



# *Special Online Supplement*

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**ENGLISH**  
(Language & Literature)  
**CLASS 10**

## **WRITING** (ANALYTICAL PARAGRAPH)

**Task requirement:**

Write an analytical paragraph on the basis of the given map/chart/report/line graph etc.

**Length:** 150-200 words

**Marks:** 10

**ANALYTICAL PARAGRAPH**

Beginning 2020, CBSE has included 'Analytical Paragraph' as one of the writing tasks in the Writing Section of the Question Paper. It will be based on some data or information given in a map, chart, report, graph or diagram etc.

In writing such a piece, students will be expected to critically analyse the given information and then summarize or describe it in a creative but objective manner; suggest a solution to a problem it may present; arrive at and describe a logical decision; apply the information to draw conclusions or make suggestions or find out and present alternative ways of doing something in order to save time, energy, resources, funds etc.

Clearly, it is not going to be an easy task for most students to manage, but it will not be impossible either, if it is done in pairs or groups with plenty of scaffolding and good samples from teachers. It is needless to say that an answer to a question requiring an analytical paragraph as output cannot and must not be memorised. Instead, students must develop the necessary skills for writing such paragraphs. So, what skills are needed for writing effective analytical paragraphs? Alison Doyle in her article: "What Are Analytical Skills? – Definition and Examples of Analytical Skills" (posted on the website <https://www.thebalancecareers.com/>) lists the following 21<sup>st</sup> century analytical skills – not in the same order – that are necessary for employees. These skills are equally important for and relevant to school and college students, too:

- ◆ Research
- ◆ Communication
- ◆ Data analysis/interpretation
- ◆ Critical Thinking
- ◆ Creativity

According to Alison, when a learner is trying to detect patterns, brainstorm ideas, observe facts, interpret data, draw conclusions, suggest 'out-of-the-box' or 'not so obvious' solutions to problems, he/she is using the above mentioned analytical skills.

Whether attempted individually or in pairs or groups, an analytical paragraph will require students to first develop these skills and then employ them dextrously to produce paragraphs that are well-structured, lucid and logical as well as meet the length criterion.

**Structure of an Analytical Paragraph:**

An analytical paragraph should have the following structure:

- ◆ **Topic Sentence** which is an *opening statement or introduction* that briefly describes what the paragraph is about.
- ◆ **Body** that forms the *detailed description, summary, interpretation or explanation* of the information or data in the given input.
- ◆ **Conclusion** which can be a *logical deduction, a decision or a suggestion*. It may also be a *warning or a caution*, too.

**Important:**  Compacta recommends that the output of a question on 'analytical paragraph' should be only one physical paragraph of about 150 words. If CBSE specifies that the output may be of more than one paragraph, the single paragraph may be divided into two or three short paragraphs that follow the structure of an article.

## TYPES OF ANALYTICAL PARAGRAPHS

- ◆ **PROBLEM AND SOLUTION BASED:**

A problem is presented and learners are expected to suggest some solution based on some logic. They are supposed to support their solution with arguments, reasons and/or data.

- ◆ **DATA BASED:**

Some data is presented in the form of a pie-chart, a bar graph, a line graph, a table or a combination of any two of these and learners are expected to analyse the data making comparisons and drawing conclusions and to summarise it in the form of a paragraph.

- ◆ **INFORMATION BASED:**

Some information is presented as an input and students are required to process and understand that information and then summarise it in a paragraph. Sometimes, they may also be required to give their own opinions or draw their own conclusions, too.

- ◆ **PROCESS DESCRIPTION BASED:**

A flow chart, a diagram, a visual or an infographic is presented and students have to analyse the information it presents, usually a process showing the sequence or different stages of action in the making of something.

- ◆ **MAP BASED:**

Usually a set of two maps is presented as an input with significant differences in a piece of land, a landscape or a building plan showing some changes, additions, and alterations therein. Students are supposed to carefully analyse these changes and summarise them in the form of a paragraph.

- ◆ **BEHAVIOUR, FUNCTION, PATTERN OR CYCLE BASED:**

A flow chart, a diagram, a visual or an infographic is presented as in a process and students have to analyse and summarise the information it presents, usually the behaviour or pattern or structure of an organism or various traits of the character or profile of a professional or the lifecycle of a species etc.

- ◆ **SIMILARITIES AND DIFFERENCES BASED:**

A set of two visuals or diagrams or infographics is presented with one showing marked differences and/or similarities in comparison with the other. Students are required to notice and mark those differences and similarities and then summarise them objectively in the form of a paragraph.

- ◆ **SUGGESTION OR ADVICE BASED:**

A situation is presented and students are asked to put forth their suggestions or advice on what the person(s) or organisation(s) involved in it should do. This type is similar to the problem and solution based type of analytical paragraphs.

## Some Useful Expressions for Writing an Analytical Paragraph

### To report an increase

- ◆ *Has risen / increased / gone up / shot up...*
- ◆ *Has experienced / seen a rise / an increase in...*
- ◆ *Has shown / registered a rise / an increase...*
- ◆ *Has reached a maximum / a peak of...*

### To report a decrease

- ◆ *Has fallen / gone down / come down to...*
- ◆ *Has dropped from..... to .....*
- ◆ *Has experienced / registered / shown a fall / a decrease / a decline in....*
- ◆ *Has hit / touched / reached its lowest / minimum level / point...*

### To report differences

- ◆ *Is better than / more than double / half as much / three times more / less than....*
- ◆ *Not as big as / as much as / as large as...*
- ◆ *Many times over / more / less...*

### To report similarity

- ◆ *Is the same as / similar to...*
- ◆ *Is / Are comparable with...*
- ◆ *Can be grouped together / classified together / clubbed with...*
- ◆ *Show(s) similarity / similarities...*
- ◆ *There are striking similarities between...*

### To report comparisons and contrast

- ◆ *As compared to...*
- ◆ *In (sharp) contrast to / with...*
- ◆ *Is comparable / not comparable with...*
- ◆ *Compares well with... / Contrasts with...*

### To report constancy or no change

- ◆ *Has seen / registered / experienced / shown no change...*
- ◆ *Has remained constant / unchanged / the same...*

## Frequently Used Tenses

**Present Perfect** : *Example* – The number of accidents has risen sharply.

**Simple Past** : *Example* – Fewer cases of theft were reported; the sales rose up by 30 per cent.

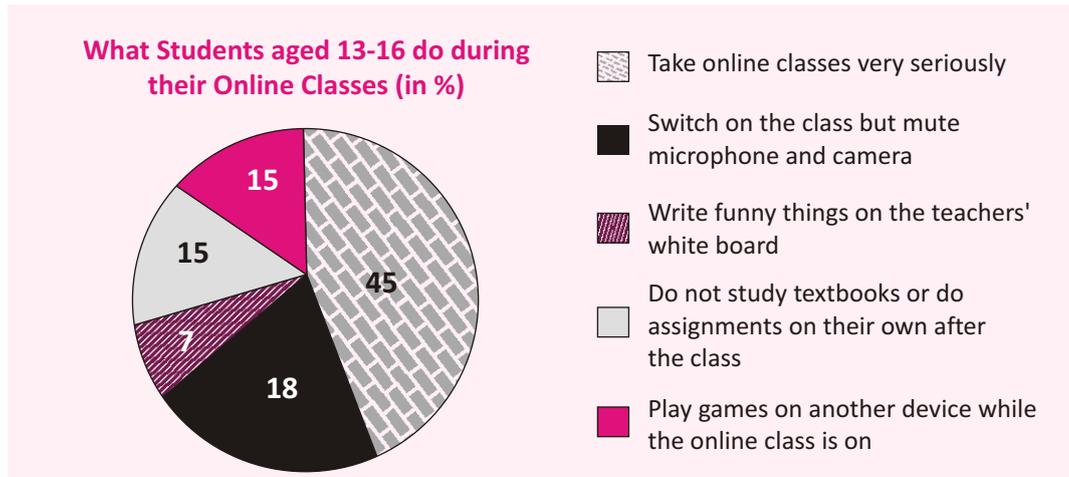
**Will + base verb** : *Example* – At this rate the population will touch 1.5 billion mark by 2022.

**Will + have + past participle verb** : *Example* – At this rate the population will have touched 1.5 billion by the year 2022.

**Passive Structures** : *Example* – A few other alterations were also carried out in the hotel.

## LAYOUT OF AN ANALYTICAL PARAGRAPH

Given below are the results of a phone survey of a group of 1000 students aged 13-16 carried out by an education company to find out how effective online classes are. Study the data carefully and then write an analytical paragraph to summarise the information. Make comparisons wherever appropriate and draw your own conclusions.



**(A) Topic Sentence:**  
A topic sentence is an introductory sentence that briefly describes what the paragraph is about. Here, the pie-chart shows the results of a survey in percentages.

The pie-chart based on a phone survey of 1000 randomly selected students shows how school students aged 13-16 years are taking their online classes. A majority of respondents (45%) take their online classes rather seriously, which is a good sign for the newly introduced online education system. It also indicates that this age group is well-versed in the use of the internet and online education platforms and applications. A little under one-fifth (18%) students said that they do join the online classes but mute their microphone and camera, which makes online classes more manageable but does not permit any interaction which is vital for any effective teaching and learning. Then there are those who do not take the online classes seriously. Fortunately, this group constitutes only 7% of the survey population. They make mischief and disturb the class by writing funny things on their teachers' white board. While 15% of all the respondents said they play games on their digital devices while their online classes are in progress, an equal number of students admitted they do not study textbooks or do assignments on their own after the classes. Clearly, a lot needs to be done to ensure student compliance before online classes become truly effective.

**(B) Body:**  
It forms the detailed analysis and description or summary of the input information.

**(C) Conclusion:**  
It is the last sentence and it describes the logical deduction or conclusion. It may sound a caution or a warning based on the analysis of the input.

The given data is not to be mechanically reproduced as shown in the input but has to be interpreted as to what it suggests or constitutes. Here 45% constitutes 'a majority of respondents', which is a significant observation or analysis to make.

Here the author gives his/her own opinion based on the given data. Such statements may not always be needed. Sometimes question statements may preclude the possibility of making such observations.

Such expressions are not only effective in avoiding a mechanical reproduction of the given data but also help in rounding off the data for a better understanding of it.

This is another example of the author's own opinion which indicates his/her background knowledge of the topic.

It refers back to 'those who do not take online classes seriously'.

Such expressions indicate the author's attitude and tone in writing.

This expression refers back to the expression '15% of all the respondents' in the previous line by way of comparison.

This is a conclusion that the author has inferred on the basis of the data and his/her own background knowledge of the topic.

**SAMPLE ANALYTICAL PARAGRAPH  
(PROBLEM & SOLUTION BASED)**

You are the General Manager of a restaurant. You have noticed that the cost of seafood items has gone up in recent times and this has overshot the budgets of raw materials procurement. Your supplier explains that the supply chain of seafood items is adversely affected due to bad weather and a disruption in transport due to a strike, and consequently the prices of seafood items have gone up.

Write an analytical paragraph briefly describing how the cost of procuring seafood items has overshot the procurement budget of the restaurant and suggesting a solution to the problem in consultation with the restaurant chef and sales and marketing manager such that the seafood continues to be on the menu but the restaurant does not incur any losses or lose valuable customers to the competition. You might also like to introduce a new menu with attractive alternatives to seafood.

The restaurant is finding it increasingly difficult these days to serve its patrons a range of seafood items like prawns, shrimps, crabs, lobsters, oysters and tuna fish. While this may have left many of our customers disappointed, the restaurant is unable to please them by overshooting its monthly budgets of raw materials for sea-food dishes. Our vendor Messrs Bombay Seafood Suppliers have expressed their inability to provide these items at the existing rates owing to the disruption caused in their procurement due to inclement weather and a transport strike. Faced with this predicament, the restaurant has the following options – one, increase the prices of sea-food based dishes; two, offer smaller portions to save on raw materials; and three, take away our customer's interest in sea-food by introducing a fortnight long food festival with a new menu of non-vegetarian items based on chicken, mutton, lamb and fresh water fish and eggs as well as a whole new range of Indian and Chinese vegetarian menu, including regular South Indian delicacies. This will not only help the restaurant save on its raw materials supply expenses but also keep our customers happy with a variety of alternative food menu. This matter was discussed with the Chief Chef as well as the Food and Beverages Manager, who are aligned to the proposal spelt out above. Subject to the management approval, the new food festival can go live next weekend.

**P** ractice Exercise

Your school has 4 buses each with a capacity of 50 students. The total number of students who actually travel by these buses is 175. Another 150 students have applied for school transport. The school is not in a position to buy new school buses.

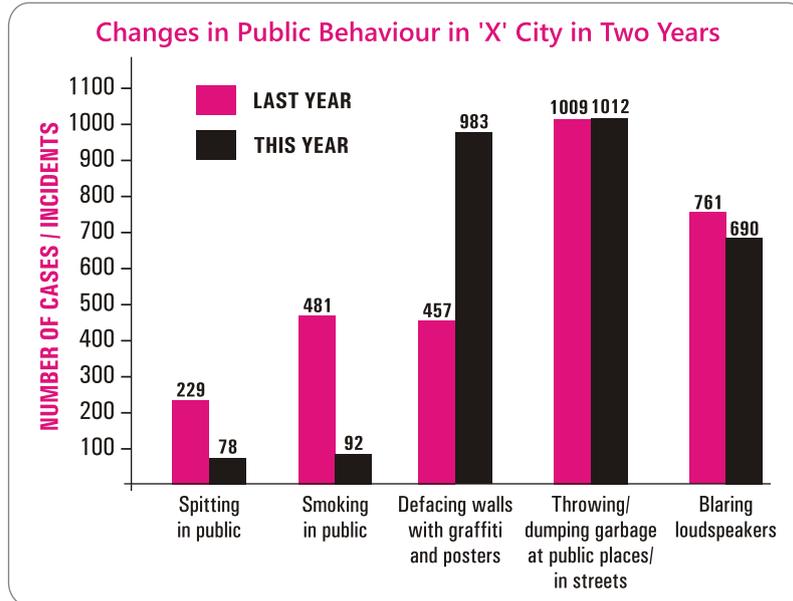
What should school authorities do to ensure that school buses run to full capacity and the students in the waiting list for school transport get it.

