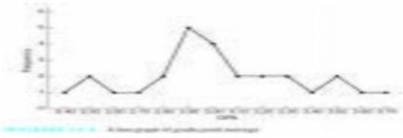


The background features a dark blue gradient with a subtle pattern of white circular lines and arcs. On the left side, there is a large, semi-circular scale with numerical markings from 140 to 260 in increments of 10. The scale is oriented vertically, with 140 at the top and 260 at the bottom. The text is centered in the upper half of the image.

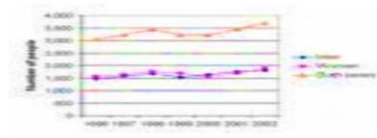
INTERPRETATION OF VARIOUS GRAPHS AND CHARTS

DR. VANDANA SINGH

Different types of charts, graphs and diagrams



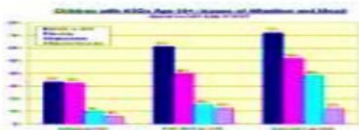
single line graph



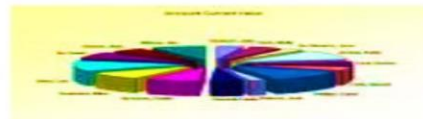
multiple line graph



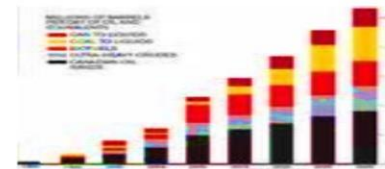
paired bar chart



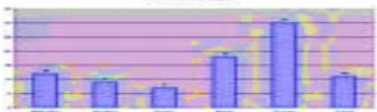
percentage bar chart



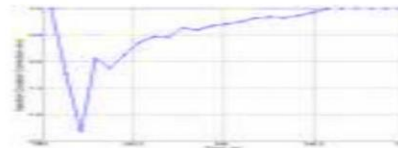
pie chart



stacked bar chart



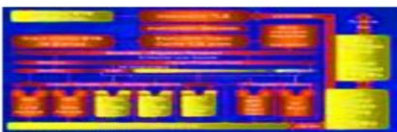
single bar chart



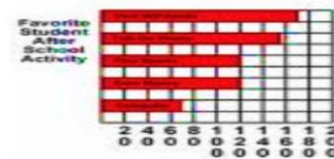
diagram



population chart



flow chart



bar graph



bubble diagram

Writing about Graphs

Before you Begin

Underline key words. Write related words - turn nouns into verbs, verbs into nouns, adjectives into adverbs, etc. Write opposite words, similar words, synonyms, etc.

Circle and highlight the graph. Use arrows. Make notes. Circle the biggest, the smallest, stable or unchanging parts, sudden increases, etc.

Identify trends. A trend is the overall idea of the graph

- what is happening/what happened
- the main change over time
- the most noticeable thing about the graph
- the pattern over time
- the pattern for different places or groups or people.

Most graphs will have two trends, or there will be two graphs with a trend in each. You could tell about the two trends in two separate paragraphs. Make sure you have identified the trends in the graph.

Introduction

- First sentence: Describe the graph. You can use some slightly different words or word forms from those on the question paper, but be careful to give the full information. Start "The graph shows"
- Second sentence: This gives the trend or trends. You can put two trends in this sentence or only one - you could keep the other one for the conclusion. Start "Overall, ..."

Paragraph 1: Trend 1

- Start with a sentence with no number. "City size increased sharply over the period." "The most obvious trend in the graph is that women are having fewer babies." "Oil production has increased slightly in all the countries in the graph"
- Follow this sentence with an example (sentence with number) and perhaps another example (another sentence with number). Keep alternating.

Paragraph 2: Trend 2

- Start with a sentence with no number. "City size increased sharply over the period."
- Give an example (sentence with number) and perhaps another example

- Finish by repeating the main trends, or identify a second trend. Use different vocabulary.
- Don't have any numbers in the conclusion (you could use words like "most", "the majority" "a minority", "a small number").
- Don't give an opinion.

