

---

## UNIT 8 WRITING ACROSS THE CURRICULUM

---

### Structure

- 8.0 Objectives
- 8.1 Introduction
- 8.3 How Writing is Different From Speech
- 8.4 Relationship Between Writing and Thinking
- 8.5 Writing as a Tool for Learning Content in Different Disciplines
- 8.6 Writing as a Process
- 8.7 Different Types of Writing
  - 8.7.1 Information Transfer
  - 8.7.2 Paragraphs/Essay
  - 8.7.3 Reports
  - 8.7.4 Teaching Study Skills
- 8.8 Forms of Writing
  - 8.8.1 Descriptive Writing
  - 8.8.2 Expository Writing
  - 8.8.3 Narrative
  - 8.8.4 Persuasive Writing
  - 8.8.5 Argumentative Writing
  - 8.8.6 Argumentative Essay
  - 8.8.7 Essays of Definition
- 8.9 Discipline Based Writing
  - 8.9.1 Writing in Mathematics
  - 8.9.2 Writing in Science
  - 8.9.3 Writing in Social Sciences
- 8.10 Writing is Learn Classroom
- 8.11 Let Us Sum Up
- 8.12 References and Suggested Reading

---

### 8.0 OBJECTIVES

---

At the end of this Unit you will be able:

- understand that learning to write involves learning to accomplish a variety of purposes for a variety of audiences in different settings;
- understand that writing is a meaning making process across the curriculum and is more than just a medium for transmitting one's knowledge of concepts and ideas;
- ascertain how writing, as a process, leads to constant improvement in writing skills, enabling the learner to comprehend, interpret and present the ideas critically in his/her own words;

- make connections between texts and put forward your own understanding;
- enable the learners to recognize and analyze discipline-specific formats and organizational strategies; and
- identify strategies for developing your students' ability to compose a variety of written texts in different subjects.

---

## 8.1 INTRODUCTION

---

Writing is important because it improves communication skills, critical thinking and creativity. Writing is necessary for both school and work situations. Writing helps the writer express ideas and beliefs. Indeed, writing helps us think critically, evaluate, analyse, generate ideas and present them coherently. One sifts through a range of new ideas and is able to present them through various forms of writing – articles, essays, letters, notes etc. Through writing we communicate to a range of readers at the same time, writing is a learning process in itself. Writing is by definition social, it involves the writer and the audience. Learning to write involves learning to accomplish a variety of purposes for a variety of audiences in different settings.

Students learn to write when they are taught to write and not when they are asked to. The teacher has to teach students how to write by using specific writing strategies that develop fluency and skills to organize the content related to the subject area. Many content area teachers, History, Mathematics or Science expect that writing skills taught in English class can be transferred to their discipline as well. Consequently, they do not teach writing in their own discipline. By teaching students to write, teachers can build their ability to communicate and share ideas and knowledge. 'Writing is at the center of instruction because writing is how students connect the dots in their learning.'

Students need to develop to the ability to write essays on academic topics, including scientific reports, analyses of historical/political/social events, summaries of discussions and notes on lectures or texts. Students who acquire better writing skills in their early years of education have better performance records at higher levels. This Unit on "*Writing across the Curriculum*" aims to help you, as teachers, develop your students' skills to write effectively, in different subject areas.

---

## 8.3 HOW IS WRITING DIFFERENT FROM SPEECH?

---

Why is it that to a large number of students in India , writing in English seems to pose great problems?. It is partly to do with the nature of writing itself.

As Rosen (1981) points out,

- Writing is detached from the wide range of expressive possibilities in speech.
- A writer is unable to exploit all the devices available to a speaker: gesture, body movement, facial expression, pitch and tone of voice, stress, and hesitations.

- A speaker can backtrack, or clarify and revise ideas as listeners question or disagree. A writer has to compensate for all of those disadvantages.
- Compared with speech, effective writing requires a number of things:
  - a high degree of organization in the development of ideas and information;
  - a high degree of accuracy so that there is no ambiguity of meaning;
  - the use of complex grammatical devices for focus and emphasis;
  - and a careful choice of vocabulary, grammatical patterns, and sentence structures to create a style which is appropriate to the subject matter and the eventual readers.

It is these demands which present particular problems to foreign writers of English, Even those who are proficient writers in their first language have to acquire a wide language base from which to make these choices. They may also find that confusing differences exist between the conventions of writing in their first language (mother tongue) and English. For example, the level of formality or patterns of presenting information in letters may differ, or the accepted method of setting out arguments in discursive writing may vary. We need to be sensitive to all these factors when our learners attempt their writing tasks.

---

## 8.4 RELATIONSHIP BETWEEN WRITING AND THINKING

---

Writing and thinking are closely connected. Good writing cannot happen without critically thinking about the topic at hand. For writing, one needs to select content (information and ideas) carefully, assess the needs and expectations of the readers, plan presentations and edit accordingly. Often, writers as well as their readers are not consciously aware of these interlinkages. A writer comes across a variety of problems, how to generate and organize ideas for a purpose and audience; formulate sentences that are grammatically correct; use correct vocabulary and spelling; adhere to the ‘style’ possessed and how to present that information, whether by inference, argument, or description. Solving these problems in order to produce an effective piece of writing involves cognitive processes. Therefore, effective writing is the result of effective problem solving. This process of critical thinking comes only with practice.

### Activity 1

1. *How is writing connected with thinking?*
2. *Based on the discussion above, how would you define writing?*

---

## 8.5 WRITING AS A TOOL FOR LEARNING CONTENT

---

Are you wondering how writing aids learning? To understand this pedagogic tool you must not think of writing as a mechanical activity. Instead, it is an engaging and invigorating process that involves thinking, reasoning and analysing. As a learning tool, writing helps students grasp, organize, and integrate their prior

knowledge with new concepts. Writing involves the cognitive processing of ideas and is therefore viewed as a tool for learning. Writing has long been recognized as enhancing the learning process. Writing makes thinking visible, allowing learners to reflect on their ideas. Further, writing facilitates connections between new information and learned information, and among areas of knowledge across multiple domains.

---

## 8.6 WRITING AS A PROCESS

---

Much of the research and academic work in the field of writing has begun to recognize that writers follow a process when they work, just as scientists follow a systematic method. When we begin to understand this process we can help our students invent, use and adapt effective writing strategies (Murray 1982, Graves 1991). Yet in most of our classrooms we tend to only look at the end products of writing. We look at the end product in isolation. We expect the student to produce a perfect piece of writing in one sitting. We do not allow them the process of revising, improving, rethinking about their writing.

Theorists have defined the writing process as different steps or stages that a writer goes through to produce a piece of writing. Broadly speaking these are the stages of *prewriting*, *writing* and *rewriting*, *editing* and then *producing the final piece of writing*. Murray refers to these as *rehearsal*, *drafting*, *revision* and *editing*. Each stage is important. There are different skills required at each stage, and children need to go through each stage under the guidance of the teacher. The stages however do not occur in the linear order given above, there may be overlaps.

Being motivated to write	Getting ideas together	Editing and getting ready for publication	Making notes	Making a first draft	Revising replanning redrafting	Planning and outlining
7	6	1	4	3	2	5

In brief, the process of writing contains a number of stages which can be represented in the following figure:

However, the figure oversimplifies matters because, although writing in general involves these stages, the process is not a linear one, moving from planning to composing to revising and to editing. It would be more accurate to characterize writing as an activity in which the writer moves backwards and forwards between drafting and revising, with stages of replanning in between. As Shaugnessy (1977) describes it, it is '*a messy process that leads to clarity*'.

### a. What is the purpose of this piece of writing?

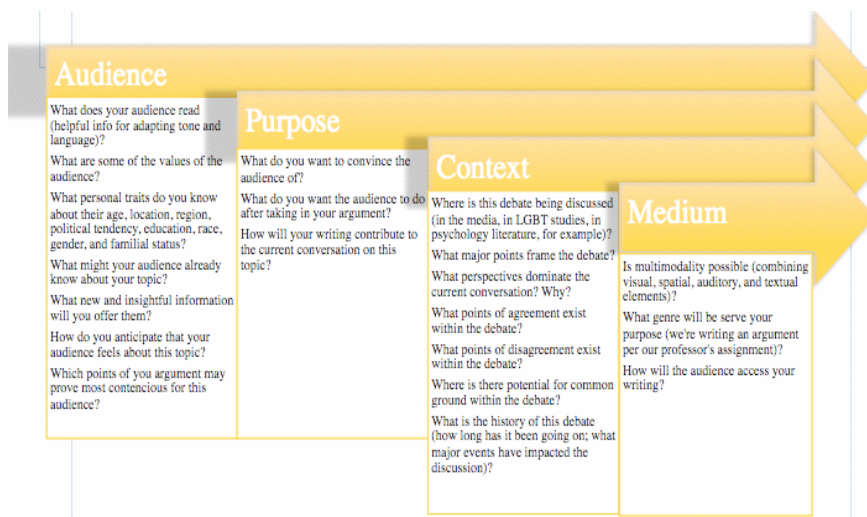
The writer must know the purpose of his/her writing i.e. is s/he writing a report for action? Identification of the purpose of writing would determine the choice of organization and the style of the written piece. Every type of writing has a certain purpose. Writing, unlike speaking, is generally about a topic or a theme. The topic or the theme is then organized in such a manner that the purpose is

served. For example, if the purpose of the writing is to describe then the focus should be on the object of description, its qualities and the writer's own analysis of what is being described..