Write an analytical paragraph in about 150 words to briefly describe and to suggest some practical or viable solutions to the problem.

## SAMPLE ANALYTICAL PARAGRAPH (DATA BASED)

### A. BAR GRAPH

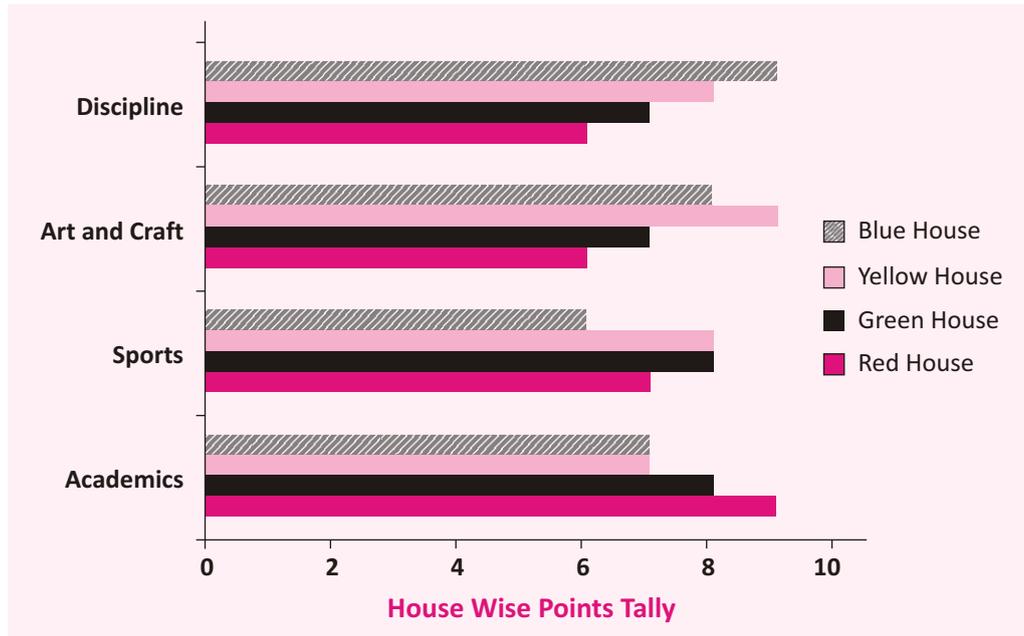
Given below is a bar graph showing some changes in the public behaviour in 'X' city in a period of two years. Analyse the data carefully and then summarise it in the form of an analytical paragraph.



The bar graph presents some data on changes in public behaviour in 'X' city in the current year as compared to the last year on as many as five counts – spitting in public, smoking in public, defacing walls with graffiti and posters, throwing litter at public places and in streets, and the blaring noise from loudspeakers. First a couple of things to cheer about. As is clear from the data, there has been a nearly 66% fall in the number of incidents of spitting. Only 78 cases were registered as against 229 registered last year. Similarly, cases of smoking also decreased dramatically from 481 cases reported last year to a mere 92, a fall of more than 80%. By sharp contrast, the menace of defacing walls with graffiti and posters has more than doubled. From about 457 cases last year, it recorded 983 cases in the current year. While the use of blaring loudspeakers has also come down marginally (from 690 this year as compared to the last year's figure of 761), not much has changed in people's habit of throwing/dumping garbage at public places and in streets. Overall, the public behaviour of people in 'X' city has shown improvements in a couple of counts like spitting and smoking but a lot remains to be done in areas like defacing public property with graffiti and dumping garbage in public places. Similarly, the use of loudspeakers further needs to be reduced.

### **P** Practice Exercises

1. The following bar graph shows the points tally of four houses of Sacred Heart Convent School for the year 2020-21. The data is to be used to adjudge the best house of the year and the runners up. Study the data carefully and then write an analytical paragraph summarising the information. Make comparisons wherever appropriate and draw conclusions.



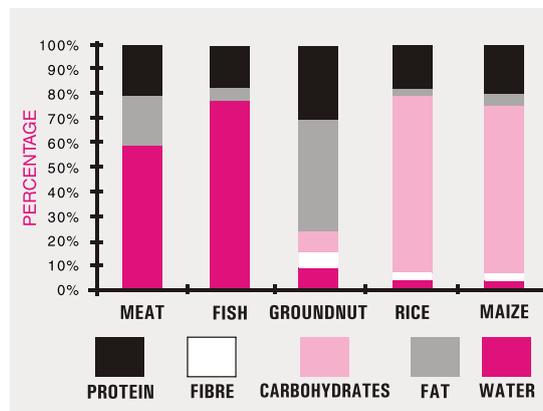
2. The bar graph shows some statistics about the ten top wheat producing states of India in the year 2011-12. Study the data carefully and then write an analytical paragraph in about 150 words summarising the information. Make comparisons wherever appropriate and draw conclusions.

WHEAT			
STATES	Wheat Production (in tonnes)		Wheat yield (tonnes per hectare)
Uttar Pradesh	30,292,603		3.11
Punjab	17,280,144		4.90
Haryana	12,685,660		5.03
Madhya Pradesh	11,538,512		2.36
Rajasthan	9,319,578		3.18
Bihar	4,725,031		2.21
Gujarat	4,072,000		3.01
Maharashtra	1,313,000		1.56
Uttarakhand	878,000		2.38
West Bengal	872,900		2.77

Source: Directorate of Economics and Statistics, Ministry of Agriculture

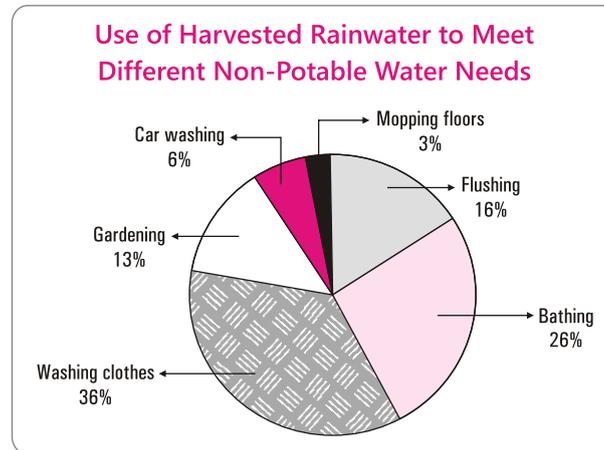
**2.26** All India Average yield (tonnes per hectare)

3. The following bar graph shows nutrient content of some common food items. Write an analytical paragraph of about 150 words briefly summarising the data and making appropriate comparisons.



## B. PIE CHART

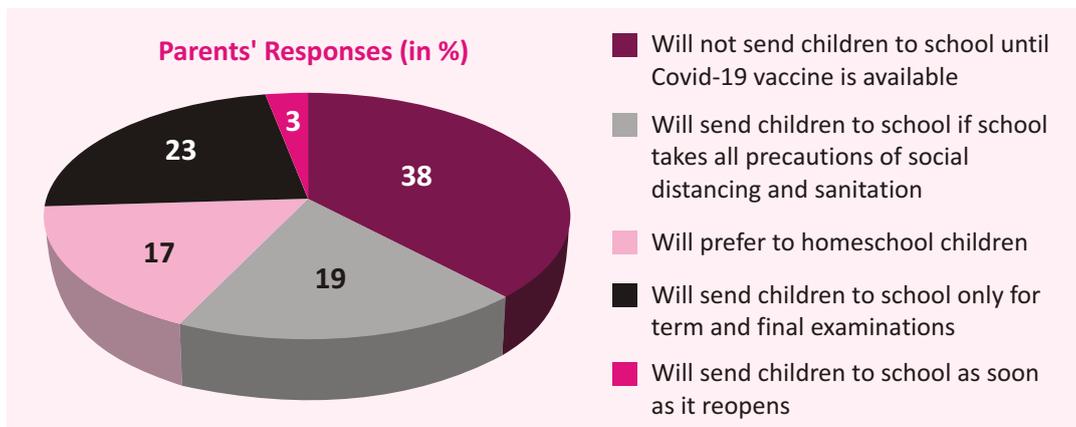
The pie-chart below shows some data on the various uses of harvested rainwater to fulfil non-potable water needs of a metropolitan city. Analyse the data and summarise it in the form of a paragraph.



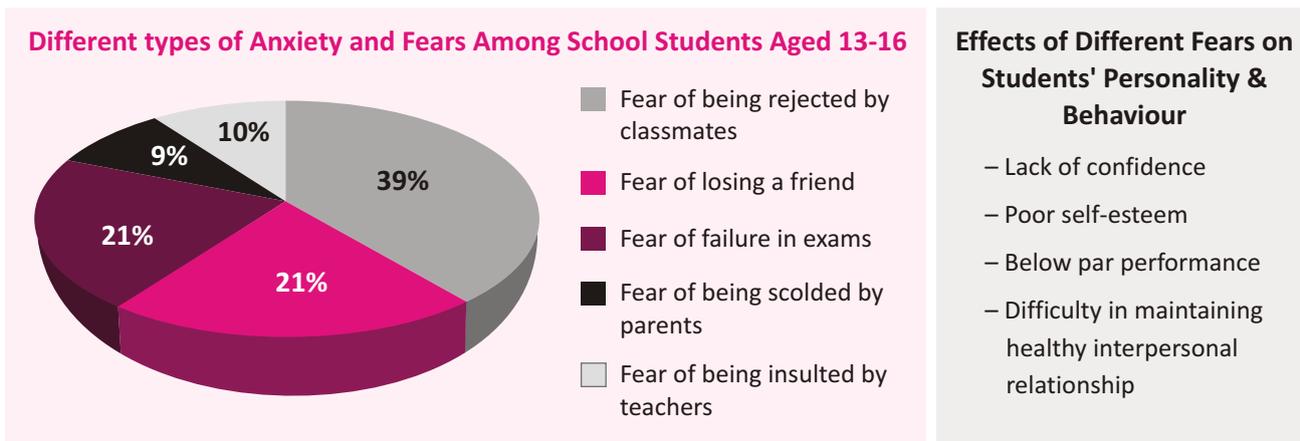
Rainwater harvesting holds a lot of promise in solving the water-woes of metropolitan cities. The pie-chart shows how a particular household in a metropolitan city makes use of the rainwater it harvests. As is clear from the pie-chart, a little over one third (36%) of all the harvested rainwater is consumed in washing clothes, while a little over one-fourth (26%) is used in bathing. As much as 22% of the water thus collected is utilized in such activities as gardening (13%), car washing (6%) and mopping floors (3%), whereas flushing accounts for as much as 16% of the total rainwater harvested by the household. Thus, it can be concluded that, if rainwater is harvested and used properly, it can meet a range of non-potable water requirements of the population in cities. It can also help save huge amounts of fresh drinking water that can be used exclusively for cooking and drinking.

## Practice Exercises

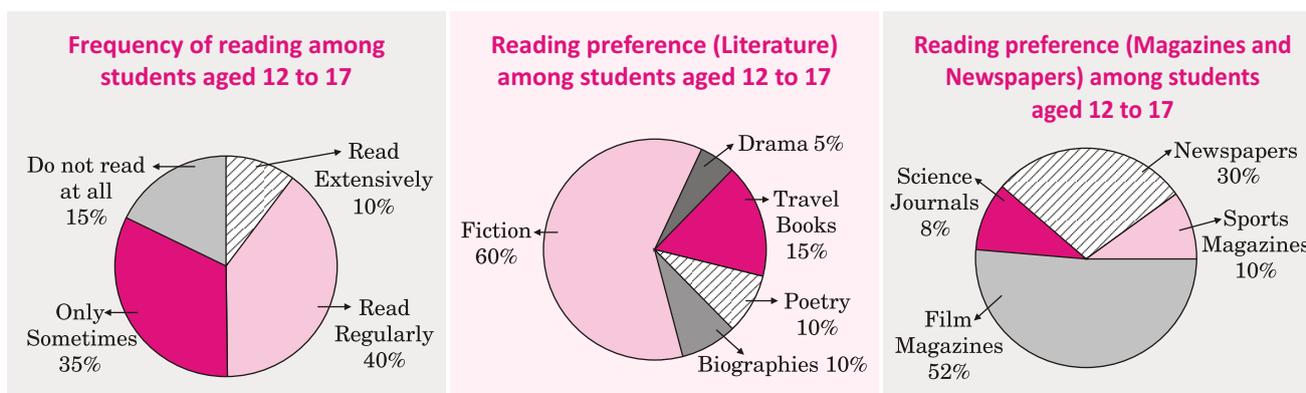
1. The pie chart below shows some data on the reactions of parents to some questions in a survey conducted by a school to find out if parents are willing to send their children to school after Phase 5 of the unlocking of COVID-19 restrictions. Study the information carefully and then write a paragraph analysing the data. Make comparisons wherever appropriate and draw conclusions.



2. Given below are the results of a survey on anxiety and fears among school students aged 13 to 16 and their effects on students' personality and behaviour. Study the data carefully and then write an analytical paragraph summarising the information. Make comparisons wherever appropriate and draw conclusions.