While You Write: Some Don'ts

- Don't describe the X and Y axis. Give the information.
- Don't write about everything on the graph. Pick the biggest, the smallest, the main points, the main trends. Group similar things together
- Don't write about the line or the bar: "The line went up," "The bar went down." Instead, write about the idea. "The number of people going to work by train increased gradually." "Oil production shot up in 1965"
- Make sure you write about the idea. Don't use shorthand: "Men went up." "Women went down." Instead, write about the real data: "The number of men at university fell dramatically," "The percentage of female students getting a degree rose suddenly."
- Don't use "I feel", "as I have written," "as you can see," etc. Keep it academic.
- Don't start sentences with But, So, Also, And, For, Since, Because, Although

Word Length

Make sure you have 150 words. You should have some short sentences (about 6-10 words) and some long ones (12-18) words, but your average should be about 12 or 13 words per sentence.

A sentence without a number will usually be short. Use a mix - a sentence without a number followed by a sentence or two with a number.

<http://www.admc.het.ac.ae/d1/english/graphs/writingaboutgraphs.htm>



Place the words in the right column, then add a few more words of your own

be constant	climb	collapse	cut
expansion	extension	fall	go down
growth	improvement	level off	push down
reduction	rise	shoot up	soar
stability	stagnation	stand at	stay at

	↗	↘	→
Verbs			
Verbs			
Verbs			
Verbs			
Verbs			
Verbs			
Verbs			
Nouns			
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Nouns			

Transitive and intransitive verbs

A transitive verb is an action verb. Second, it requires a direct object to complete its meaning in the sentence. In other words, the action of the verb is transferred to the object directly. To determine whether a verb is transitive, ask whether the action is done to someone or something.

An intransitive verb is an action verb, but it does not have a direct object. The action ends rather than being transferred to some person or object or is modified by an adverb or adverb phrase.

↗	↘	→	↗	↘	→
increase	decrease	maintain	increase	decrease	stay at
raise	drop	keep	rise	drop	reach a peak
step up	cut		grow	decline	remain stable
expand	go down		expand	fall	
improve			improve		

Write sentences using the transitive and intransitive verbs

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____



Introduction to Pie Charts

You are usually asked to compare 2 pie charts but sometimes you only have 1 chart to describe.

Single Pie Chart

Paragraph 1

Describe what sort of chart it is and what it is about.

Paragraph 2

Describe the sections of the graph starting with the biggest and working your way down.

Paragraph 3

A short conclusion giving an overall view of what the chart is about.

Two Pie Charts

If you have 2 pie charts they will be giving similar information so you can compare the two. This type of writing is similar to a compare and contrast essay.

Paragraph 1

Explain that they are pie charts and say what they are describing. This is the same as line graphs except there are 2.

Paragraph 2

Compare the data between the two charts. Start with the biggest sectors and work your way down.

Paragraph 3

Conclusion. Mention the important similarities and differences.

Fill in the correct word



a low point

declined

doubled

drop

from

increased slightly

recovered

remained

rising sharply

sudden

to

were

In January, gold sales _____ about 200 million dirhams per month. In February they _____ to Dhs 220 million, _____ to a peak of 350 million dirhams in March. Over the next four months, sales _____ steadily, reaching _____ of 120 million dirhams in July.

In August, there was a _____ increase. Sales almost _____, rising _____ Dhs 120 million in July to Dhs 210 million in August. This was followed by a [?] in September to Dhs 120 million.

From September to October, sales _____ from Dhs 120 million to Dhs 180 million. In October and November, sales _____ steady, and there was a small increase in December _____ 190 million dirhams.

Expressing the Movement of a Line

Verbs	Nouns	Adjectives	Adverbs
rise (to)	a rise	dramatic	dramatically
increase (to)	an increase	sharp	sharply
go up to		huge	hugely
grow (to)	growth	steep	steeply
climb (to)	a climb	substantial	substantially
boom	a boom	considerable	considerably
peak (at)	(reach) a peak (at)	significant	significantly
fall (to)	a fall (of)	marked	markedly
decline (to)	a decline (of)	moderate	moderately
decrease (to)	a decrease (of)	slight	slightly
dip (to)	a dip (of)	small	
drop (to)	a drop (of)	minimal	minimally
go down (to)			
reduce (to)	a reduction (of)		
a slump			
level out	a leveling out		
no change	no change		
remain stable (at)			
remain steady (at)			
stay (at)			
stay constant (at)			
maintain the same level			