### ***SOME PURPOSES OF WRITING***

- *To think*
- *To inform*
- *To persuade*
- *To criticize*
- *To reflect*
- *To communicate*
- *To research*
- *To entertain*
- *To forge a connection with someone*
- *To understand*
- *To remember*
- *To solve a problem*
- *To grieve*
- *To control*
- *To show concern*
- *To experience personal enjoyment*
- *To cause social action*
- *To wonder*
- *To thank*
- *To express an emotion*
- *To feel*
- *To know*
- *To discover*
- *To show understanding*
- *To collaborate*
- *To question.*

**b. Who am I writing for?**

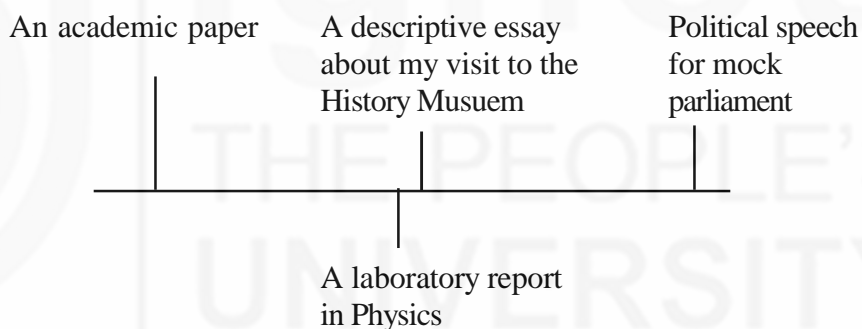


**Fig. 1: Audience, purpose ,context and medium are fundamental to writing.**

Source:<https://writingcommons.org/writing-processes/think-rhetorically/711-what-to-think-about-when-writing-for-a-particular-audience>

The information about the audience helps the writer to determine what to say and how to present the writing in the most appropriate style.

The good student generally plans for writing :



**(c) Brainstorming/Having a Plan**

Before starting, it is essential to have a plan of what is going to be written, what will be included, and how the material will be organized. This helps in drawing up a plan/ organizer or having a guide for organizing the writing in a certain way. The plan can be in the form of questions like ‘What is going to be my introduction?’, ‘In what ways will I describe the person/object/ place?’ etc.

**(d) Using Reliable Sources of Knowledge**

Except in the case of narrative writing (and sometimes even for that), some reliable sources of knowledge should be used to enrich the write-up.

**(e) Lexis/ Domain specific vocabulary**

Words are the soul of writing. A good writer always pays a lot of attention to words. Here are some tips.

- You need to use words and phrases that are relevant to the discipline or subject matter that you are addressing through your writing.
- Do not repeat the same word again and again; look for a replacement
- Always aim for the exact word that you are looking for
- Explaining something if you do not have a word for it is a good strategy
- Use the words in such a way that it fits the grammatical pattern.

(f) **Coherence and Cohesion**

A piece of writing should be logically sequenced. In written language, different types of words are used to create this. Here is a list of some of them. These words are used to indicate continuity within the text and also to create a link between different parts of the text:

- for example, for instance,
- furthermore
- hence, however
- meanwhile, moreover
- therefore, thus,
- simultaneously
- nevertheless,
- subsequently
- afterwards
- also
- as a result
- conversely
- consequently
- even

(g) **Feedback**

Feedback for writing can be in two stages. One, *before* you start writing you have an organizational plan ready. Sharing the organizational plan with others and making changes according to the feedback that you receive is a good way to start writing. That makes the writing more effective. Secondly, you can also receive feedback after you have finished your piece.

(h) **Negotiation with peers, teachers for feedback and revision**

Negotiation with peers, teachers, and collaborative conversation to construct meaning are inbuilt components of the process approach to writing. Writing becomes a source of shared meanings about subject specific terms/concepts. *Reflection* takes place not only before writing but during and also after the writing has been completed. Reflection may lead to a revised draft; an improved understanding of the task or theme at hand.

## 8.7 WRITING ACROSS THE CURRICULUM

As discussed, writing is the main vehicle for communication of subject specific and is crucial to learning. However, writing in each subject is different.

### Different Types of Writing

Writing does not fall neatly into one category or the other. It is a process of imagining, discovering and creating a narrative or a text. It is about the ability to communicate effectively, to an audience, pulling together all the components.

In the following sections, we will discuss different types of writing.

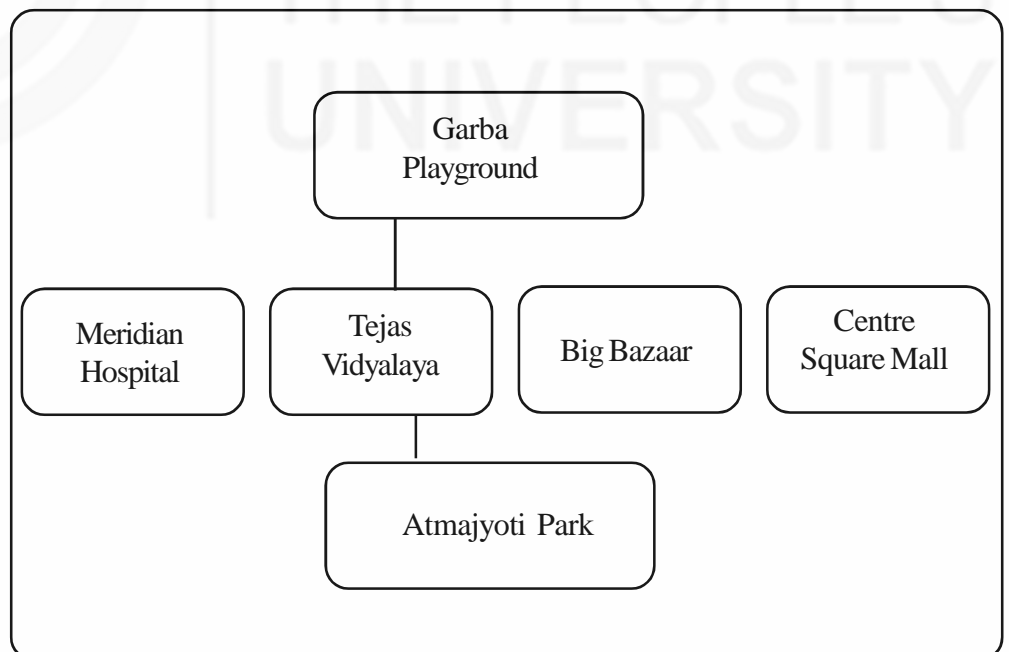
### 8.7.1 Information Transfer

This is another type of a writing activity in which a learner is required to write a paragraph based on reading and interpreting a graph, a chart, table or giving directions based on a map. This transfer of non-verbal skills to verbal form (writing a paragraph or report) develops composing or writing skills. If the writing activity is the reverse of the activity mentioned earlier, the process also helps learners to develop comprehension skills. This is an important study skill, which helps learners develop analytical faculties and is useful to them in their study of subjects like Mathematics, Science, Commerce, etc.

Example: Read the following description of Richa's school and transfer the information into a graphic form.

I study in Tejas Vidyalaya. In front of my school there is a park named Atmajyoti Park and behind it is a huge playground where the Garba festival is held. To the left of my school there is a huge supermarket, Big Bazaar, and next to it is the Centre Square mall. On the right of the school is a big building which houses the famous Meridian hospital.

The graphic prepared will look something like the picture drawn below.



Another example is given below:

1. You are visiting Baroda for the first time and have visited a number of tourist places. Write a letter to your friend describing the beauty of the places given in the following table.