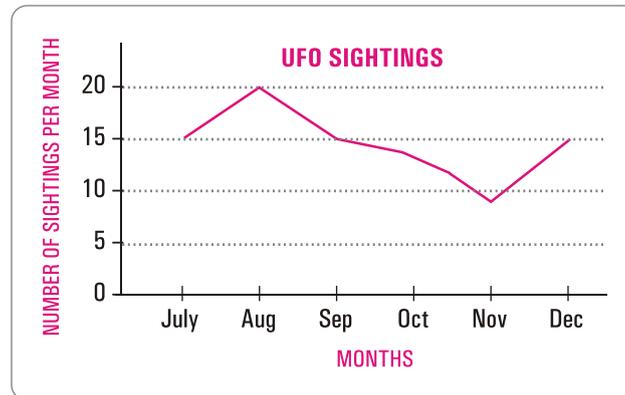


3. The Readers Club of a school recently conducted a survey to study the habit of reading among students. The pie charts given below show the compiled results in percentages. Use the data to write an analytical paragraph to summarise the findings of the survey. Make comparisons wherever appropriate and draw conclusions.



### C. LINE GRAPH

The line graph below shows the number of incidents of UFO sightings in North India in six months – July to December last year. Study the statistics carefully and then summarise them in the form of an analytical paragraph.

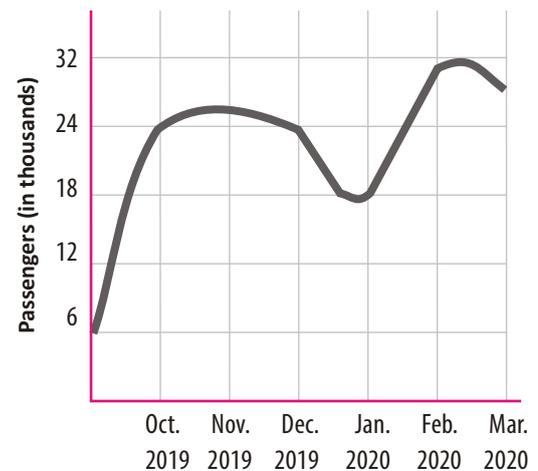


UFOs or Unidentified Flying Objectes continue to be sighted at various places in North India. The data for the last six months of the last year shows that these incidents have shown a fluctuating trend. According to the given line graph, as many as 15 UFO sightings were reported in the month of July. The month of August registered a thirty-three percent increase in such sightings. However, between September and November, the sightings fell sharply from 15 to under 10 before their numbers shot up again in December which registered an equal number of UFO sightings as in July and September. Overall, there have been ups and downs in the number of UFO sightings made in the last six months in North India although the data does not indicate the type of UFOs sighted, where and by whom and whether the claim could be verified by scientists or not.

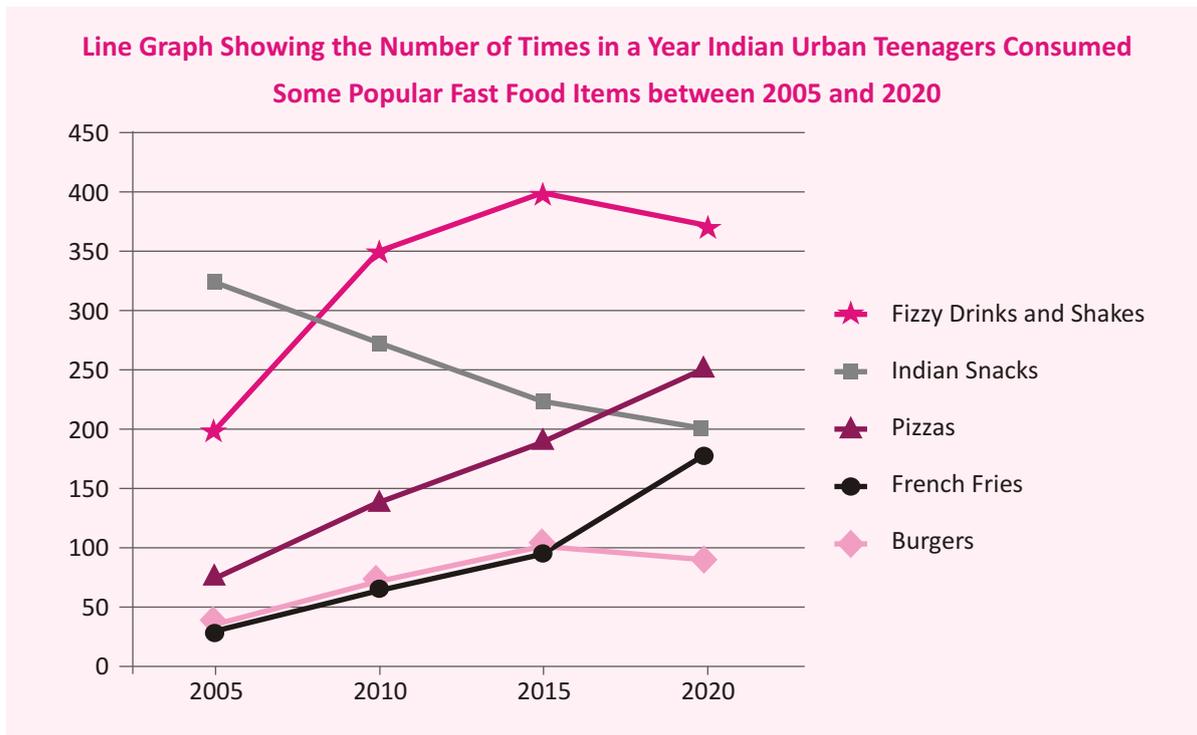
### Practice Exercises

1. The following line graph shows the average number of passengers who travelled by the Blue Line of the Delhi Metro between October 2019 and March 2020. Study the information carefully and then write an analytical paragraph in about 150 words to summarise it. Make comparisons wherever appropriate and draw conclusions.

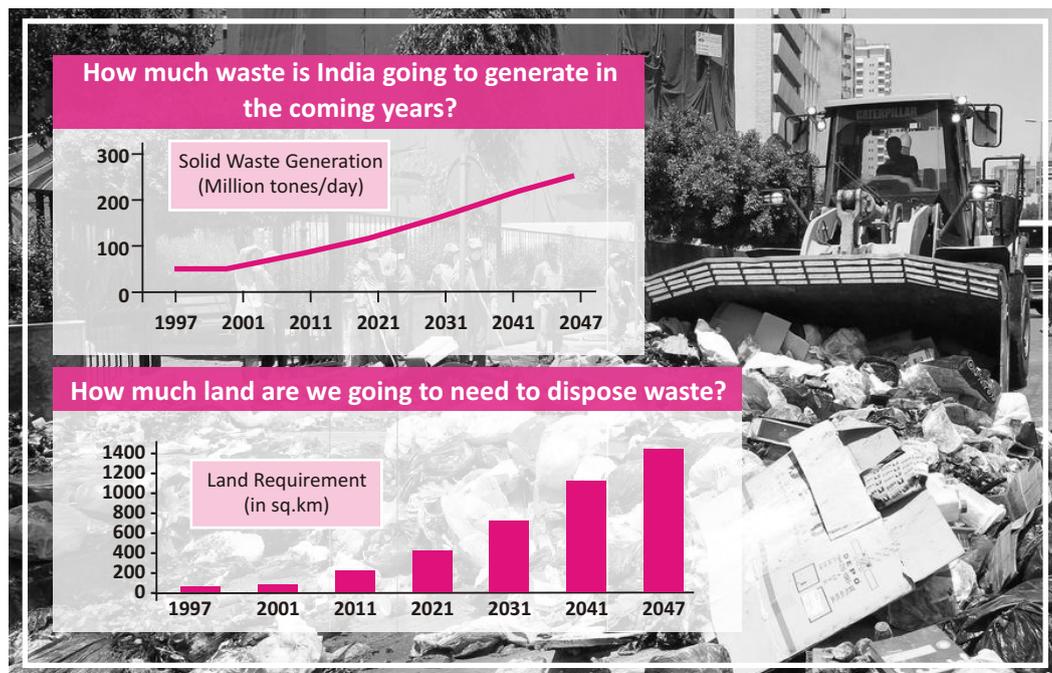
Passenger numbers for the Blue Line of Delhi Metro



2. The line graph below shows the consumption of fast food by Indian urban teenagers between 2005 and 2020. Study the information carefully and then write an analytical paragraph in about 150 words to summarise it. Make comparisons wherever appropriate and draw conclusions.



3. The line graph and the bar graph below show the amount of waste India is going to produce in the coming years and how much land will be needed to dispose of it. Study the information carefully and then write an analytical paragraph to summarise it. Make comparisons wherever appropriate and draw conclusions.



## D. TABLE

The table below shows risk of death posed by five different causes in two income groups of people along with the world average of these deaths. Study the data carefully and then summarise it in the form of an analytical paragraph.

### Deaths among Three Different Income Groups due to Different Risks/Causes

Risk	World	Low and middle income	High income
<b>Percentage of deaths</b>			
Indoor smoke from solid fuels	3.3	3.9	0.0
Unsafe drinking water, insanitation, lack of hygiene	3.2	3.8	0.1
Urban outdoor air pollution	2.0	1.9	2.5
Global climate change	0.2	0.3	0.0
Lead exposure	0.2	0.3	0.0

The table shows some statistics related to deaths among low and middle income groups as well as high income groups due to five reasons – indoor smoke from solid fuels; unsafe water, insanitation and lack of hygiene; urban outdoor pollution; global climate change and lead exposure. As is clear from the data, the high income group people die of the outdoor pollution more than any other cause. They account for 2.5% of all deaths which is higher than the world average of 2.0%. A mere 0.1% people of this group die of drinking unsafe water, insanitation and/or lack of hygiene. On the other hand, the lower and middle income group has mortality rate higher than the world average in all categories except urban outdoor air pollution, where it is 0.1% less than the world average of 2%. This group accounts for 3.9% and 3.8% deaths due to indoor smoke from solid fuels and unsafe drinking water, insanitation and lack of hygiene respectively. Global climate change and lead exposure account for 0.3% death each among this group. Overall, more people in the lower and middle income group die of the given causes than the high income group people.

## Practice Exercises

1. The table below shows the average daily consumption of coffee and tea on weekdays by six employees in a company. Study the information carefully and then write a paragraph analysing the data. Make comparisons and draw conclusions as appropriate.

Employee	Coffee		Tea		Total No. of Cups	
	AM	PM	AM	PM	Coffee	Tea
Bhushan	0	0	2	2	0	4
Chaitali	1	2	0	0	3	0
Evan	1	1	1	1	2	2
Mahmood	0	0	2	3	0	5
Sukhwinder	2	0	0	2	2	2
Mohanan	2	2	0	0	4	0

2. The table below shows some statistics about the estimated and actual profits (in millions of Indian Rupees) of a particular company in the year 2020 as well as details of the 2019 figures. Study the information carefully and summarise it in the form of an analytical paragraph. Make comparisons and draw conclusions wherever appropriate.

**YEARLY FINANCIAL SUMMARY TABLE**

	2019	2020 (Targeted)	2020 (Actual)
Revenue	270	340	430
Cost of Goods Sold	150	180	160
Gross Profit	120	160	290
Costs of Operations	14	16	18
Taxes Paid	4	5	6
Net Income	102	139	266

3. The table below gives in percentage the number of office goers who used different modes of transport to go to work in the years 2019 and 2020 as well as their projected figures for the year 2021. Study the data carefully and then summarise it in the form of an analytical paragraph. Make comparisons and draw conclusions wherever appropriate.

Year	Walking	Bicycle	Motorcycle/ Scooter	Own Car	Taxi	Bus	Local Trains
2019	2	27	39	10	1	12	9
2020	1	11	31	16	12	16	13
2021	0	7	40	11	6	19	17

## SAMPLE ANALYTICAL PARAGRAPH (INFORMATION BASED)

The table below contains some information about climate change and air-pollution, their causes and effects on the environment. Study the information carefully and then write an analytical paragraph to summarise it in your own words.

	CLIMATE CHANGE	AIR POLLUTION
<b>Gases</b>	Green House Gases (GHG) – primarily CO <sub>2</sub>	Nitrogen Oxides (NO <sub>x</sub> ), Sulphur Dioxide (SO <sub>2</sub> ), Volatile Organic Compounds (VOCs), Particulate Matter (PM)
<b>Effects</b>	Global	Local/Regional
<b>Human Health Effects</b>	Indirect through effect of Global Warming	Direct: breathing problems for healthy people, eye, nose, throat & lung irritation, asthma, chronic bronchitis, heart disease, death
<b>Timescale of Effects</b>	Long-term, in the future	Short-term, immediate
<b>Env. Effects</b>	Global warming, rising sea levels	Acid Rain, smog
<b>Major Anthropo-logical sources</b>	Burning of fossil fuels from motor vehicles and industry (mostly energy sector)	Burning of fossil fuels, exhausts mostly from industry and motor vehicles

Two of the environment's most serious problems – climate change and air pollution can be blamed on Green House Gases, mainly carbon dioxide, that cause climate changes with global repercussions, and Nitrogen Oxides, Sulphur Dioxide, VOCs or volatile organic compounds and PM or particulate matter, which have mainly local or regional effects. While climate change affects human health in an indirect way through the various effects of global warming, air-pollution has direct effects on human health causing such problems as breathing difficulties for healthy people, eye, nose, throat and lung irritation as well as asthma, chronic bronchitis, heart disease and even death. These effects are often short-term and almost always immediate whereas effects of climate change take a long time to manifest. The climate change triggered by global warming is responsible for such environment problems as rising sea levels, and air-pollution, on the other hand, is to be blamed for problems like acid rain and smog. Burning of fossil fuels is responsible for both climate change and air pollution.

### **P** practice Exercise

- The following infographic gives some information about what people of a particular city should do in three emergency situations – evacuation, shelter-in-place and lockdown. Analyse the information carefully and then summarise it in the form of a paragraph in about 150 words. Do not just reproduce the information by simply copying language from the infographic.

