph.
Use it to answer the questions.
Boys favourite physical activity by %
13
8
44
21
14
soccer
rugby
running
cycling
other

Slide 11

3.1 Which is the most popular activity?

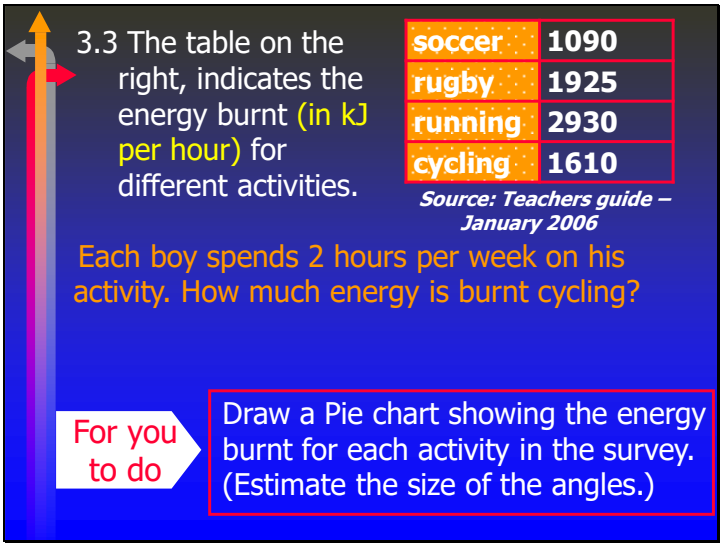
3.2 What do you think the "other" activities are?

3.3 How many boys prefer soccer?

3.4 Complete the table to show the number of boys in each activity.

activity	soccer	rugby	running	cycling	other
No.	79				24

Slide 12


3.3 The table on the right, indicates the energy burnt (in kJ per hour) for different activities.
soccer 1090
rugby 1925
running 2930
cycling 1610
Source: Teachers guide – January 2006
Each boy spends 2 hours per week on his activity. How much energy is burnt cycling?
For you to do
Draw a Pie chart showing the energy burnt for each activity in the survey. (Estimate the size of the angles.)

Slide 13

3.4 Pieter plays rugby. After his exercise he always eats two of his favourite chocolate bars per week. The label on the bar states that the energy it contains is 2130 kJ.

Could this possibly lead to him putting on weight over time?

Explain.

_____

_____

_____

_____

_____

_____

_____

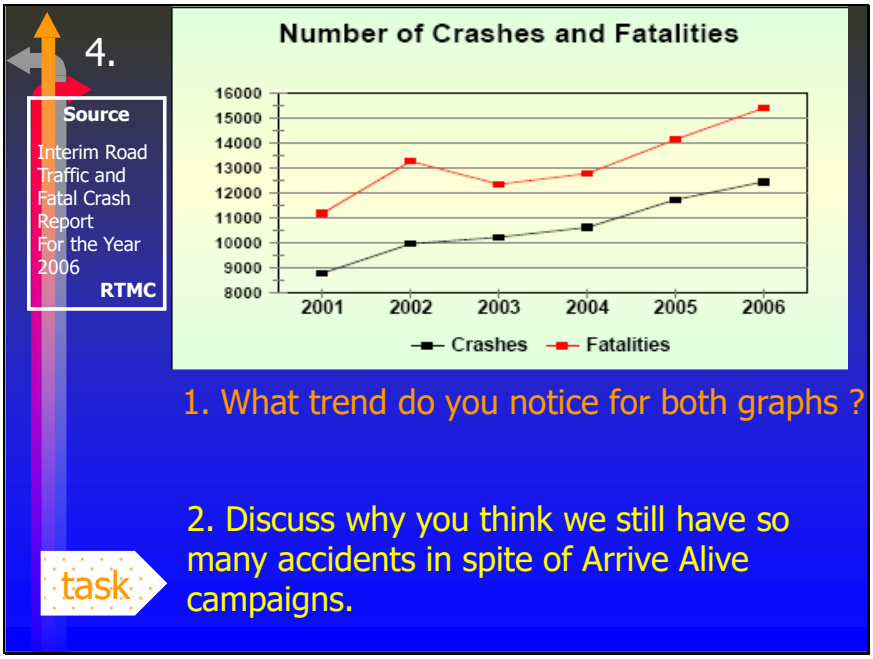
_____

_____

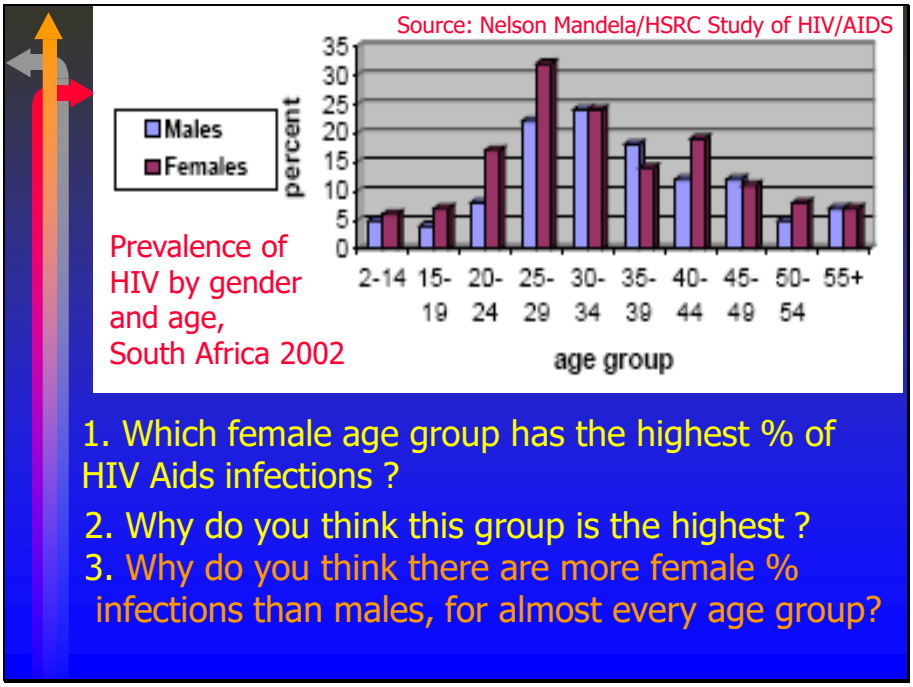
_____

_____

Slide 14


4.
Source
Interim Road Traffic and Fatal Crash Report For the Year 2006
RTMC
Number of Crashes and Fatalities
16000
15000
14000
13000
12000
11000
10000
9000
8000
2001
2002
2003
2004
2005
2006
Crashes
Fatalities
1. What trend do you notice for both graphs ?
2. Discuss why you think we still have so many accidents in spite of Arrive Alive campaigns.
task

Slide 15


Source: Nelson Mandela/HSRC Study of HIV/AIDS
Males
Females
percent
35
30
25
20
15
10
5
0
2-14
15-19
20-24
25-29
30-34
35-39
40-44
45-49
50-54
55+
age group
Prevalence of HIV by gender and age, South Africa 2002
1. Which female age group has the highest % of HIV Aids infections ?
2. Why do you think this group is the highest ?
3. Why do you think there are more female % infections than males, for almost every age group?