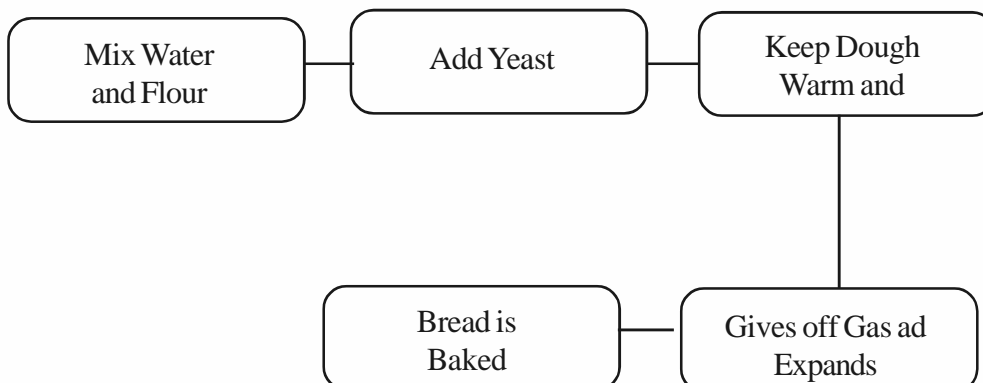
Description of those places	Place of Interest
Residence of the Maharaja Sayajirao Gaekwad	Laxmi Vilas Palace
Educational Institution	M.S. University
Heritage site	Champaner
Made of metal used for making defense aircrafts	EME Temple
Place of Shri Aurobindo's residence	Aurobindo Ashram
.....	
.....	
.....	

2. Study the following table and write a paragraph on the stages in the growth of a lion.

Growth	Stage	
Blind	At birth	1
eyes open	Six days	2
play like kittens	4-5 weeks	3
learn to hunt	Three months	4
begin to breed	Age of two	5
fully grown	5 years old	6

.....  
 .....  
 .....  
 .....

3 The flowchart given below depicts the process of making bread. Write the process in about 100-150 words in the form of a paragraph.



### *Purpose of Data Visualization*

The purposes of tables, graphs, and other types of data visualizations are to

- Clearly indicate how values relate to one another
- Represent quantities accurately
- Make it easy to compare quantities
- Make it easy to see ranked order of values
- Make obvious how people should use the information

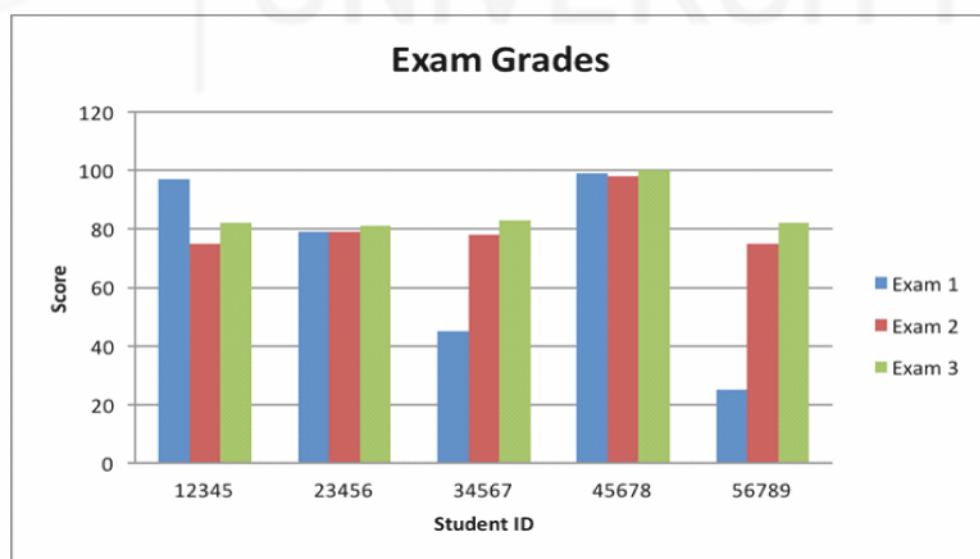
### *Tables*

Tables, “lists of data presented in a system of rows and columns” (Dobrin, et al), are useful in instances where some form of a records such as depicted are to be maintained teacher has to keep record of student as:

Homework	Exam 1	Exam 2	Exam 3	Student Roll No.
12345	97	75	82	95
23456	79	79	81	90
34567	45	78	83	100
45678	99	98	100	100
56789	25	75	82	70

### *Graphs and Charts*

Graphs and charts are useful when the patterns within the data tell a story. [1] By transferring the numbers from the above, for the students’ exam scores into Graph 1, it is easy to identify that Student 12345 did better on Exam 1 than he or she did on Exam 2 and so on.



Graph 1 : Exam Grades

Source: <https://writingcommons.org/data-visualizations>

**Activity 2**

1. Refer to the Science/History/Geography/Mathematics textbooks of your pupils. Choose any table/graph/diagrams from them and prepare a transfer exercise based on it .
2. Look at the graph and write a paragraph on what it is communicating about the performance of every student and the class as whole. What are the other topics you can think of for using graph?

**8.7.2 Paragraphs/Essays**

Paragraphs form a part of any continuous piece of writing in essays, reports, letters etc. **It is necessary to teach our students how to write good paragraphs.**

What are the characteristics of a good paragraph?

A **paragraph** is a well-organized network of sentences having a definite plan. It has a topic sentence, which is supported by other sentences and examples. The most important characteristics of a paragraph are unity, coherence and emphasis.

**Unity**

A paragraph is usually built around a topic sentence – a sentence, which states the main theme of the paragraph. The topic sentence should be developed in an orderly manner and it usually occurs either at the beginning, middle or at the end of the paragraph.

**Coherence**

An effective paragraph requires more than a topic sentence and supporting details; it must also be coherent. In a coherent paragraph the writer takes the reader logically and smoothly from one idea to the next. In a paragraph every sentence should logically follow from the one preceding it. Every sentence should be linked to one another (with the one which goes before and the one which is to follow after) in such a way that readers can follow the flow of thought easily from sentence to sentence, paragraph to paragraph. The linking of sentences is known as cohesion and linking of ideas is known as coherence. This provides unity to the paragraph which can be achieved with the use of cohesive devices like, pronouns, repetition, synonyms, connectives, etc.

**Emphasis**

Emphasis means prominence; it means making important points stand out in the paragraph. This is an important aspect of writing because when a person reads a paragraph, the reader should at once know what the writer is writing about.

**Compositions/Essays** are written by writing two/three paragraphs on a given topic. These could be **guided**, that is, learners are given support to develop their content or they could be **free**, that is, no support is provided. Whatever they write, they have to write a connected piece of text separated in paragraphs which have to adhere to the basic requirements of unity, coherence and emphasis.

An example of a composition written with support is given below:

**Activity:** Write a composition comparing and contrasting the town life with country life using the points given. (not more than 100-150 words). Describe similar activity for the students in the discipline you teach.

### **Town Life vs Country Life**

*Town life: Lack of green space that is, parks, gardens, concrete jungles on the rise – plenty of amenities for entertainment – good public transport – difficulty in making contacts – too crowded and claustrophobic and noisy environment – good shopping complexes – good educational facilities*

*Country life: Open spaces and greenery – few social facilities – travel necessary for entertainment – easy to establish social contacts – too quiet and isolated – calm and quiet atmosphere for those who want it – friendly people – small village market – children have to travel long distances to attend school*

2. Using the points given below, write a story in not more than 150 words. An old woman – eager to become young – goes to the forest – search of magic fountain – long time – doesn't return – husband worried – goes searching – cannot find her – reaches the fountain – finds a baby crying – clothes resemble his wife's – understands the problem – wife drank too much of water – fondly picks up the baby – goes home.
3. Write an attractive Introduction and Conclusion for an essay on one of the following topics:
  - Secularism
  - The Computer Age
  - The India of My Dreams

### **8.7.3 Reports**

A report usually presents information in a logical, orderly and a precise manner. The purpose of the report is to inform the reader about things that they do not know hence all details need to be included. But at the same time unnecessary details need to be avoided. This ensures **completeness** of the report.

**The salient features of a report can thus be summarized as under:**

A report is:

- *brief, accurate, complete and clear*
- *usually written in third person*
- *includes only relevant details – there are no digressions*
- *avoids emotional overtones*
- *ideas are logically arranged*
- *language is simple, jargon is avoided*

**Activity:**

1. Undertake the following tasks:

A. Imagine that you are the editor of the school newsletter, “School Times”. You have to report on the Independence Day celebrations. Use the following hints and write a report.

2. 15 August 2011, 7.00 a.m. - all students in white - assembled near flagpost – Chief guest – Police Commissioner to hoist at 7.30 a.m. – flag hoisted on time – guard of honour presented by NCC cadets – address by chief guest – topic – Duties of Youngsters towards India – vote of thanks proposed by Principal – Tea for all students and chief guest – dispersed.

3. Collect at least 5 reports from newspapers, which you could use in your class. Think of three different ways in which you can use newspaper reports.

**Laboratory Report**

**General Outline of a Laboratory Report**

Scientific writing is just as important as conducting scientific investigation or experiment. Scientific experiments take place in the laboratory but the task of presenting the results in a concise, and clear format is equally important and demanding called laboratory report (similar to research paper). A well structured, precise and a well-organized laboratory report communicate the process and result of the investigation effectively.