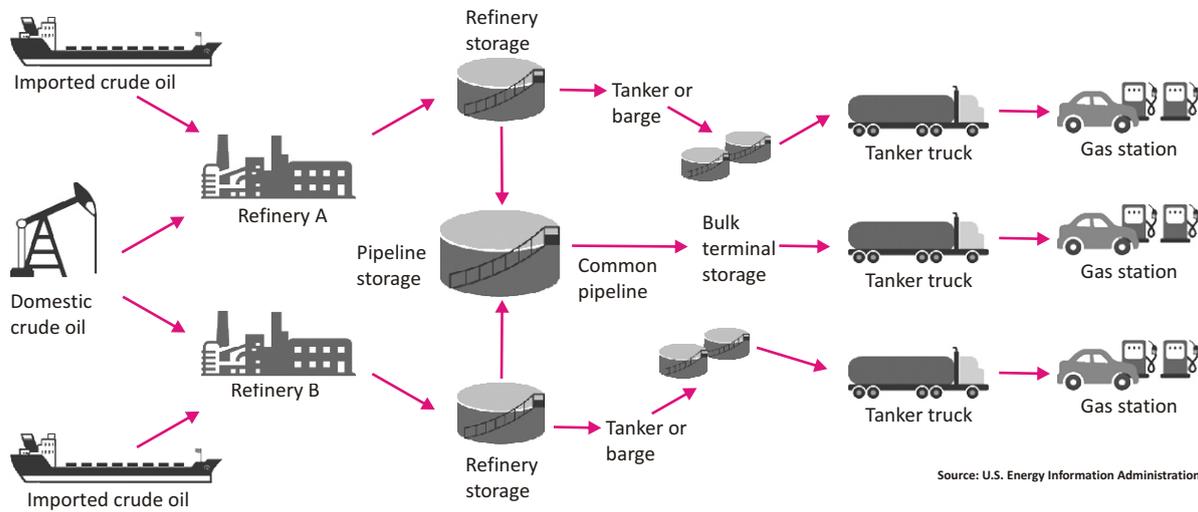
# EMERGENCY INFORMATION

<h2>Evacuation</h2> <p><b>When:</b></p> <ul style="list-style-type: none"> <li>◆ FIRE ALARM</li> <li>◆ POWER OUTAGE</li> <li>◆ AS DIRECTED</li> </ul> 	<h2>Shelter-in-Place</h2> <p><b>When:</b></p> <ul style="list-style-type: none"> <li>◆ SEVERE WEATHER</li> <li>◆ HAZARDOUS MATERIAL SPILL</li> </ul> 	<h2>Lockdown</h2> <p><b>When:</b></p> <ul style="list-style-type: none"> <li>◆ VIOLENCE OR THREAT OF VIOLENCE</li> </ul> 
<p><b>What to do:</b></p> <ul style="list-style-type: none"> <li>◆ Use the "Boot" to secure the door. Leave the building immediately.</li> <li>◆ Remain calm – walk, do not run</li> <li>◆ Last person out closes the door</li> <li>◆ Leave by the nearest safe exit</li> <li>◆ Do not use elevators</li> <li>◆ Assist others, if safe to do so</li> <li>◆ Report missing persons or persons left behind to emergency responders</li> <li>◆ Report to Evacuation Area and await instructions</li> <li>◆ Do not re-enter building until "All clear" is given</li> </ul>	<p><b>What to do:</b></p> <ul style="list-style-type: none"> <li>◆ Follow directions given by security</li> <li>◆ Stay away from windows and doors</li> <li>◆ Move to an interior room, stairwell, or hallway with no windows on the lowest floor</li> <li>◆ Use phones only for emergencies</li> <li>◆ Stay in place until the "All clear" is given</li> </ul> <p style="text-align: center;"><b>Fire, Medical Emergency or Violence</b> <b>Call 911</b></p>	<p><b>What to do:</b></p> <ul style="list-style-type: none"> <li>◆ Use the "Boot" to secure the door</li> <li>◆ Secure and lock windows and close blinds/shades</li> <li>◆ Turn off lights and monitors</li> <li>◆ Keep quiet</li> <li>◆ Silence cell phones</li> <li>◆ Do not open doors during a lockdown, even in the event of a fire alarm</li> <li>◆ Stay in safe areas until directed by law enforcement</li> </ul>

**SAMPLE ANALYTICAL PARAGRAPH  
(PROCESS DESCRIPTION BASED)**

The visual below shows how gasoline and diesel reach our local gas stations. Study the information carefully and then summarise it in the form of an analytical paragraph. Make comparisons and draw conclusions as appropriate. Do not add any new information.

**Flow of gasoline (or petrol) and diesel to your local gas station**



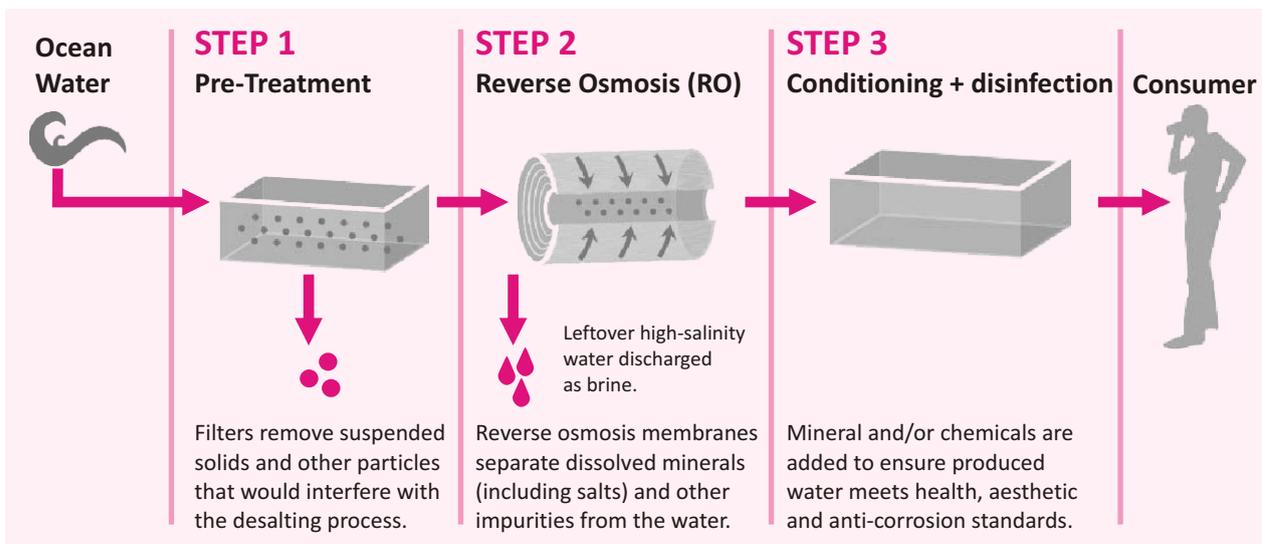
Ever wondered how petroleum fuels like petrol and diesel you use to run your vehicles reach your local gas stations? The entire process passes through several stages from the production or import, refinement, storage, transportation and distribution. In the first stage, the crude oil which is imported from other countries or produced domestically reaches refineries where it is refined in several stages to obtain petrol and diesel, two among a whole range of petroleum-based products. These products are stored in refinery storage facilities which are connected to a central pipeline delivery system. Petrol and diesel from this storage facility are carried to bulk terminal storage tanks either through a network of pipelines or through tankers or barges. Next, tanker trucks further transport these products from the bulk storage tanks to the gas stations in towns and cities where consumers can buy them as and when they require.

## Practice Exercises

1. The visual below shows how milk is produced, processed and sold through a distribution network to reach the consumers. Study the visual carefully and then write an analytical paragraph in about 150 words summarizing the various stages of the process in your own words. Do not add any new information.



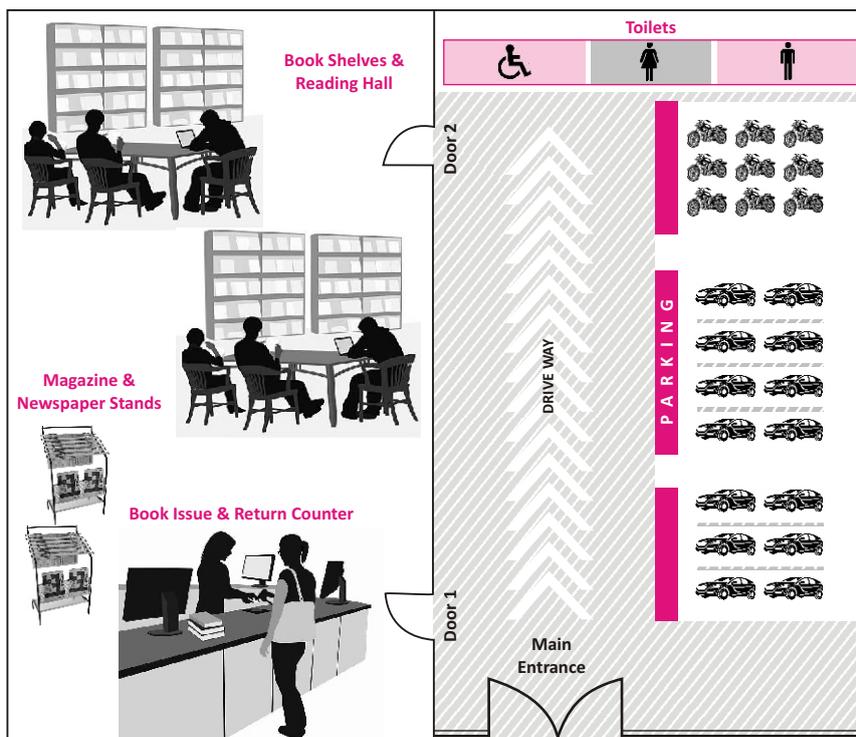
2. The visual below shows the process in which sea water is made fit for human consumption (cooking, drinking, bathing and washing etc.). Study the information in the visual carefully and then write a paragraph in about 150 words to summarise the various stages of the process. Do not add any new information from your side.



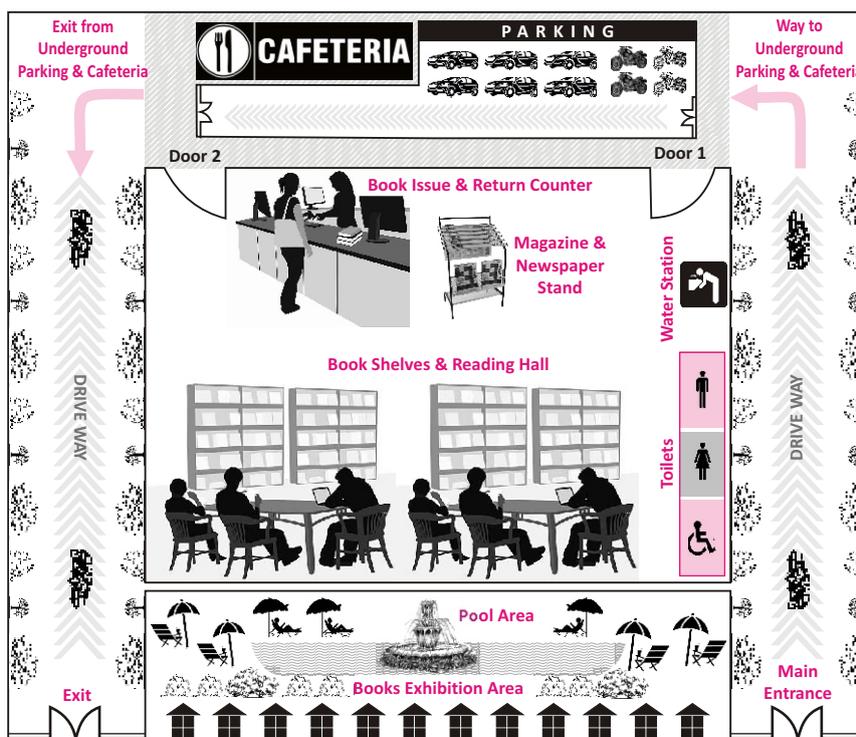
**SAMPLE ANALYTICAL PARAGRAPH (MAP BASED)**

Given below are the two maps of a library in a city. Carefully study both the maps and then write an analytical paragraph describing the major changes or renovations the library has undergone in the last 20 years. Make comparisons wherever appropriate and draw your own conclusions.