Describing the Speed of a Change

Adjectives	Adverbs
rapid	rapidly
quick	quickly
swift	swiftly
sudden	suddenly
steady	steadily
gradual	gradually
slow	slowly

Comparing and contrasting

One syllable

Adjectives with one syllable form their comparatives and superlatives like this:

cheap cheaper cheapest
 large larger largest
 bright brighter brightest

Exceptions:

good better best
 bad worse worst

Two syllables

Some adjectives with two syllables form their comparatives and superlatives like this:

pretty prettier prettiest
 happy happier happiest

But many form their comparatives and superlatives like this:

striking more striking most striking

Although some can form their comparatives and superlatives like this:

common more common most common
 clever more clever / cleverer most clever / cleverest

Three or more syllables

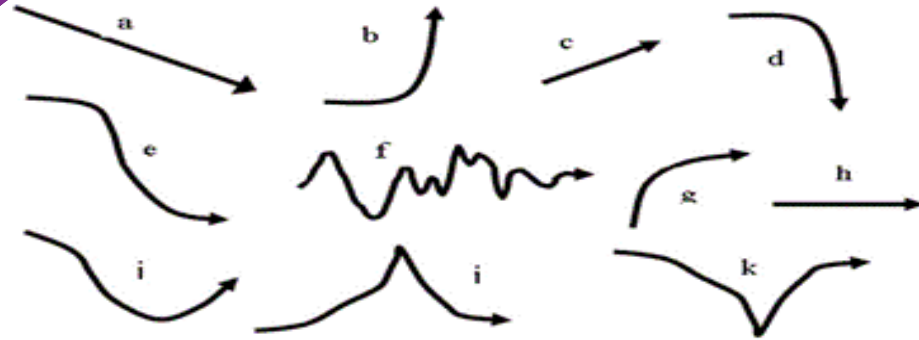
All adjectives with three or more syllables form their comparatives and superlatives like this:

attractive more attractive most attractive
 profitable more profitable most profitable
 expensive more expensive most expensive

What are the comparative and superlative forms of these adjectives

Adjective	Comparative	Superlative
accurate		
certain		
convenient		
correct		
dangerous		
happy		
likely		
modern		
new		
possible		
probable		
up-to-date		

http://international.holmesglen.vic.edu.au/ielts_writing.pdf



1. The market is showing some signs of growth. _____
2. The market is extremely volatile. _____
3. The pound slipped back against the dollar. _____
4. The Swiss franc is staging a recovery. _____
5. The yen lost ground slightly. _____
6. There's been a dramatic downturn in the market. _____
7. There's been an upsurge of interest in gold. _____
8. The share price bottomed out at 11 cents. _____
9. Gold peaked at €300 an ounce. _____
10. Profits will level off at around €10,000. _____
11. Sales hit an all-time low. _____
12. There hasn't been much movement in the price of tin _____

<http://www.adfsc.tol.ac.uk/01/english/graphs/answerkey.htm>

Introducing visuals

- I'd like you to look at this graph...
- Let me show you this pie chart...
- Let's have a look at this model...
- Let's turn to this map...
- To illustrate my point let's look at some diagrams...
- As you can see from these figures...
- If you look at these photographs you'll see...
- If you look at this bar chart you'll notice...
- If you look at this histogram you'll appreciate...
- If you look at this flow chart you'll understand ...
- If you look at this matrix...

Naming the parts of diagrams

The vertical axis represents total annual sales. The horizontal axis shows our market share. The curve, The solid line, The dotted line, The broken line, The shaded area, The unshaded section, The dotted column, The coloured segment, The red bar...



Explaining diagrams

- Sales rose slightly in the final quarter.
- Profits fell a little last year.
- Demand increased gently
- Turnover decreased steadily
- Turnover dropped suddenly
- Turnover decreased quickly.
- Demand increased rapidly.
- Profits fell dramatically.
- At the beginning of this year sales stagnated.
- In the middle of August profits slumped.
- At the end of last year demand peaked.
- In the first quarter of 2008 sales plummeted.
- In the second quarter of 2007 sales flattened out.
- In the third quarter of 2007 sales leveled off.
- In the last quarter of 2007 sales remained steady.