**Structure of a laboratory report:**

- **Title** Since the title reflects the work/experiment undertaken, it is important that it is clearly presented.
- **Introduction** The introduction section provides the learning context by stating what the experiment/investigation is about, what scientific concept (theory, principle, procedure, etc.) is it linked to: the Chapter and the textbook the experiment is linked with; and this section also consists of the **purpose** and **objectives** of conducting the experiment in general terms, such as what is being done in the experiment, such as to ‘measure’ something or ‘observe’ or ‘test’ something and why. The introduction section may also contain a statement of the **hypothesis** for the experiment.
- **Materials and Method or Requirements and Procedure** Materials and Methods section describes (1) the lab apparatus, the materials used and the procedure followed to gather the data and (2) the process used to analyze the data. This section enumerates, step by step, the procedure followed by the one conducting the experiment. It provides detail and clarity regarding the method/procedure so that the experiment can be repeated or replicated using the same method.
- **Use of graphs, tables**
- **Discussions/Conclusions.** This is a very important section since it presents the findings from the experiment. The outcome or the result is presented objectively, taking an unbiased view. In case the outcome is not as per expectation, reasons for the discrepancies are outlined in simple and plain language.

### Sample laboratory report

\_\_\_\_\_ student of \_\_\_\_\_ is doing project report entitled "Rusting of Iron" being submitted to \_\_\_\_\_ is an original piece of work done by me.

(Signature)

Title: Rusting of Iron

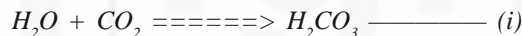
#### INTRODUCTION

*Iron is one of the widely distributed elements in the nature. One of its striking characteristics is that it undergoes rusting on combining with water, air & carbon-dioxide due to which its surface gets covered with a red brown flake coating called "RUST". RUST is affected by moisture, oxygen & carbon - dioxide. RUST is soft and porous and it gradually falls off from the surface of iron material. It is a continuous process and it gradually eats up iron due to which an iron object loses its strength. It is very wasteful process and should be prevented. It is very-very slow process.*

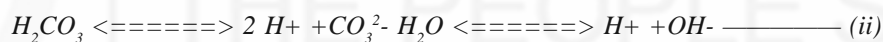
#### Theory - Rusting of Iron

*When a piece of iron metal is exposed to humid atmosphere, its gets covered with a red brown substance called "Rust". Rusting of iron can be explained on the basis of ELECTRO-CHEMICAL THEORY as follows :*

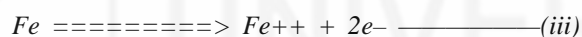
- 1. Water vapours on the surface of the metal dissolved carbon-dioxide and oxygen from the air. Thus the surface of metal is covered with the solution of carbon-dioxide with water, i.e. carbonic acid :-*



*This acts as an electrolytic solution of the cell. The carbonic acid and water dissociate to a small extent as follows:*

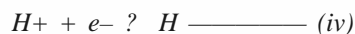


- 2. Iron in contact with the dissolved CO<sub>2</sub> and O<sub>2</sub> undergoes oxidation as follows:-*

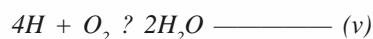


*As a result iron is converted into ferrous (Fe<sup>++</sup>) ion.*

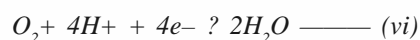
- 3. The electrons lost by iron are taken up by the H<sup>+</sup> ions present on the surface of metal which were produced by the dissociation of H<sub>2</sub>CO<sub>3</sub> and H<sub>2</sub>O. Thus H<sup>+</sup> ions are converted into H atoms.*



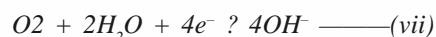
*Thus H atoms either react with the dissolved oxygen or oxygen from air to form water.*



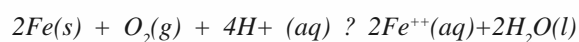
*The complete reaction may be written as :-*



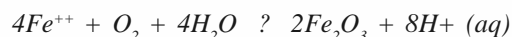
*The dissolved oxygen may take up electrons directly to form OH<sup>-</sup> ions as follows :*



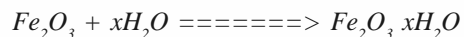
*The overall reaction of the miniature cell will be :-*



4. The ferrous ions formed react with the dissolved oxygen or oxygen from air to form ferric oxide as follows :



Ferric oxide then undergoes hydration to form RUST as follows :-



Hydrated ferric oxide (RUST)

Requirements

Apparatus :

- i) Boiling tubes
- ii) Rubber stopper
- iii) Iron nails
- iv) Burner
- v) Test tube, Holder & Stand

Chemicals:

- i) Distilled Water
- ii) Dilute HCL
- iii) Dilute NaCl Solution
- iv) Anhydrous Calcium Chloride
- v) Cotton
- vi) Mustard Oil

Procedure - Iron Rusting

- i) Take five dry test tubes and mark them A, B, C, D and E. Take 10 pieces of iron nails free from rust.
- ii) Moist two iron nails with distilled water and slide it in the test tube marked 'A' close the mouth of the tube.
- iii) In the test tube 'B' take 5 ml of water and boil it so as to remove dissolved air. Slide two nails in this test tube and few drops of mustard oil so as to cover the surface of  $\text{H}_2\text{O}$ .
- iv) In the test tube 'C' take 5 ml of dilute NaCl solution. Slide two nails and close it.
- v) In the test tube 'D' add two pieces of anhydrous calcium chloride and cover it with thin layer of cotton. Again slide 3 nails and close it.
- vi) Leave these test tubes as such for 4-5 days and observe carefully in which of the tubes rust is formed.

Observations

- i) It is observed that rusting takes place in the test tube A and C where as not in B, D, and E.
- ii) Moisture, oxygen and carbon-dioxide present in air are responsible for rusting.
- iii) It appears that during a compound of iron is formed by the combination of iron oxygen, carbon-dioxide and water.

- iv) *It is observed that when the process was prolonged in the presence of moist air and acids, rusting spreads quickly.*

*Methods of Prevention*

- i) *Rusting of iron can be prevented by covering its surface with paints, grease and lacquers.*
- ii) *Galvanisation: This is one of widely practical methods used for the prevention of rusting. The layer of Zinc on the surface of iron, when comes in contact with moisture, oxygen and carbon-dioxide in air, ferrous a protective invisible thin layer of basic zinc carbonate  $ZnCO_3$ .  $Zn(OH)_2$  due to which the galvanised iron sheets lose their lustre and also tend to protect it from further corrosion.*
- iii) *Rusting of iron can also be prevented by coating its surface with iron (II, III) oxide  $Fe_3O_4$  or iron (III) phosphate  $FePO_4$ .*

*Conclusions*

- (i) *Rust is formed by prolonged action of water oxygen and carbon-dioxide on an iron under other suitable conditions.*
- (ii) *Moisture, Oxygen and carbon-dioxide present in air, all responsible for rusting.*

*Source : <https://pt.periodd.com/document>*

**Activity 2**

*Prepare a model report on any topic of your choice. Remember the salient features*

- 1. Features of a good report, namely, completeness, clarity and accuracy.*
- 2. Why do we write an Introduction and Objectives in a Laboratory Report?*
- 3. What is the difference between writing an Essay and a Laboratory Report? Why are the two forms of writing different?*
- 4. Consult any one of the books and select a task each on paragraph writing, essay writing and report writing.*

## 8.7.4 Teaching Study Skills

### *Taking notes*

Note taking is a very useful academic exercise because it allows one to keep a concise written record of what one has heard or read. It helps us to recall or review whatever we read or listened to. Most of us take notes when we are reading or listening to something important, and we tend to develop our own methods of note taking. Research shows, however, that if we learn to take notes *systematically*, following a *process*, we will understand and retain more information for later use.

The process of note taking begins even before we actually listen or read. People can take notes faster, and with better understanding, if they simply spend a minute thinking about the topic they are going to hear or read *before* the actual note taking begins. The process ends with the reconstructing of the text or speech from the notes.

*Summarizing (summarizing/concluding/synthesizing)*



Consolidation or summarizing requires the writer to combine information from various sources including prior knowledge. The reader determines what is redundant, trivial and repetitive and eliminates it. Then s/he creates a synthesis of the most important information.

### *Summarizing Texts*

A summary includes the most important points of the text. It should be brief (short). Furthermore, the summary is written in one's own words and contains only main ideas. It does not include explanations or examples. It requires students to paraphrase (use their own words) to explain the concepts, ideas or narrative around which the lesson was built. The main idea is written in their own language to enhance understanding and highlights the misunderstandings and misconceptions.