**City Library in 2000**

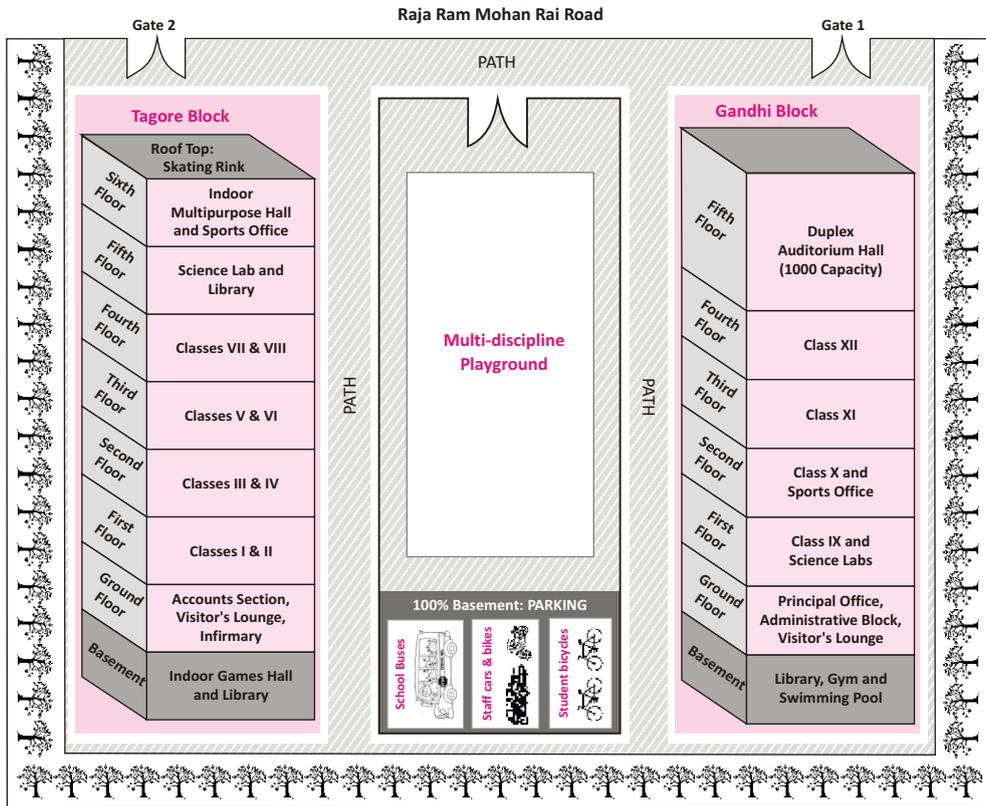


**City Library in 2020**



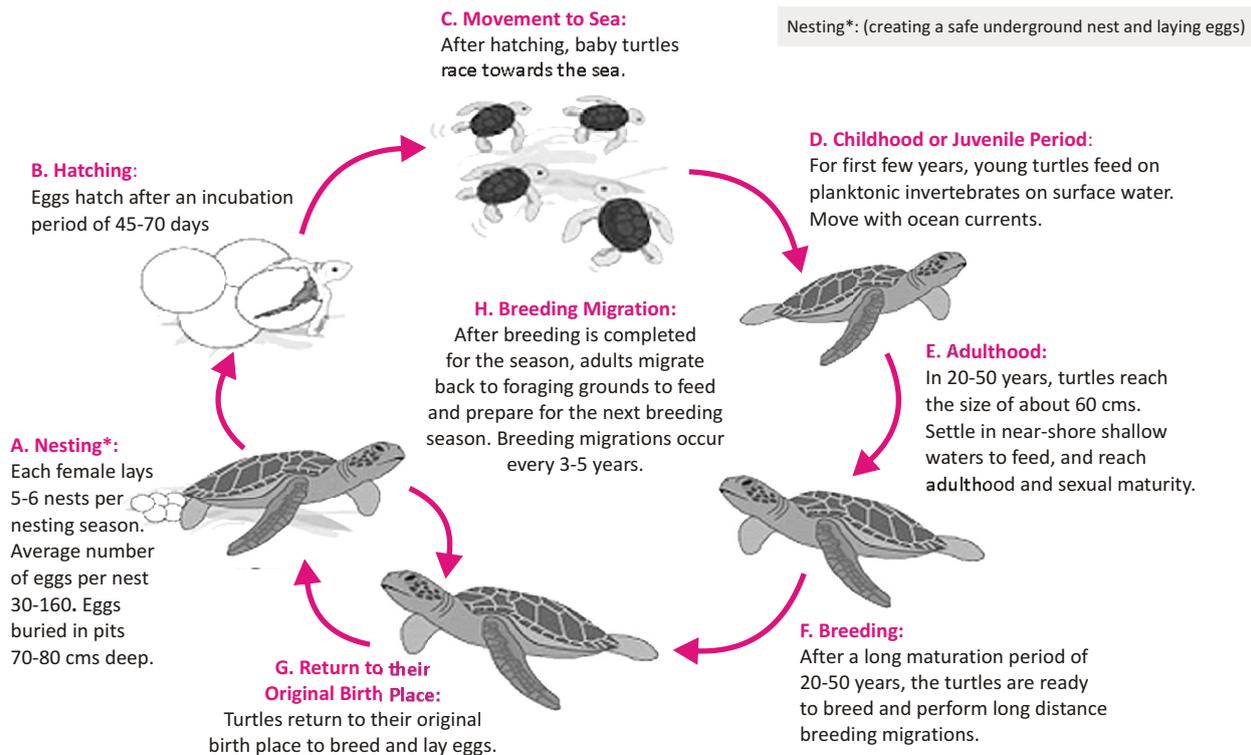


**MAP B**



**SAMPLE ANALYTICAL PARAGRAPH  
(BEHAVIOUR, FUNCTION, PATTERN OR CYCLE BASED)**

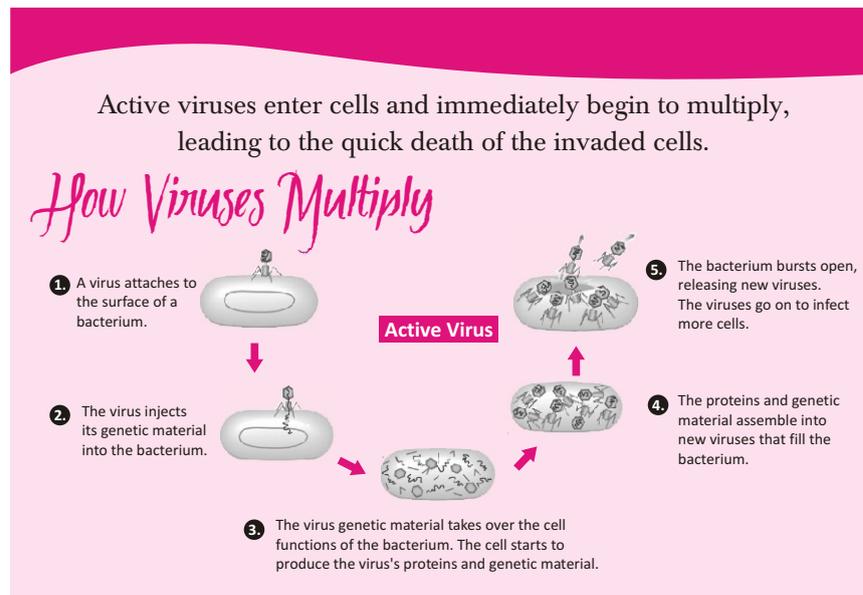
The visual below shows the life-cycle of a turtle. Study the information carefully and then summarise it in the form of an analytical paragraph. Make comparisons and draw conclusions wherever appropriate.



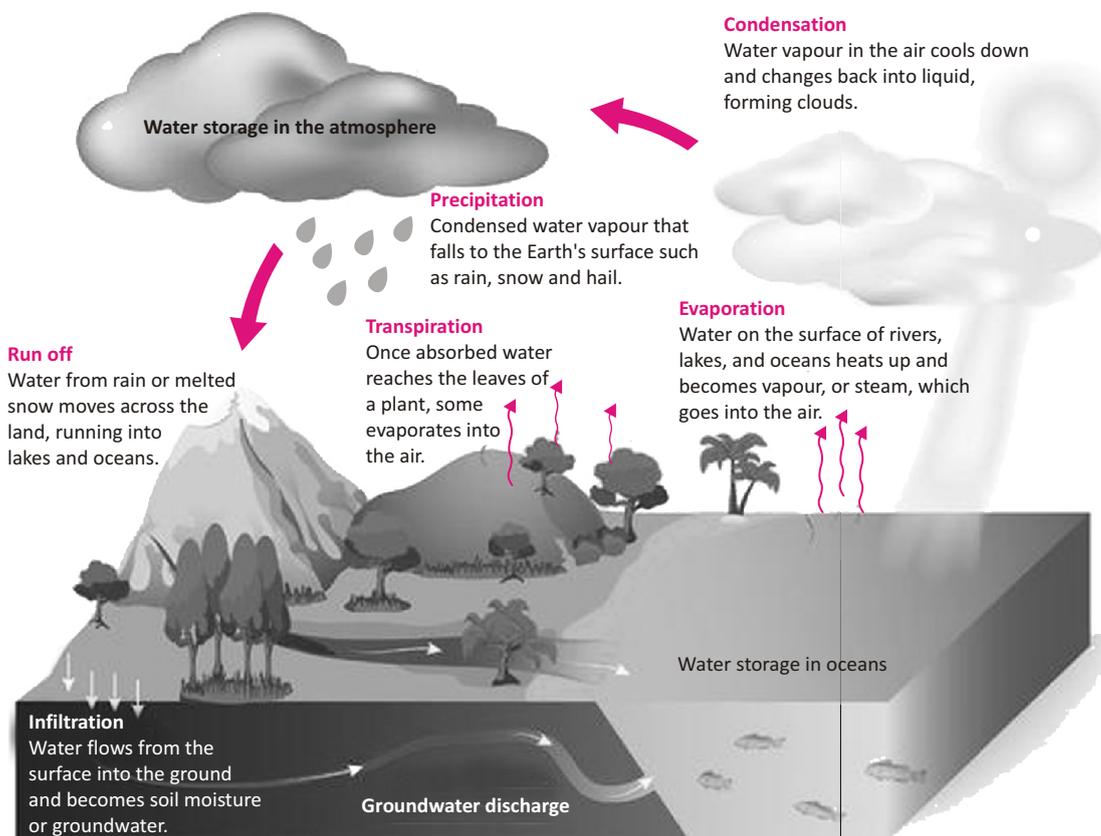
The life cycle of a sea turtle has several stages like nesting, hatching, early childhood or juvenile period, adulthood and breeding and it spans over a hundred years. Each female on an average nests, i.e. creates a safe underground nest and lays eggs therein, for 5-6 nests per nesting season. Depending upon the species, a turtle nest can contain 30 to 160 eggs which remain buried in sand pits 70-80 centimetres deep. The eggs incubate for 45-70 days and as soon as they hatch, baby turtles rush towards the sea. Young or juvenile turtles feed on planktonic invertebrates and move with ocean currents in the first few years of their life. Upon reaching the size of about 60 centimetres, the turtles settle in near-shore shallow waters to feed and mature to adulthood, which can take anything between 20 to 50 years. Thereafter, turtles are ready for long distance breeding migrations which may occur every 3 to 5 years. Turtles usually return to their original birth place for breeding. After breeding is completed for the season, adults migrate back to foraging grounds to feed and prepare for the next breeding season. That is how this cycle goes on and on.

## Practice Exercises

1. The visual below shows how viruses multiply. Carefully study the given information and then summarise the main ideas in an analytical paragraph in about 150 words.

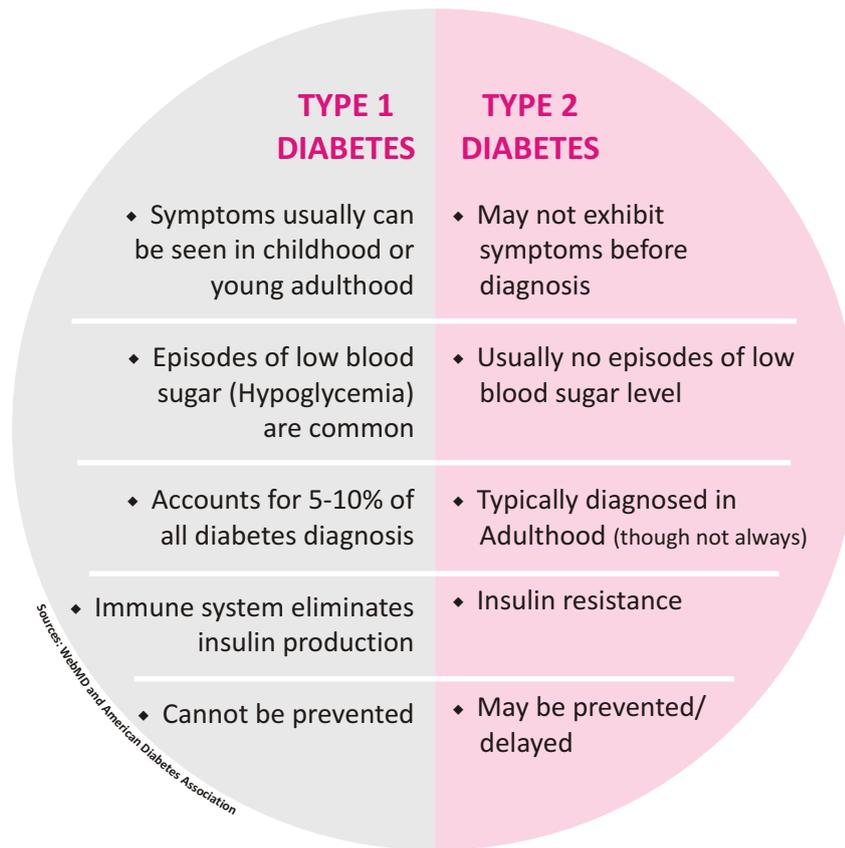


2. The diagram below describes the process of water cycle in the atmosphere. Study the information carefully and then summarise it in the form of an analytical paragraph.