Saying when your audience may ask questions:

- There will be time for questions at the end...
- Please feel free to interrupt me as I go along.

Introducing topics:

- I want to look at ...
- I'd like to review ...
- I want to discuss ...
- I'm going to analyse ...
- I want to cover ...
- I'd like to talk about ...

Moving on:

- Let's now move on to ...
- I'd like to go on to ...
- This brings me to ...
- I now want to ...

Looking back:

- Let's look back for a moment ...
- To go back to ...
- As I said before ...

Adding:

- In addition ...
- I might add that ...
- Furthermore ...
- Moreover ...

Dealing with interruptions:

- Perhaps I could return to that point later on?
- If I might just finish?
- If you'd allow me to continue?

Summarising and concluding

- To sum up then, ...
- To summarise my main points ...
- I'd like to conclude by reminding you that ...
- Let me end by ...
- I'd like to finish ...
- In conclusion, may I remind you ...
- Finally, ...



Asking for questions:

- You no doubt have many questions ...
- If there are any questions ...
- I'm sure you have many questions ...

Playing for time:

- That's an interesting question.
- I'm glad you asked that question.
- You've raised an important point there.
- That's a difficult question.

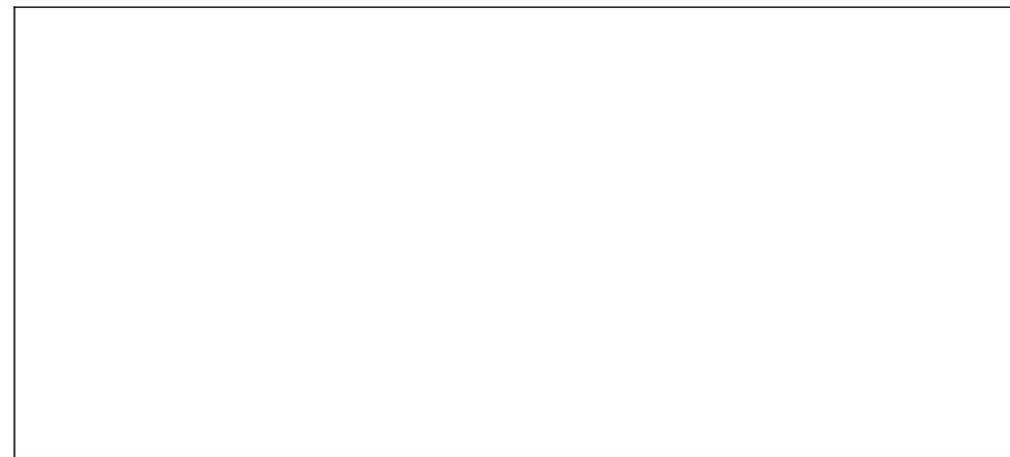
Closing question time:

- Perhaps on that note we could end?
- I'm afraid that's all we have time for.

Thanking:

- I'd like to thank you all on behalf of Company X.
- I'd like to thank you all for your participation.

Now choose a topic, draw a graph or a diagram and make your own presentation.



Useful phrases for presentations

Signalling a start:

- Right, ladies and gentlemen. Shall we begin?
- OK, I'd like to begin by ...
- Right then, everybody ...

Greetings:

- Good morning, ladies and gentlemen.
- I'd like to welcome you all on behalf of NKS.
- I'd like to say how happy I am to be here today.

Introducing yourself:

- My name is Richard Delmas.
- I'm the Marketing Manager here.
- I'd like to introduce myself. My name is ...
- Let me introduce myself. My name is ...

Introducing people:

- I'd like to introduce Mr Peters from Datacom.
- May I introduce ...
- Let me introduce ...

The objective of your presentation:

- My objective this afternoon is to inform you...
- I'm here today to give you...
- My purpose today is to introduce you to...
- My aim this morning is to...

The length of time your presentation will take:

- My presentation will last twenty-five minutes.
- I will talk for fifteen minutes.

Structuring:

- My presentation is split into three key areas.
- Firstly ... Secondly ... Thirdly ...
- To begin with ... After this ... Finally ...