#### **Activity 5**

1. *What is difference between note-taking and note making? Give an example.*
2. *Prepare a task each on 'Note-making', and 'Summarizing'.*

## **8.8 FORMS OF WRITING**

The earlier section deals with different types of writing that we are required to undertake in our daily life. The author can choose from different forms to express his/her intent. The selection would depend upon what he/she wants to convey.

*This purpose is informed if certain questions are answered like:*

- *Why is the writing task being undertaken?*
- *Is it for **entertaining**?*
- *Is it for **informing** readers?*
- *Is it for **presenting one's point of view**?*
- *Is it for **persuading** the readers to accept one's points of view?*

Answers to the above questions influences the type of choices the writer makes of the form he/she wants to adopt. It means that the writer has **to choose the right manner** to express his/her intent. For example, the writer may have used the narrative form when expository perhaps would have been more effective on a given topic, in History or, the writer may have in a casual manner expressed his/her feelings when perhaps a lyrical or a poetic way would have given a lot of pleasure to the readers

Each form has a unique structure and it is important to know the distinctions between them. Let us look at some of them, which could be useful for our students.

### **8.8.1 Descriptive Writing**

Descriptive writing involves description of people, places, objects, or events using appropriate details. An effective description usually contains sufficient and varied

elaboration of details which are usually sensory and selected to describe what the writer sees, hears, smells, touches, and tastes. These paint a picture in the minds of the readers so that they become an integral part of the visual process. Word pictures created, makes writing more interesting, easier to understand and contributes and supports the topic the writer is describing. Use of these details also paint pictures of feelings and emotions.

### ***Example of descriptive writing***

In the following paragraph, observe how the writer moves clearly from a description of the head of the clown (in sentences two, three, and four), to the body (sentences five, six, seven, and eight), to the unicycle underneath (sentence nine). Notice also how the concluding sentence helps to tie the paragraph together by emphasizing the personal value of this gift.

#### ***A Friendly Clown***

*On one corner of my dresser sits a smiling toy clown on a tiny unicycle—a gift I received last Christmas from a close friend. The clown’s short yellow hair, made of yarn, covers its ears but is parted above the eyes. The blue eyes are outlined in black with thin, dark lashes flowing from the brows. It has cherry-red cheeks, nose, and lips, and its broad grin disappears into the wide, white ruffle around its neck. The clown wears a fluffy, two-tone nylon costume. The left side of the outfit is light blue, and the right side is red. The two colors merge in a dark line that runs down the center of the small outfit. Surrounding its ankles and disguising its long black shoes are big pink bows. The white spokes on the wheels of the unicycle gather in the center and expand to the black tire so that the wheel somewhat resembles the inner half of a grapefruit. The clown and unicycle together stand about a foot high. As a cherished gift from my good friend Tran, this colorful figure greets me with a smile every time I enter my room.*

*Source: [grammar.about.com/od/developingparagraphs/a/samdescors.htm](http://grammar.about.com/od/developingparagraphs/a/samdescors.htm)*

#### ***His First Flight***

*THE young seagull was alone on his ledge. His two brothers and his sister had already flown away the day before. He had been afraid to fly with them. Somehow when he had taken a little run forward to the brink of the ledge and attempted to flap his wings he became afraid. The great expanse of sea stretched down beneath, and it was such a long way down – miles down. He felt certain that his wings would never support him; so he bent his head and ran away back to the little hole under the ledge where he slept at night. Even when each of his brothers and his little sister, whose wings were far shorter than his own, ran to the brink, flapped their wings, and flew away, he failed to muster up courage to take that plunge which appeared to him so desperate.*



Source: *First Flight*, Textbook for English, NCERT, Class 10, Chapter 3

## 8.8.2 Expository Writing

Exposition refers to an act of explaining something or making clear. The aim of the writer in expository writing is not primarily to narrate or describe; it is mainly to explain – facts ideas or beliefs. The writer has to assume that the reader has no prior knowledge of the topic being described. Hence, every little detail has to be written. This type of writing is distinct in terms of purpose, design and function of language.

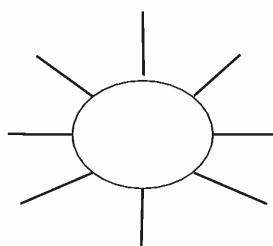
*Techniques which can be used in the writing expository text are:*

- *explanation of a process*
- *use of examples*
- *reasons in support of a statement*
- *comparison and contrast*
- *classification*
- *restatement*
- *definition*
- *analogy*
- *cause and effect*
- *analysis*

Expository writing involves different organizational patterns, some of which are graphically presented below. Look at an example of the text is presented, followed by the graphic, which would help you to retain the form of the different patterns of writing.

### Description

The Olympic symbol consists of five interlocking rings. The rings represent the five continents – Africa, Asia, Europe, North America and South America from where athletes compete in the various events. The rings are coloured, red, black, yellow, blue and green. At least one of these colours is found in the flag of the countries whose athletes come to participate in the games.



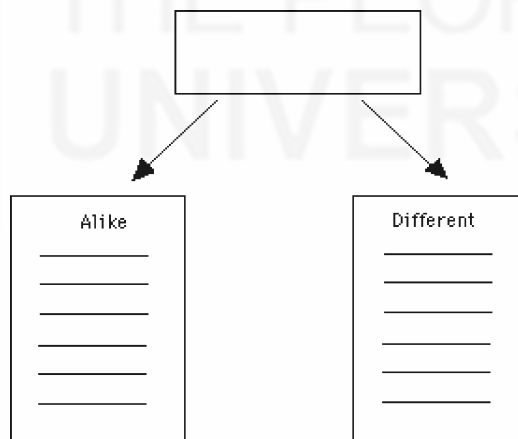
### Sequence

The Olympic games began as athletic festivals to honour the Greek Gods. The most important festival was held in the valley of Olympia, to honour Zeus, the kings of God. It was this festival that became the Olympic games in 776 B.C. These games were ended in 394 A.D. by the Roman emperor who ruled Greece. After that no Olympic games were held for 1500 years. Then the modern Olympics began in 1896. Almost 300 athletes competed in the first modern Olympics. In 1900, female athletes were allowed to compete. The games have continued every four years since 1896, except during World War II; and they will most likely continue for many years to come.

1. ....
2. ....
3. ....
4. ....
5. ....

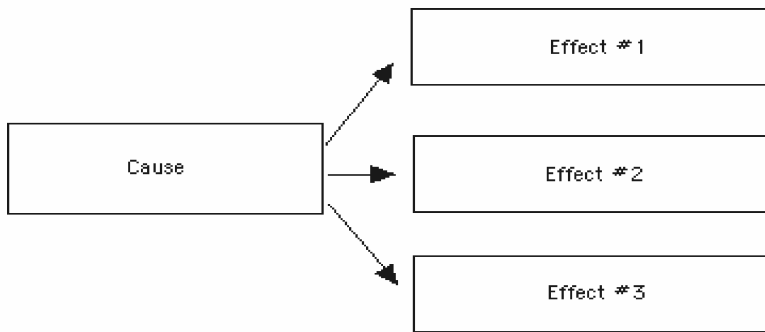
### Comparison

The modern Olympics is unlike the ancient Olympic games. Individual events are different. While there were no swimming races in the ancient games, there were chariot races. No female athletes competed in the games while all athletes were males. Of course, the ancient and the modern Olympics are also alike in many ways. Some events like the javelin and discus throw are the same. Today, people are of the opinion that cheating, professionalism and nationalism in modern games are a disgrace to the Olympic tradition. However, in the times of the ancient Greeks cheating, professionalism and nationalism was also rampant. Human beings evidently haven't changed.



### Cause and Effect

There are several reasons why so many people attend the Olympic games. Or watch them on television. One reason is tradition. The name Olympics and the torch and flame remind people of the ancient games. People can escape the ordinariness of daily life by attending or watching the Olympics. They like to identify with someone else's individual sacrifice and accomplishment. National pride is another reason an athlete's or a team's hard earned victory becomes the nation's victory. There are national medal counts and people keep track of how many medals their country's athletes have won.



### Problem and Solution

One problem with the modern Olympics is that it has become very big and expensive to operate. The city or country that hosts the games often loses a lot of money. Stadiums, pools and playing fields must be built for the athletic events; housing is needed for the athletes who come from all over the world. And all of these facilities are used for only 2 weeks! In 1984, Los Angeles solved these problems by charging a fee for companies who wanted to be the official sponsors of the games. Companies like McDonald's, paid a lot of money to be a part of the Olympics. Many buildings that were already built in the Los Angeles area were also used. The Coliseum, where the 1932 games were held was used again and many colleges and universities in the area became playing and living sites.



One can thus see that expository writing along with its different organizational patterns are being used in our daily life. Usually any article from a book, magazine or newspaper is of an expository nature where the objective of the author is to inform the reader of the topic being written. Even at schools, students have to submit assignments, which usually are of an expository nature. Therefore students need to be taught how to write this form of writing.