**SAMPLE ANALYTICAL PARAGRAPH (SIMILARITIES AND DIFFERENCES BASED/COMPARISON OR CONTRAST BASED)**

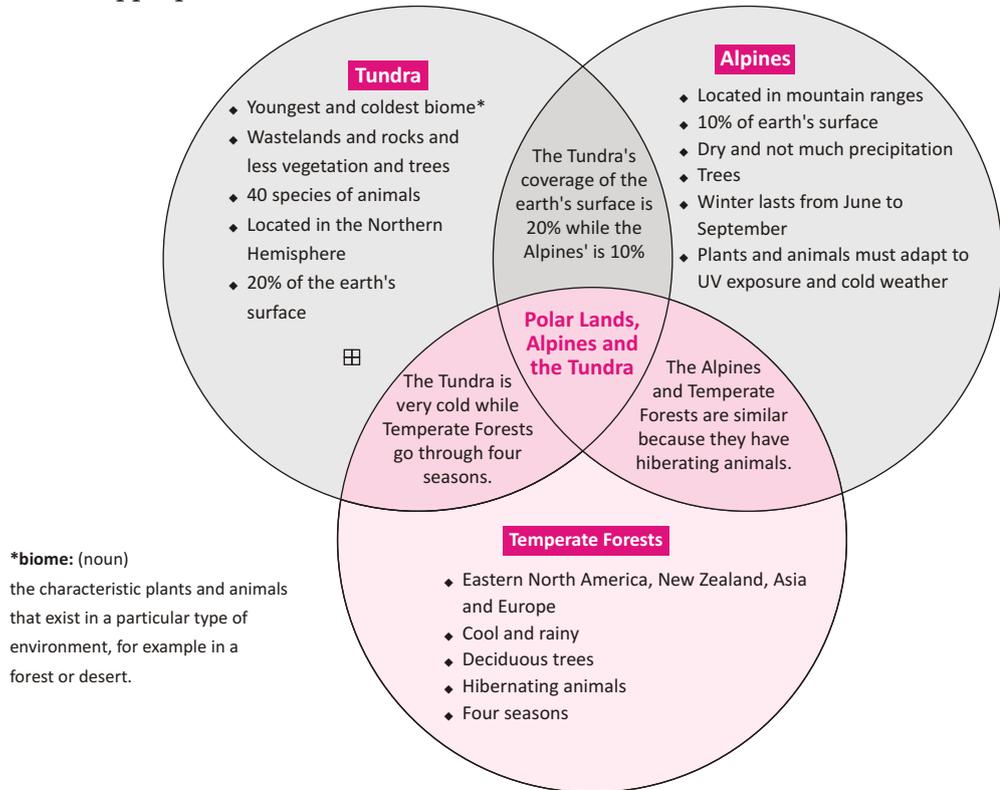
The visual below shows differences between two types of diabetes\* in humans. Carefully study the information and then write an analytical paragraph comparing both the types and highlighting similarities and differences.



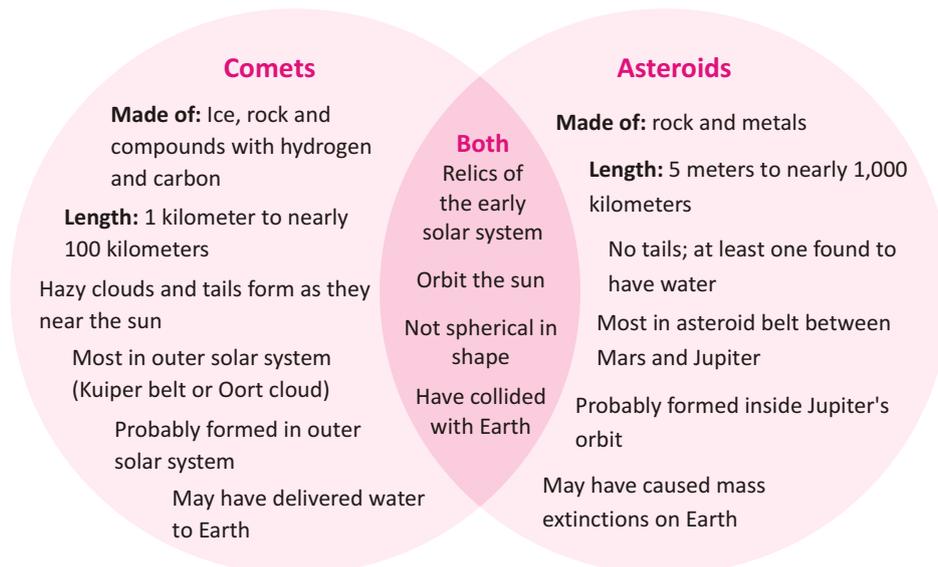
Diabetes is a disease in which the body's ability to produce or respond to the insulin hormone is impaired due to various reasons. As a result of this impairment, there is an abnormal metabolism of carbohydrates in the body and an elevation in the glucose levels in the blood. Diabetes is of two types – Type 1 and Type 2. Both the types have certain similarities and differences. Take for example, the symptoms in Type 1 – they can be usually seen in childhood or young adulthood itself but in Type 2 they may not manifest in any form until the disease is diagnosed. Type 1 is characterised by episodes of hypoglycemia or low blood sugar levels whereas no such episodes are normally seen in patients with Type 2 diabetes. Type 1 accounts for 5 to 10 per cent of all diabetes cases, the remaining are Type 2 cases, which are typically diagnosed, though not always, in adulthood. In Type 1, the immune response of the body eliminates the production of insulin hormone, whereas the bodies of patients with Type 2 diabetes develop resistance to insulin. While Type 2 can be prevented or delayed in a majority of cases through exercise and diet regimes, Type 1, unfortunately, cannot be prevented. It requires a life long use of insulin.

## Practice Exercises

1. The Venn diagram below shows three different types of forests. Study the information given in the diagram and then summarise it in the form of an analytical paragraph. Make comparisons and draw conclusions, wherever appropriate.



2. The Venn diagram below compares comets and asteroids. Study the information given in the diagram and then summarise it in the form of an analytical paragraph in about 150 words. Make comparisons and draw conclusions wherever appropriate.



3. The following table lists some similarities and differences between African and Indian elephants. Study the information carefully and then summarise it in the form of an analytical paragraph. Make comparisons and draw conclusions wherever appropriate.



AFRICAN ELEPHANT	INDIAN ELEPHANT
<ul style="list-style-type: none"> <li>◆ Herbivorous migratory herds</li> <li>◆ Social females, solitary males</li> <li>◆ Irresistible caring of the calves</li> </ul>	<ul style="list-style-type: none"> <li>◆ Herbivorous migratory herds</li> <li>◆ Social females, solitary males</li> <li>◆ Irresistible caring of the calves</li> </ul>
<ul style="list-style-type: none"> <li>◆ Little more aggressive</li> </ul>	<ul style="list-style-type: none"> <li>◆ Less aggressive (compared to African elephants)</li> </ul>
<ul style="list-style-type: none"> <li>◆ Larger, Females: 2 – 3 metres, Males: up to 3.5 metres</li> </ul>	<ul style="list-style-type: none"> <li>◆ 2 – 3 metres</li> </ul>
<ul style="list-style-type: none"> <li>◆ Weighs more, 3 – 6 tons</li> </ul>	<ul style="list-style-type: none"> <li>◆ 2 – 4 tons</li> </ul>
<ul style="list-style-type: none"> <li>◆ Ears are large and round; grow above the head height</li> </ul>	<ul style="list-style-type: none"> <li>◆ Ears are not very large</li> </ul>
<ul style="list-style-type: none"> <li>◆ Clearly visible concave back</li> </ul>	<ul style="list-style-type: none"> <li>◆ Back is not concave</li> </ul>
<ul style="list-style-type: none"> <li>◆ Wrinkles on the skin are predominant</li> </ul>	<ul style="list-style-type: none"> <li>◆ Wrinkles on the skin are not very dense</li> </ul>
<ul style="list-style-type: none"> <li>◆ Tip of the trunk has two fingers</li> </ul>	<ul style="list-style-type: none"> <li>◆ One finger at the tip</li> </ul>
<ul style="list-style-type: none"> <li>◆ Both males and females have tusks</li> </ul>	<ul style="list-style-type: none"> <li>◆ Only males have tusks</li> </ul>

**SAMPLE ANALYTICAL PARAGRAPH (SUGGESTION/ADVICE BASED)**

The table below lists the various timings for drinking coffee soon after it is made for a customer along with a recommendation for an ideal time when the coffee should be consumed. Study the information and then summarise it in the form of an analytical paragraph. In conclusion say when Mr James can get the best out of his cup of coffee.

<b>WHEN SHOULD MR. JAMES DRINK HIS COFFEE?</b>		
<b>QUANTITATIVE DATA</b>		<b>QUALITATIVE DATA</b>
<b>Time (Minutes)</b>	<b>Temperature (Celsius)</b>	<b>Drinkability</b>
0	80	scalding
1	75	painful tongue burn
1.5	70	mild tongue burn
5.5	65	blow on it and take a small sip
8	60	perfect to sip
13	55	perfect to gulp
20	50	good, not great
26	45	pretty warm and passable
33	40	warm and slightly unpleasant
41	35	cool and uninviting

This paragraph tries to suggest the best time when Mr. James can get the maximum taste, aroma and joy from his cup of coffee. For this purpose the temperature of a cup of the hot beverage was recorded immediately after it was prepared and the readings of temperatures at different time intervals were recorded. The drink was tasted every time its temperature was measured. What follows is a summary of the findings. When the coffee is just strained out from the machine or pan, its temperature is as high as 80°C at which it is scalding hot and cannot be even sipped without burning the lips. After a minute, the temperature comes down by five degrees but the coffee is still so hot that it can give painful burns to the tongue. Allow the coffee to cool down for half a minute more to reduce its temperature by 5 more degrees. However, it is still hot enough to give a mild burn to the tongue. At 8 minutes after preparation, it is just perfect to sip at a temperature of 60° C. When its temperature reaches 55°C, it becomes ideal to gulp and this stage arrives at around 13 minutes after preparation. At 50°C it remains good for consumption but no longer great in taste. Twenty-six minutes after preparation, it is pretty warm at 45°C and can be considered just passable but after that it begins to be first slightly unpleasant but warm, and then cool and uninviting. So, it is recommended that Mr. James can get the best out of his cup of coffee when it measures 55°C, which is approximately after 13 minutes of its preparation at standard summer room temperature and pressure.

## Practice Exercise

1. Given below is some information about a promising young music artist. Study the information carefully and then write an analytical paragraph in about 150 words suggesting:

- ◆ why you think he has the promise of a great artist
- ◆ how he should prioritise his ultimate goals (*i.e. which goal to achieve, when and why*)
- ◆ what he should do to achieve these goals
- ◆ what difficulties you think he may have to face in achieving his goals

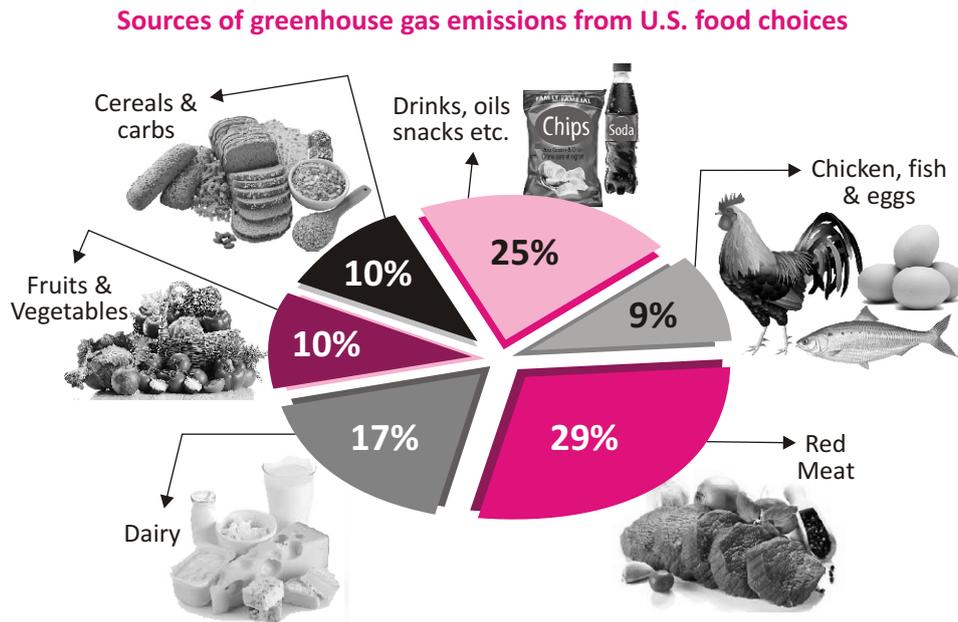
### What Should Pranav Wahi Do?

**Pranav Wahi** (20 years unmarried male)

Profession	: Guitarist, Lyricist, Music Producer
Training	: <ul style="list-style-type: none"><li>◆ Foundation Course in Instrumental Music (Guitar) from KMMP AR Rahman Music Academy (1 year ago)</li><li>◆ 1 Year Music Production Course from Sonic Field Music Production Academy, NOIDA (in progress)</li></ul>
Source of Income	: Support from father, stage shows, background music score for artists/singers/rappers, TV shows, and short films
Marriage Plans	: Not in any relationship currently, no plan for marriage for the next five years
Ultimate Aim	: Produce music for Bollywood films, do solo shows, establish own band with like-minded musicians, launch albums and singles of own songs, judge a reality show, teach music at a renowned institute, win Grammy award

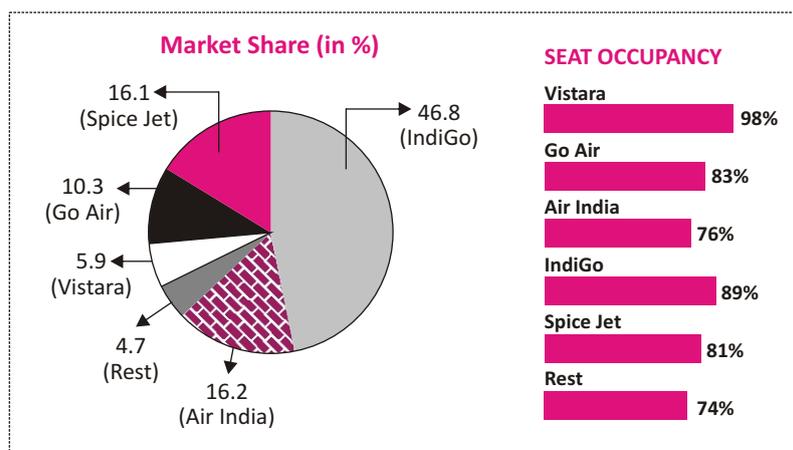
## More Practice Exercises

- The pie chart below shows some data about the sources of greenhouse gas emissions from the food choices in the USA in 2008. Study the information carefully and then write a paragraph analysing the given data. Wherever appropriate make comparisons and draw conclusions.