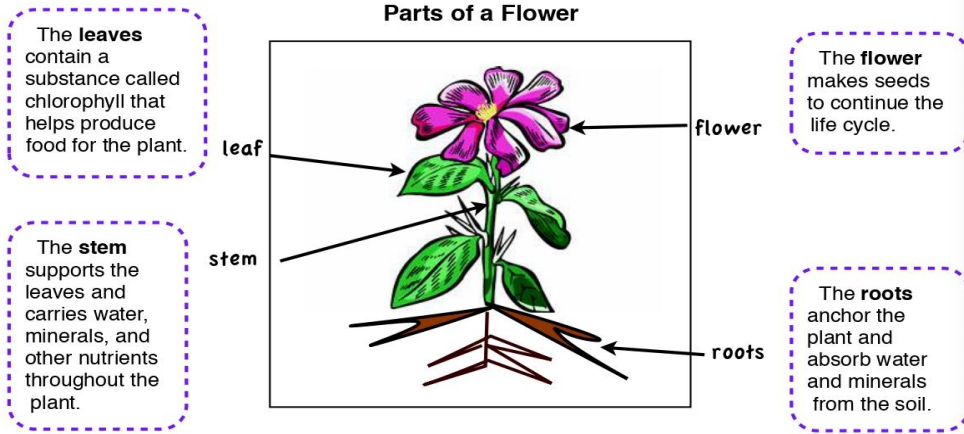


EXERCISE-I

Diagrams and Labels

Diagrams: a drawing that explains or shows the parts of something.
Labels tells more about the diagram.

Look at the diagram below. Read the labels and answer the related questions.



1. What does this diagram show? _____
2. Which substance helps plants make food? _____
3. What do stems do? _____

4. The flowers makes _____ to continue the life cycle.
5. Which part of a flower absorbs water and minerals from the soil?

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Charts

Charts: information in the form of a table, diagram, etc.

Use the tally chart below to answer the questions.



Favorite Food Chosen by Students

Hot Dog	Pizza	Mac & Cheese	Hamburger	Nachos

1. Which is the most popular food among students? _____
2. Which food did fewer than four students choose? _____
3. How many students chose nachos as their favorite food? _____
4. How many students chose hot dog as their favorite food? _____
5. Which is the least favorite food item? _____
6. How many more students like pizza over mac and cheese? _____



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EXERCISE II

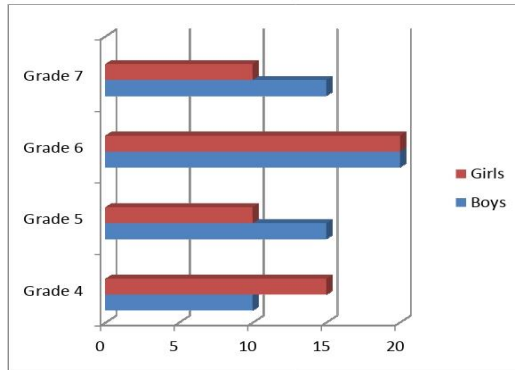
Name: _____

Date: _____

Worksheet

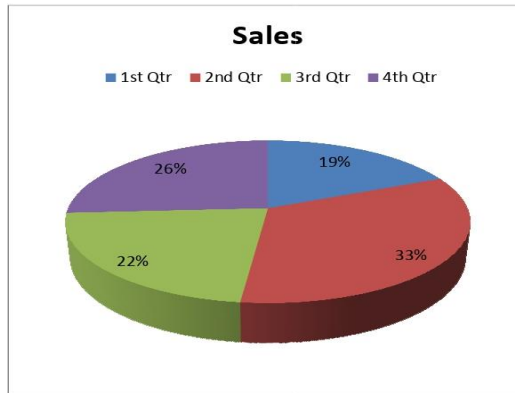
Reading Graphs and Reasoning - I

1. Use the double bar graph to answer the corresponding questions.



- How many boys are there in grade 7? _____
- Which grade has equal number of boys and girls? _____
- How many girls are there in grade 4? _____
- Which grade has the maximum number of students? _____

2. Use the circle graph to answer the corresponding questions.



- Sales were the maximum in ____ quarter.
- In which quarter were the sales the minimum? _____
- How much more sales were recorded in the 2nd quarter than the 4th quarter? _____
- True or False? *"More than 50% of the sales were achieved in 1st and 2nd quarter only."* _____