#### Sample of an Expository text

##### *Political Parties*

*In some countries, power usually changes between two main parties. Several other parties may exist, contest elections and win a few seats in the national legislatures. But only the two main parties have a serious chance of winning majority of seats to form government. Such a party system is called two-party system. The United States of America and the United Kingdom are examples of two-party system. If several parties compete for power, and more than two parties have a reasonable chance of coming to power either on their own strength or in alliance with others, we call it a multi-party system. Thus in India, we have a multi-party system. In this system, the government is formed by various parties coming together in a coalition.*



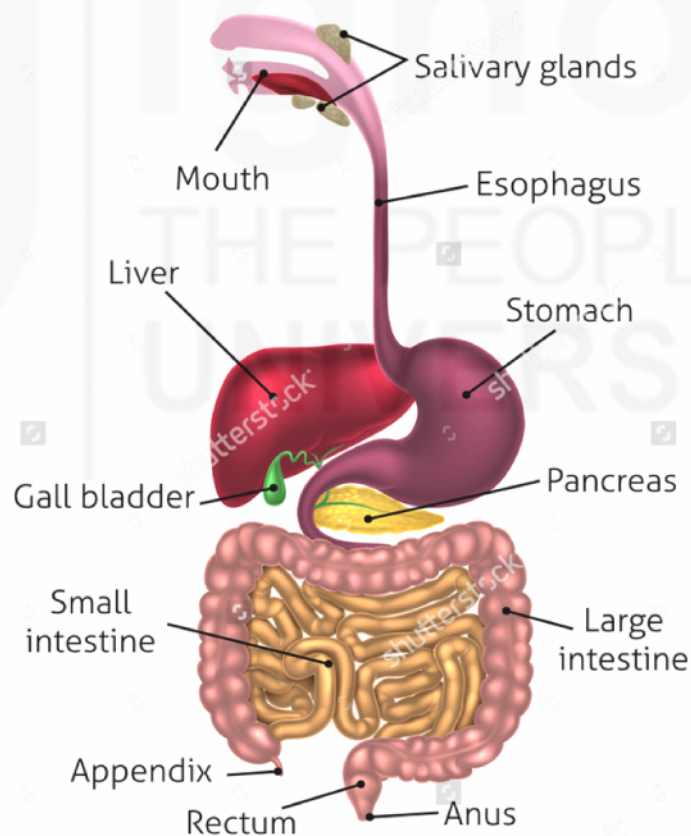
*When several parties in a multi-party system join hands for the purpose of contesting elections and winning power, it is called an alliance or a front. For example, in India there were three such major alliances in 2004 parliamentary elections– the National Democratic Alliance, the United Progressive Alliance and the Left Front. The multi-party system often appears very messy and leads to political instability. At the same time, this system allows a variety of interests and opinions to enjoy political representation. So, which of these is better?*

*Source: Political Parties, Chapter 6, p.77, Democratic Politics: Textbook in Political Science for Class 10, NCERT: New Delhi*

### Samples of cause and effect writings

#### Nutrition in Human Beings

*The alimentary canal is basically a long tube extending from the mouth to the anus. In the Fig. we can see that the tube has different parts.*



**Fig. : The alimentary canal**

<https://www.google.co.in/>

*We eat various types of food which has to pass through the same digestive tract. Naturally the food has to be processed to generate particles which are small and of the same texture. This is achieved by crushing the food with our teeth. Since the lining of the canal is soft, the food is also wetted to make its passage smooth. When we eat something we like, our mouth ‘waters’. This is actually not only water, but a fluid called saliva secreted by the salivary glands. Another aspect of the food we ingest is its complex nature. If it is to be absorbed from the alimentary canal, it has to be broken into smaller molecules. This is done with the help of biological catalysts called enzymes. The saliva contains an enzyme called salivary amylase that breaks down starch which is a complex molecule to give sugar. The food is mixed thoroughly with saliva and moved around the mouth while chewing by the muscular tongue. It is necessary to move the food in a regulated manner along the digestive tube so that it can be processed properly in each part. The lining of canal has muscles that contract rhythmically in order to push the food forward.*

*Source: Life Processes, Chapter 6, p. 98, Science for Class 10, NCERT : New Delhi*

### 8.8.3 Narrative

Narrative writing is an account of a sequence of events, usually in a chronological order. It can take various forms including personal essay, biographical sketches and autobiographies in addition to short stories and plays. This type of writing could also be purely objective as in most scientific and technical writing. It can be used by highly imaginative scientists, scholars and historians. Many historians narrate historical events, bringing the past to the present for the benefit of the readers.

*Adopting this form of writing, the author needs to bring to life his subject by*

- *using ‘Wh’ questions – who, what, where, when, why and how, which would make the basic story structure realistic and exciting.*
- *using concrete vivid language to show readers what is happening.*
- *using visual elements to involve readers*

### 8.8.4 Persuasive Writing

This type of writing is all about trying to convince the reader to change their opinions and sway them with logic, moral appeals, and emotional language. The author places an argument and then tries to convince the readers of the writer’s point of view. It also involves convincing the readers to perform an action. The elements that can build an effective persuasive paragraph are the following:

- establishing facts – to support an argument
- clarifying relevant values for the readers
- sequencing the facts and values
- forming and stating conclusions
- persuading readers that conclusions are based upon facts and shared values
- having the confidence to persuade

### 8.8.5 Argumentative Writing

bears similarity to persuasive writing. But there are distinct differences between the two, which are tabulated below:

Persuasive	Argumentative	
<ul style="list-style-type: none"> <li>Objective –</li> <li>present a valid argument and allow the reader to adopt a position either to agree or disagree with the writer’s position</li> <li>accept it as another point of view which merits further thought and discussion</li> </ul>	<ul style="list-style-type: none"> <li>Objective –</li> <li>to ‘win’ the reader over to the author’s side</li> </ul>	1
Both side of the issue is presented – one to substantiate one’s own position and the other to refute the opposing	Only one side of the issue is presented/debated	2
Statement is made, followed by claims and counterclaims	In organization, basic essay format is followed	3

### 8.8.6 Argumentative essay

An argument has two parts: a claim (an idea, an opinion or a point of view) and b) support (reasons, assumptions) and evidence (facts, data, examples). For an argument to be acceptable, the claim should be supported with evidence. Argumentative essays seek to discuss issues by providing plausible opinions on a subject. The writer of the argumentative essay includes data/evidence to support his or her views on the subject. This means the writer has to consult reliable sources of information and become knowledgeable about different sides of the issue. He or she also needs to use persuasive language to convince readers that the writer’s views are the most plausible.

***How can I effectively present my argument?***

*Use an organizational structure that arranges the argument in a way that will make sense to the reader. The **Toulmin Method** of logic is a common and easy to use formula for organizing an argument.*

*The basic format for the Toulmin Method is as follows.*

***Claim:*** *The overall thesis the writer will argue for.*

***Data:*** *Evidence gathered to support the claim.*

***Warrant (also referred to as a bridge):*** *Explanation of why or how the data supports the claim, the underlying assumption that connects your data to your claim.*

***Backing (also referred to as the foundation):*** *Additional logic or reasoning that may be necessary to support the warrant.*



**Counterclaim:** A claim that negates or disagrees with the thesis/claim.

**Rebuttal:** Evidence that negates or disagrees with the counterclaim.

Including a well-thought-out warrant or bridge is essential to writing a good argumentative essay or paper. If you present data to your audience without explaining how it supports your thesis your readers may not make a connection between the two or they may draw different conclusions.

Don't avoid the opposing side of an argument. Instead, include the opposing side as a counterclaim. Find out what the other side is saying and respond to it within your own argument. This is important so that the audience is not swayed by weak, but unrefuted, arguments. You may want to include several counterclaims to show that you have thoroughly researched the topic.

Example:

**Claim:** Hybrid cars are an effective strategy to fight pollution.

**Data 1:** Driving a private car is a typical citizen's most air polluting activity.

**Warrant 1:** Because cars are the largest source of private, as opposed to industry produced, air pollution switching to hybrid cars should have an impact on fighting pollution.

**Data 2:** Each vehicle produced is going to stay on the road for roughly 12 to 15 years.

**Warrant 2:** Cars generally have a long lifespan, meaning that a decision to switch to a hybrid car will make a long-term impact on pollution levels.

**Data 3:** Hybrid cars combine a gasoline engine with a battery-powered electric motor.

**Warrant 3:** This combination of technologies means that less pollution is produced. According to ineedtoknow.org "the hybrid engine of the Prius, made by Toyota, produces 90 percent fewer harmful emissions than a comparable gasoline engine."