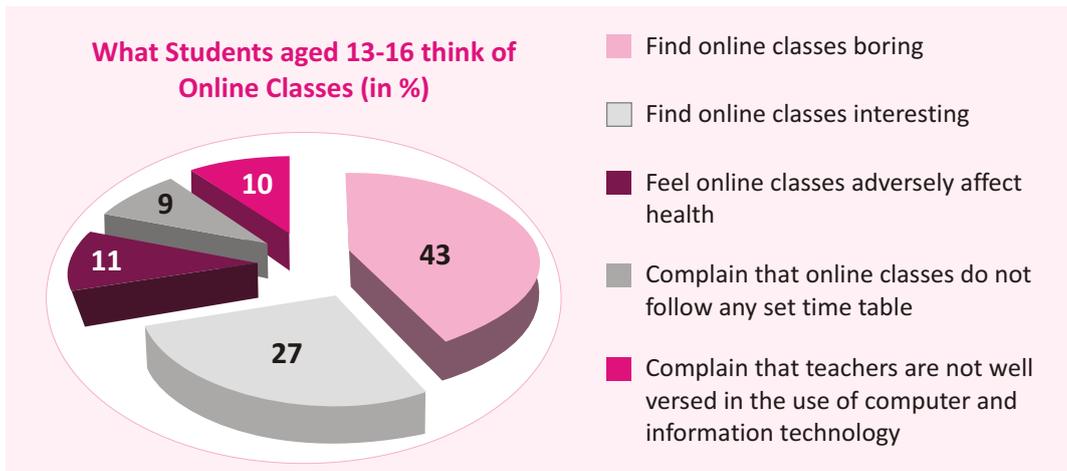


Adapted from: Weber and Matthews (2008) Food-Miles and the Relative Climate Impact of Food Choices in the United States. *Environmental Science & Technology*, 42 (10), 3508-3513

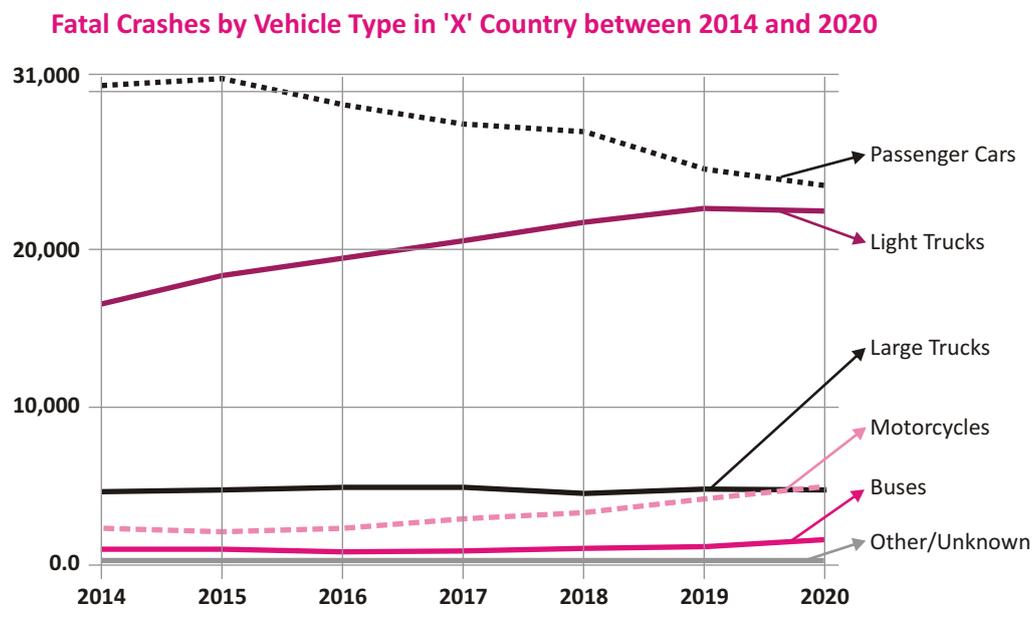
- The following bar graph and pie-chart show the seat occupancy and market share in per cent that six domestic airlines had last year. Study the data carefully and write an analytical paragraph in about 150 words. Make comparisons where appropriate and draw conclusions.



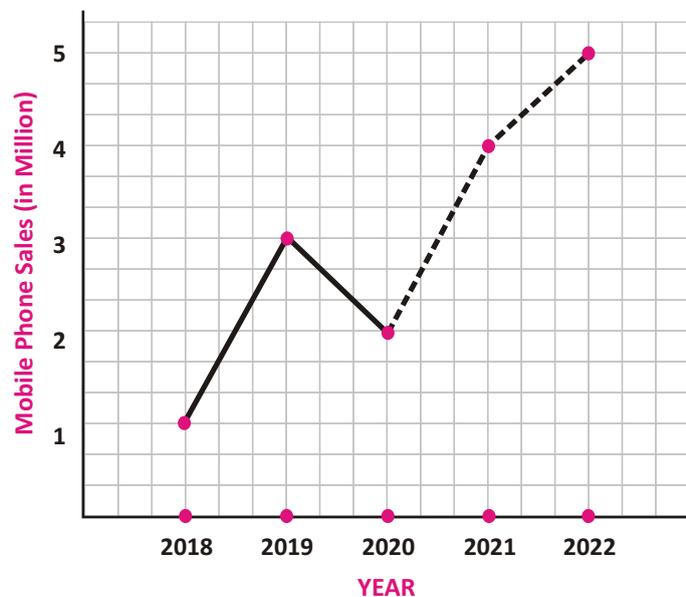
- Given below are the results of a phone survey of a group of 1000 students aged 13-16 about what they think of online classes. Study the information carefully and then write a paragraph in about 150 words analysing the data. Make comparisons wherever appropriate and draw conclusions.



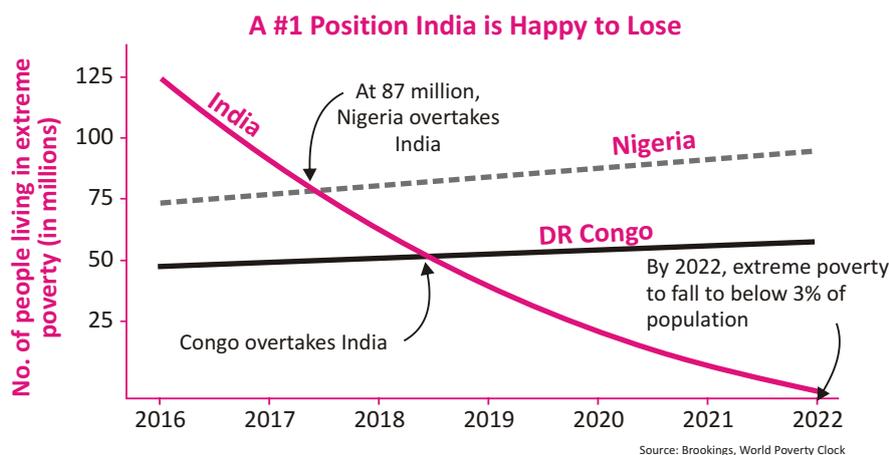
4. The line graph below shows the number of fatal crashes by vehicle type in 'X' country between 2014 and 2020. Study the information carefully and then write a paragraph in about 150 words analysing the data. Make comparisons wherever appropriate and draw conclusions.



5. The following line graph shows the number of mobile phones sold in India between 2018 and 2020 and their projected sales in 2021 and 2022. Study the information carefully and then write a paragraph in about 150 words analysing the data. Make comparisons wherever appropriate and draw conclusions.

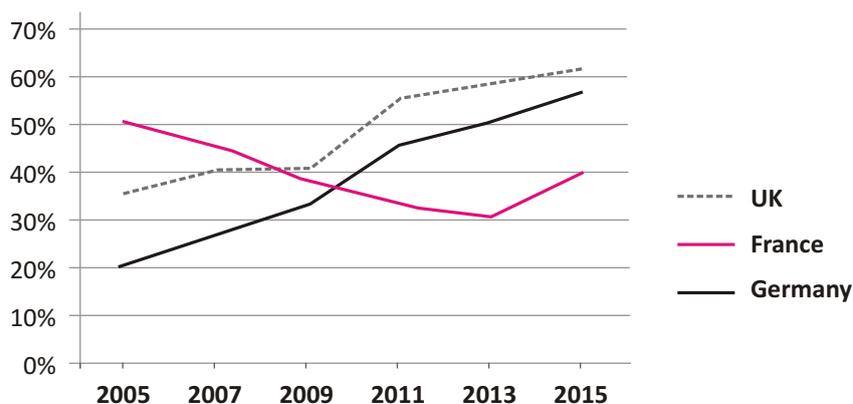


6. The following line graph shows some statistics about the number of people living in extreme poverty in India and two other countries – Nigeria and the Democratic Republic of Congo with some projections for the future. Study the information carefully and then write a paragraph in about 150 words analysing the data. Make comparisons wherever appropriate and draw conclusions.

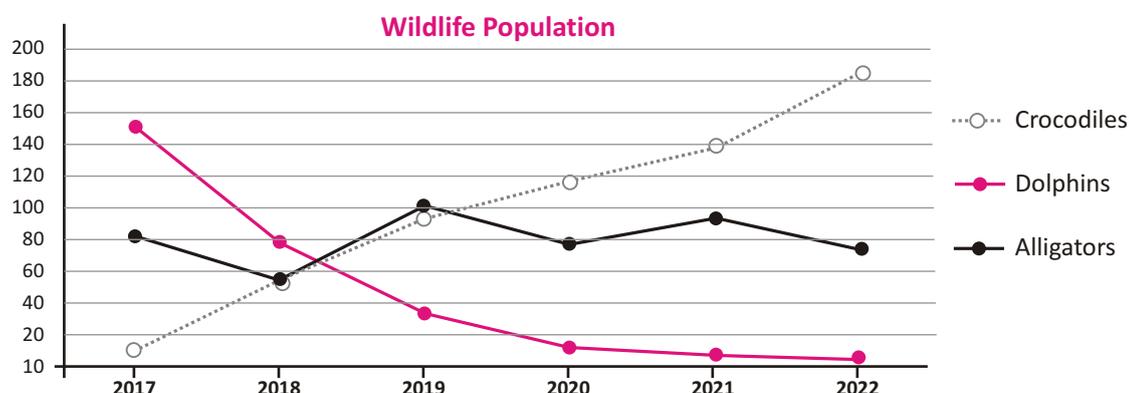


7. The line graph below shows recycling rates in three different countries between 2005 and 2015. Study the information carefully and then summarise it in an analytical paragraph in about 150 words. Make comparisons wherever appropriate and draw conclusions.

**Household Recycling Rates in Three Countries between 2005 and 2015**



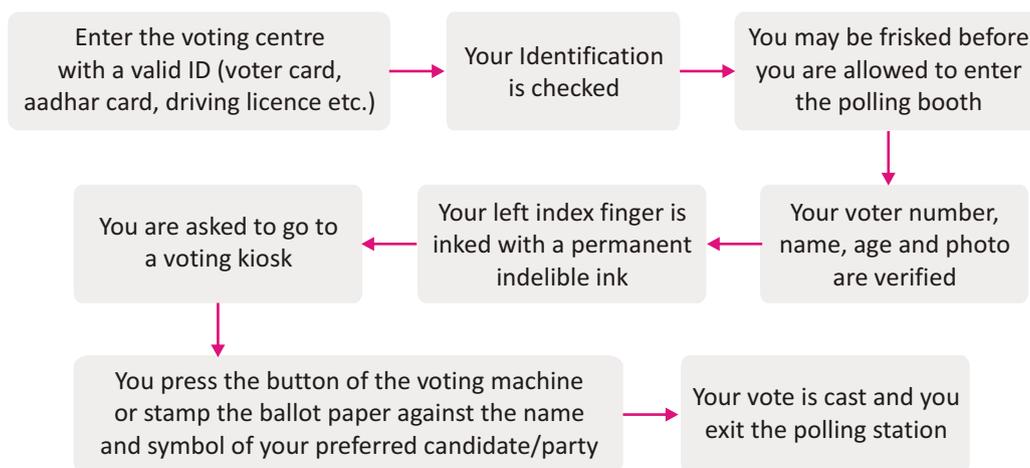
8. The line graph below shows some data related to the population of three species – River Dolphins, Crocodiles and Alligators in India between 2017 and 2020 and some projections for the next two years. Study the information carefully and then write a paragraph in about 150 words analysing the data. Make comparisons wherever appropriate and draw conclusions.



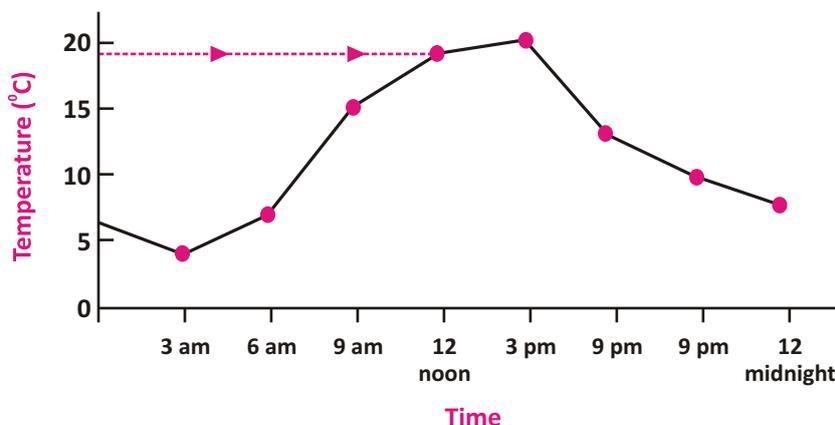
9. The line graph below shows some data related to the number of robberies that took place in a city in three different years. Study the information carefully and then write a paragraph in about 150 words analysing the data. Make comparisons wherever appropriate and draw conclusions.