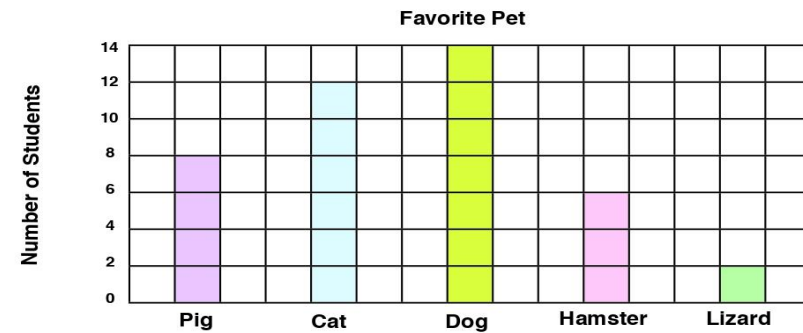
3. Explain how a line graph might show an increasing or decreasing pattern?

Solution: _____

Reading Bar Graphs

Bar Graph: A graph drawn using rectangular bars to show how large each value is. The bars can be horizontal or vertical.

Read the bar graph below and answer each question.



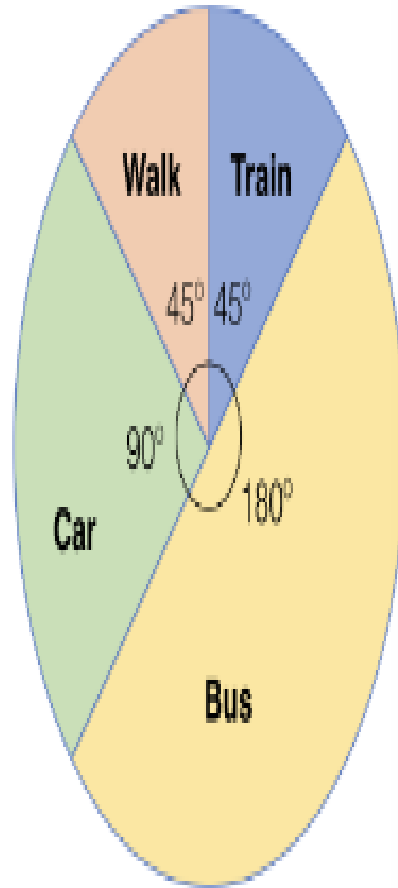
- What is being compared? **a.** height of students **b.** favorite pet of students
- Which is the most favorite pet? _____
- Which pet is liked by only two students? _____
- How many children voted for pig? _____
- How many children voted for hamster and cat together? _____
- Name two pets that are liked by more than ten students.

EXERCISE-III

This pie chart shows how a class of students travelled to school one day.

Four students walked to school.

- How many students travelled by car?
- How many students took the bus?
- What *fraction* of students walked to school?
- How many students are in the class altogether?



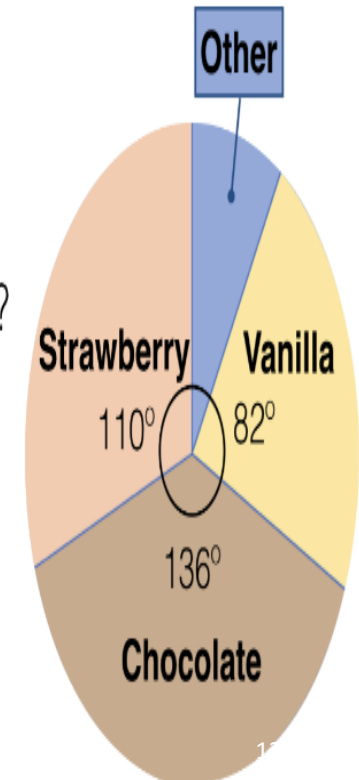
Examples



This pie chart shows information about people's favourite flavour of milkshake, according to results of a survey.

204 people said that chocolate was their favourite flavour of milkshake.

- How many people took part in the survey?
- How many people chose vanilla?
- How many people chose neither vanilla, chocolate nor strawberry?
- What is the probability that a randomly selected person's favourite flavour is vanilla?



REFERENCES

- Images: Google.com