**Counterclaim:** Instead of focusing on cars, which still encourages a culture of driving even if it cuts down on pollution, the nation should focus on building and encouraging use of mass transit systems.

**Rebuttal:** While mass transit is an environmentally sound idea that should be encouraged, it is not feasible in many rural and suburban areas.

**Source:** <https://owl.english.purdue.edu/owl/resource/588/3/>

### Activity 7

1. Write why the following description is not very effective:

*My favourite city is Madras. I was born and brought up there. I have many friends there. It is a wonderful city. I feel happy whenever I return to Madras after a long trip. Madras is the capital of Tamil Nadu. It lies on the shore of Marina Beach. .*

2. Think of at least 5 interesting topics on which you could ask your students to write a narrative:e.g., a historical event, a cyclonic storm, a tennis match, etc.
3. Prepare a lesson plan for teaching your students develop the skill of argument in writing. You could plan around the following topics:  
Capital Punishment, Adult Franchise, etc..

### 8.8.7 Essays of Definition

This type of essay seeks to clarify a particular term, concept or idea. Essays of definition provide answers to various questions including what, how, why and when, so as to provide a complete understanding of the subject.

---

## 8.9 DISCIPLINE-BASED WRITING

---

Why should teachers from all disciplines encourage writing in their courses? As discussed earliest, the answer is because writing is intimately connected with two fundamental processes – thinking and communicating. Requiring students to write about the content of academic courses is a way of getting them to think about the contents in an active manner, instead of passive memorizing or textbook underlining.

### *Writing in different disciplines*

What does writing in specific disciplines entail? Writings in Physics have a style very different from those in Economics, and both differ from writings in English literature. These differences are much more than the obvious differences in content or subject matter. The differences are in terms of the appropriate structure and organization of the writing, what counts as legitimate evidence for knowledge and appropriate voice, tone and style.

### 8.9.1 Writing in Mathematics

O'Halloran (2005, p.80) explains the nature of mathematical discourse as “**multi-semiotic**”, based on three semiotic systems performing three different functions, natural *language* contextualises and describes the problem; *symbolism* is used for the solution of the problem, (e.g.,  $y - 0 = 2(x - 1) - y = 2x - 2$ ) and *visual images* which describe the problem graphically or visually.

#### *Multiple semiotic systems*

- Mathematics symbolic notation
- oral language
- written language
- graphs and visual displays

Grammatical patterns

- technical vocabulary
- dense noun phrases
- being and having verbs
- conjunctions with technical meanings
- implicit logical relationships

Source:file:///C:/Mary%20J%20Schleppegrell.pdf

Writing in math class facilitates learning because through writing tasks, students organize, clarify, and reflect on their ideas.

Reflective Writing in Mathematics helps to

- build deeper understanding
- think through different ways to solve a problem
- explain a solution method
- justify a solution or explanation
- decide what to do next
- identify what you wonder about
- make connections to prior knowledge
- consider how confident you feel about your solution path

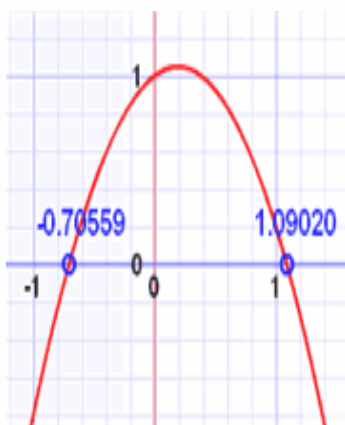
Source: The Critical Thinking Consortium: Tools for Thought

Sample of writing in Mathematics

About the Quadratic Formula

Plus/Minus

First of all what is that plus/minus thing that looks like  $\pm$  ?



The  $\pm$  means there are TWO answers:

$$x = (-b + \sqrt{b^2 - 4ac})/2a$$

$$x = (-b - \sqrt{b^2 - 4ac})/2a$$



Here is why we can get two answers:

2. Solve the following word problems:

a) When 9 is subtracted from a number and then divided by 2, the answer is 4. What is the number?

The number is .....

### ***Teacher's role***

According to Sipka (1990), several strategies can be used for Mathematics writing. 'Free write' is a strategy in which students simply write without any plan or structure (Sipka, 1990). For this activity, general topics can be given to students such as favourite topic in mathematics and the reasons for it, etc. Another unusual informal writing assignment is the *mathematics autobiography* (Sipka, 1990). In this assignment students describe their experiences with mathematics, about their anxieties, fears or confidence in doing Mathematics. The teacher, in this way, gets an insight into the attitudes and beliefs of students about mathematics.

Use of **Journals** is yet another way of promoting writing in mathematics. Keeping a separate journal for mathematics can be motivating for students. Teachers can facilitate student writing in the journal with the help of the following prompts:

- **Prompts That Assess Attitudes:** Students write about their personal thoughts and feelings about math. Examples: *When it comes to math, I find it difficult to..., I love math because..., People who are good at math..., and When I study for a math test, I...*
- **Prompts That Assess Learning:** Students write about what they've learned and reflect on what they know (and don't know). Examples: *The most important thing I learned today is..., I could use today's skill in my real life when I..., Today I used math when..., At the end of this unit, I want to be able to..., and Some good test questions for this skill are....*
- **Prompts That Assess Process:** Students explain how to solve problems or discuss a particular skill or strategy. Examples: *Two ways to solve this problem are..., I knew my answer was right when..., Another strategy I could have used to solve this problem is..., If I missed a step in this problem, I could have..., and The most important part of solving this problem is to remember....*

Source: <http://thecornerstoneforteachers.com/free-resources/math/math-journals>

## **8.9.2 Writing in Science**

*For scientific writing to permit the close and independent scrutiny required by the scientific community, it must be both clearly written and easily read. Successful scientific writing therefore, is centred on the reader. To this end, it helps to look at scientific writing as both a product and a process – the production of highly structured documents through a systematised process. (Goldbort, 2001: 22)*

Science as a discipline is multi-modal. That is, it involves the negotiation and production of meanings in different modes of representation. These modes are descriptive (verbal, graphic, tabular), experimental, mathematical, figurative (pictorial, analogous and metaphoric), and kinaesthetic or embodied gestural representations

of the same concept or process. It is argued that new scientific understandings are generated through multiple representations of ideas, affective responses and evidenced based judgments (Tytler, 2007).

Source: <http://andyrunyan.pbworks.com>

**Scientific Genres:** There are five main genres of writing in science (narrative, description, explanation, instruction, and argumentation). Of these, narrative writing is used the least in science.

- **Description** involves personal, commonsense, and technical descriptions, as well as informational and scientific reports and definitions. Descriptive writing will often be structured by a chronological series of events; scientifically established classification strategies, systems, taxonomies; or accepted reporting structures of information (who, what, when, where, and why).
- **Explanation** involves sequencing events in a cause-effect pattern. Explanations attempt to link established ideas or models with observed effects (if...then).
- **Instruction** involves ordering a sequence of procedures to specify a manual, experiment, recipe, or direction. Instructions can effectively use a series of steps in which the sequence is dictated by tested science.
- **Argumentation** involves logical ordering of reasoning to persuade someone in an essay, debate, report, or review. Arguments attempt to establish the boundaries and conditions of the issue and then to logically discredit opposing viewpoints in order to support their own, or establish alternative interpretations.