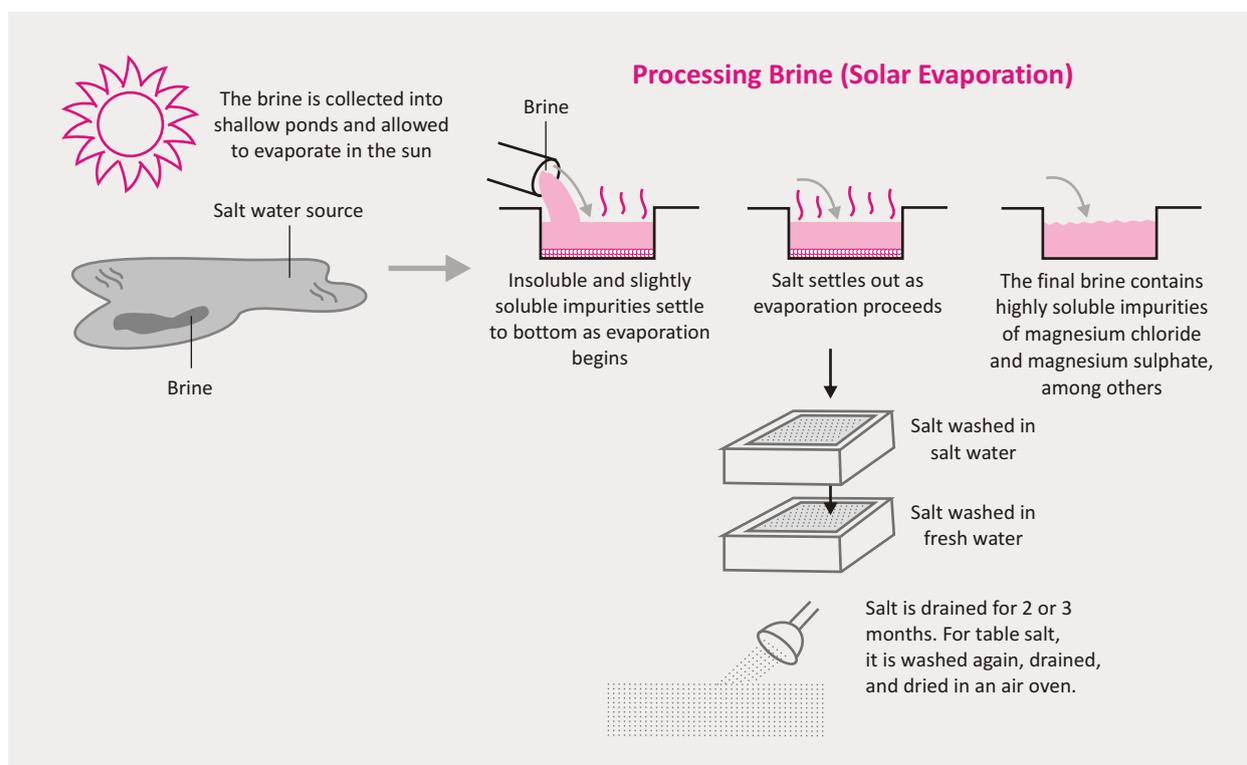
10. The visual below shows the process of casting votes on a voting day. Study the information given in the visual very carefully and then write an analytical paragraph in about 150 words summarising the main steps of the process. Do not add any information from your own side.



11. The line graph below shows temperature fluctuations on a particular day in a city. Carefully study the information and then write a paragraph analysing the data. Make comparisons and draw conclusions, wherever appropriate.



12. Given below is a visual that describes how a particular company makes sea salt. Study the information given in the visual very carefully and then summarise it in the form of an analytical paragraph.



13. The infographic below shows differences and similarities between Lead and Tin. Study the information carefully and then summarise it in the form of an analytical paragraph. Make comparisons and draw conclusions wherever appropriate.

Lead vs Tin		
	Lead	Tin
<b>DEFINITION</b>	Lead is a chemical element having atomic number 82 and the chemical symbol Pb	Tin is a chemical element having atomic number 50 and chemical symbol Sn
<b>APPEARANCE</b>	Metallic-grey colour with a blue hue	Silvery-white metal with a faint yellow hue
<b>DENSITY</b>	Very high comparatively	Comparatively low
<b>BOILING POINT</b>	Comparatively high	Comparatively low
<b>OCCURRENCE</b>	Abundant	Rare

14. The following infographic shows differences and similarities between Golden Rice and Normal Rice. Study the information carefully and then summarise it in the form of an analytical paragraph. Make comparisons and draw conclusions wherever appropriate.

Golden Rice vs Normal Rice		
	Golden Rice	Normal Rice
<b>DEFINITION</b>	Golden rice is genetically modified rice which contains a high amount of beta carotene	Normal rice is a cereal grain which lacks beta carotene
<b>AMOUNT OF B-CAROTENE PRESENT</b>	A good source of beta carotene or vitamin A	Does not contain Vitamin A
<b>GENETICALLY MODIFIED VARIETY</b>	A genetically engineered crop	Not a GM crop
<b>VITAMIN A DEFICIENCY</b>	Helps to combat vitamin A deficiency	Cause of vitamin A deficiency
<b>CHILDHOOD BLINDNESS</b>	Reduces partial and complete blindness	Does not reduce childhood blindness
<b>COLOUR</b>	Yellow in colour	White in colour

15. The infographic below shows differences and similarities between the symptoms of Corona Virus and the common Cold Virus. Study the information carefully and then summarise it in the form of an analytical paragraph. Make comparisons and draw conclusions wherever appropriate.

Coronavirus vs Cold Symptoms		
	Coronavirus symptoms	Cold symptoms
<b>APPEARANCE OF SYMPTOMS</b>	Covid 19 symptoms appear 2 to 14 days after exposure	Common cold symptoms appear within the first 2 to 3 days of infection
<b>Fever</b>	Common	Rare
<b>Cough</b>	Common – usually a dry cough	Mild
<b>Sneezing</b>	No	Common
<b>Aches and pains</b>	Sometimes	Common
<b>Runny Nose</b>	Rare	Common
<b>Sore Throat</b>	Sometimes	Common
<b>Diarrhoea</b>	Rare	No
<b>Headaches</b>	Sometimes	Rare
<b>Shortness of Breath</b>	Sometimes	No

16. The table below gives before and after exercise pulse rate figures for five students. Study the information carefully and then write a paragraph in about 150 words analysing the data. Make comparisons and draw conclusions wherever appropriate.

### Pulse Rate Before and After Exercise

Student Tested	Pulse Rate at Rest (beats/min)	Pulse Rate After Exercise (beats/min)
A	70	97
B	74	106
C	83	120
D	60	91
E	78	122

17. The table given below shows five year (1998-2003) figures in US Dollars of the GDP (Gross Domestic Product) based on exchange rate. All figures are in billions. Study the information carefully and then summarise it in the form of an analytical paragraph.

**GDP, based on exchange rates, over time (Values in billion USDs)**

	2003	2002	2001	2000	1999	1998
USA	10,882	10,383	10,020	9,762	9,213	8,720
EU	10,970	9,040	8,303	8,234	8,901	8,889
UK	1,765	1,564	1,430	1,438	1,460	1,423
China	1,575	1,434	1,345	1,252	1,158	1,148
India	599	510	479	457	447	414

18. The table below shows the sales figures of 10 top delivery persons of a food delivery company. Study the information carefully and then summarise it in the form of an analytical paragraph. Make comparisons and draw conclusions where appropriate.

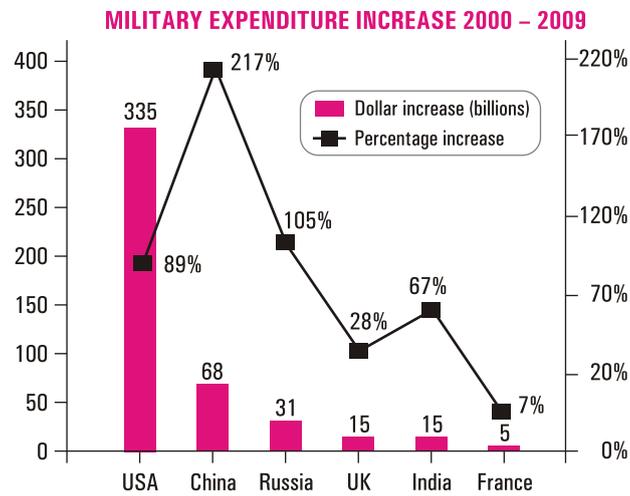
	Name	Zone	Average Number of Orders in a Week	Total Sales in Indian Rupees
1.	Nitin	North	217	105000
2.	Alam	West	268	107500
3.	Teji	West	224	99000
4.	Jacob	East	286	108500
5.	Ragini	North	226	75000
6.	Kishore	East	228	81000
7.	Surinder	North	267	160000
8.	Mahima	South	279	189000
9.	Rukhsana	South	234	163000

19. The following table shows some data about temperatures recorded in summers at five different locations in a schoolyard. Study the information carefully and then summarise it in the form of an analytical paragraph. Make comparisons and draw conclusions wherever appropriate.

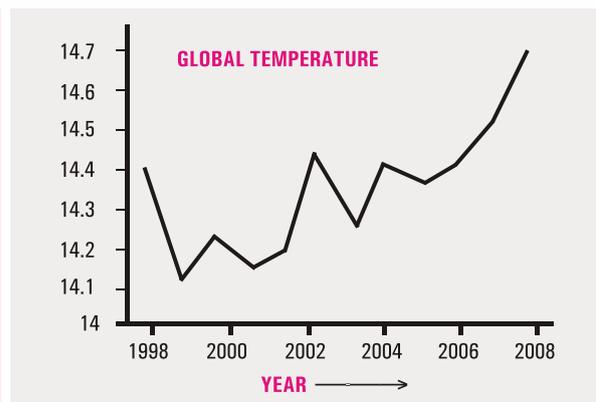
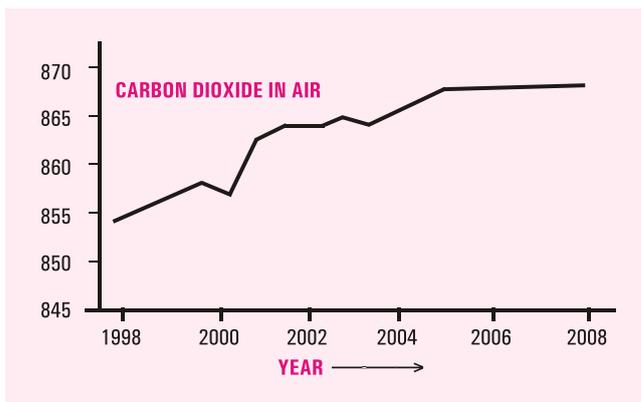
### Locations in the Schoolyard

	1	2	3	4	5
Ground cover	Glass and other plants	Asphalt	Gravel	Trees and grass	Asphalt
Sun/shade	Sun	Shade	Sun	Shade	Sun
Average temperature	25.5°C	28.9°C	38.6°C	22.4°C	39.2°C

20. The following graph shows the increase in military expenditure of six countries between 2000 – 2009. Write an analytical paragraph in about 150 words summarizing the information. Make necessary comparisons and highlight trends.



21. The line graphs below show the amount of carbon dioxide in air and fluctuations in global temperatures respectively. Write an analytical paragraph in about 150 words briefly summarising the data in the graphs. Highlight the correlation between rise in carbon dioxide and rise in global temperature.



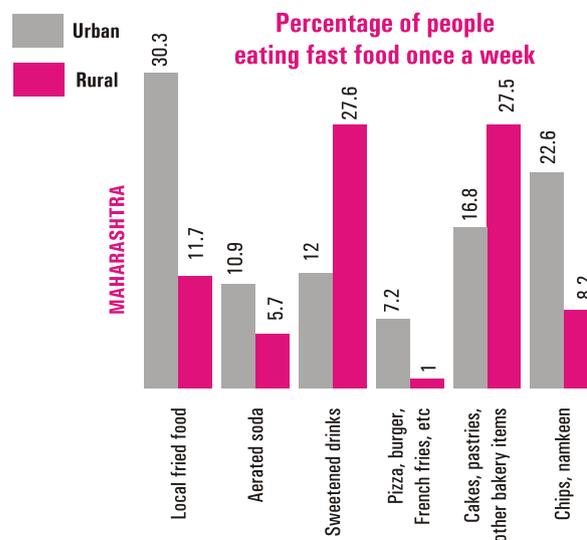
22. The following table shows some statistics about the growth of tourism in India from 2004 to 2011. Write an analytical paragraph in about 150 words briefly summarizing the data.

**In your paragraph you must highlight**

- the general trend in the number of tourists visiting India over the last few years
- which of the two tourist types have shown an increase
- percentage (%) change over the previous year

Year	Foreign Tourist Arrivals (million)	Domestic Tourists (million)	Year	Foreign Tourist Arrivals (million)	Domestic Tourists (million)
2004	3.46	310.0	2008	5.28	563.0
2005	3.92	395.0	2009	5.16	650.0
2006	4.45	472.0	2010	5.58	705.0
2007	5.08	527.0	2011	5.81	740.0

23. The following bar graph shows the percentage of people (both urban and rural) eating fast food once a week in Maharashtra. Study the information carefully and then write a paragraph in about 150 words analysing the data. Highlight the key feature(s) and make appropriate comparisons wherever possible.



24. The following bar graph shows statistics related to rainfall in two tea growing regions – the Dooars in Jalpaiguri and the Terai in Darjeeling. Study the information carefully and then write an analytical paragraph summarizing the data and highlighting the major trend in rainfall patterns.