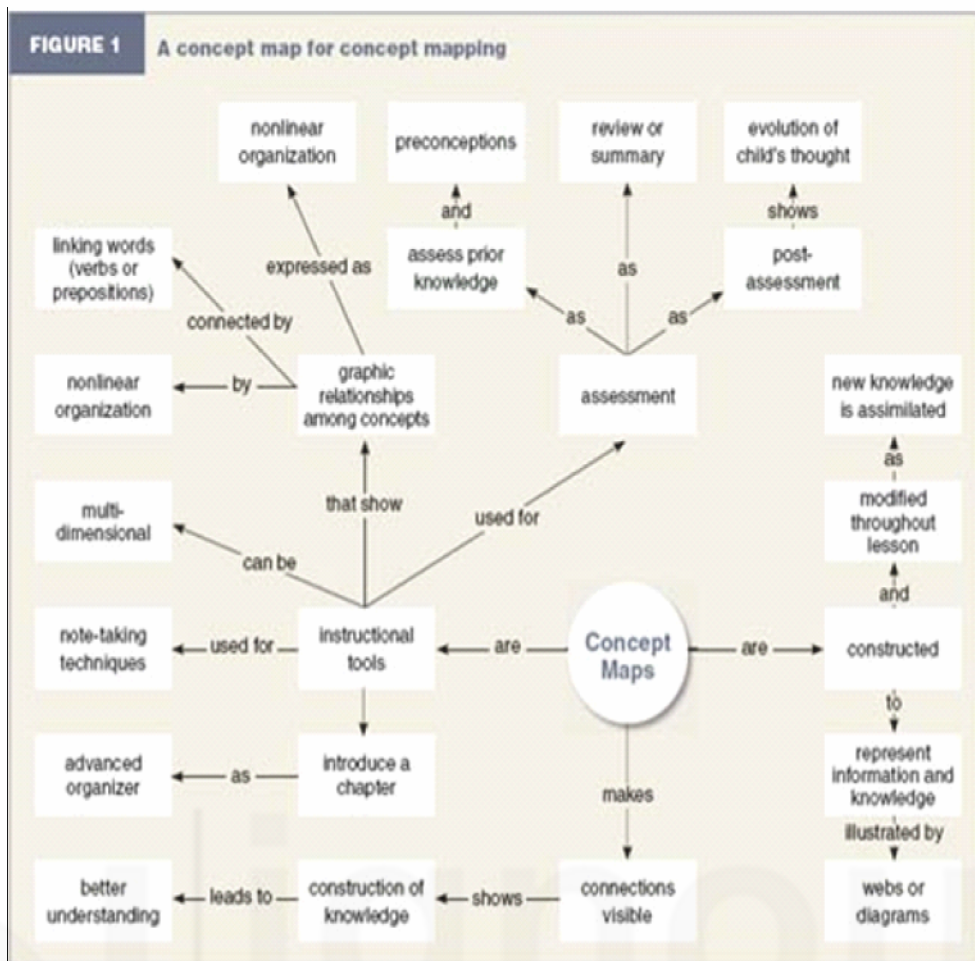
**Note:** Genres are flexible, and the writer has to know enough about each one to address the function or purpose of the writing. (Yore 2000)

### **Teacher's role**

There is enough research evidence to suggest that students clarify their thinking and discover new ideas by writing about science topics (Butler, 1991; Halliday, 1992; Rivard, 1994,). Usually, students select a topic, recall understanding, draft a product, and produce a final piece. Science writing strategies include effective use of the dual nature of science language (Mathematics and English), graphic displays of data, scientific terminology, scientific metaphors, visuals, and the alignment of genre, purpose, language, and audience.

**Principles that should guide the development of writing-to-learn tasks in science:**

- *Keep science content central in the writing process.*
- *Help students structure and synthesize their knowledge.*
- *Provide a real audience for student writers that will “value, question, and provide supportive criticism.”*
- *Spend time prewriting, collecting information from various sources, sharpening focus, and planning strategically.*
- *Provide ongoing teacher support, guidance, and explicit instruction.*
- *Encourage revisions and redrafts based on supportive criticism to address conceptual questions and clarify misunderstandings.*
- *Clarify the differences between revision and editing.*



Source: Yore, *Enhancing Science Literature for all Student*

The following activities could be used for writing-in-science:

- **Descriptive Essays** in which students are asked to explain a science concept (e.g., cell division, photosynthesis) in depth.
- **Project-based activities** involving collaboration and generation of new ideas;
- **Notes based on field trips** where students record their observations of the natural world, flora and fauna.
- **Logs** in which students report their experiments conducted in the laboratory are different from Lab Reports. Log entries focus on the observations, hypotheses, methods and findings. The problems experienced and mistakes committed while conducting the experiments are also recorded.
- **Science diaries** to record the experience of participating in science quiz, exhibitions and competitions.
- **Letters to newspaper editors**, members of local community, political leaders, in which students write about contemporary and popular stories and topics for raising issues and/or attracting attention.

### **Use of Concept Maps in writing**

**Concept maps** show the links between ideas in your **writing**. They can help learners avoid **writing** that lacks clarity and cohesion. Concept maps are a graphical representation of sub concepts to a main topic or central concept, they are

structured hierarchically and show relationship between concepts with linking words. Teacher models how to create a concept map using everyday science examples (buoyancy, water cycle, photosynthesis, mass and matter, etc.)

Source: <http://www.nsta.org/publications/news/story.aspx?id=53174>

How are concept maps made?

When constructing a concept map, follow these four simple steps:

1. Place the main topic or idea at the top or center of the page.
2. Organize the subtopics in order from the most general to the most specific.
3. Use a linking word in the form of a preposition, verb, or short statement to connect the relationship of one concept (or term) to another.
4. If applicable, add crossing links to show connections and relationships between different words on the map (Llewellyn, 2002).

### 8.9.3 Writing in Social Science

Social Science writing combines the characteristics of writings in science and humanities. For example, in Geography, the use of graphs, diagrams and maps in combination with the text makes it closer to natural sciences which are objective in nature and ‘fact’ driven. However it is not possible for social scientists to observe social institutions, social behaviour and social trends under a microscope, in the way as scientists observe the structure of a cell or a leaf. Since Social Sciences study the human aspects of the world which are unpredictable and subject to change, writing in the social sciences is often about presenting arguments with evidence, persuasion, analysing and questioning presumptions underlying different theories, etc. Writings in social science are in the form of ‘*discussions*,’ ‘*analysis*,’ ‘*explanations*,’ etc., each one of which has specific purpose. In the discussions format, arguments are built logically and need to be defended. There is often an overlap between “analyze” and “discuss.” Analyzing a given topic involves breaking an argument down to understand and question its underlying assumptions and premises and critically interpreting it in one’s own words. Similarly, “compare and contrast” writings highlight the points of similarities and differences between the authors/social scientists.

---

## 8.10 ‘WRITING TO LEARN’ CLASSROOM

---

**“Free writes”** The objective is to use writing to activate prior knowledge and generate free ideas to help build student understanding around a concept disregarding grammar, spelling, punctuation, and the like. Some hints are:

“Write down all the important points you remember from yesterday’s discussion discussion.”

“From what you recall from lab report, write down what is to be done in lab today, any procedures that confuse you, and what the experiment is expected to create or show.”

You write three key words on the board from the last class or reading and ask students to explain their importance prompt, or use of data in a meaningful way..

## Writing Prompts

Using the following prompts helps students to write with a sense of purpose:

Can you think of an example to prove the statement that \_\_\_\_\_?

Someone who has a different opinion on this might say \_\_\_\_\_. How will you counter that argument ?

I am not very clear by what you when you write \_\_\_\_\_. Can you please reword it?

What makes you think so? “Whether it’s a poem or a mathematical or science phenomenon, a teacher can ask questions like ‘What do you notice? What does that make you think of? Why do you think so? How did you observe that?’”

### Students write technical terms into their own words.

Teacher ask the students to translate the science social science, terminology and concepts they’re learning into their own words to understand, clear their misconceptions and write in their own words. This can be done through writing assignments, activities, and discussions.

### Predict and Write ! \*

Teachers can use this strategy to have students predict and write before doing experiment and observations, for example, teacher can ask, what happens to mass during a chemical reaction, whether the mass would increase or decrease, and why, under what conditions will seeds sprout and become saplings/etc.

### The One-Minute Paper

**This** is an exercise which usually requires three to five minutes. Students are asked to summarize the “most useful ” or “most useful” point(s) they learned from the day’s lecture, reading assignment, laboratory, or discussion. Textbooks are kept closed. Students get an opportunity to activate their prior understandings.

### One-Sentence Summaries\*\*

As an in-class activity or a short homework assignment, students answer these questions on a specific topic in one (long) grammatical sentence: Who Does/Did What to Whom, How, When, Where, and Why? (WDWWHWW) The topic may be a historical event, the plot of a story or novel, or by substituting another What for Who/ Whom, a chemical reaction, a mechanical process, or a biological phenomenon. This technique makes students distill, simplify, reorganize, synthesize, and “chunk” complex material into smaller, essential units that are easier to manipulate and remember.

---

## 8.11 LET US SUM UP

---

In this unit we have discussed that writing is a learning tool and explored the relationship between writing and thinking. Looking at writing as a process helps develop ideas and enables us to discover what we think. Writing becomes a process of making meaning across the curriculum. We must remember that every writing has a sense of purpose and that writing is a process, comprising of

---

\* <https://www.edutopia.org>

\*\* <http://www.lander.edu>



interrelated stages including negotiations with peers, teachers and readers. Writing is intimately connected with two fundamental processes – thinking and communicating. When students write in subject specific disciplines, they think about the contents in an active manner, instead of passive memorizing or textbook underlining. Active, critical thinking requires higher-level intellectual skills such as the understanding of concepts, the analysis of information, the evaluation of evidence, and the construction and testing of hypotheses. If teachers want students to think about the contents of their course, the students should be given opportunity to write, and thinking will be hard to avoid. When thoughts are written down, ideas can be examined, reconsidered, added to, rearranged, and changed. In this lies the essence of all teaching and learning.

---

## 8.12 REFERENCES AND FURTHER READING

---

Duke, C.R. & Sanchez, R. (2001), *Assessing Writing Across the Curriculum*. US: Carolina Academic Press

Peterson, S.S. (2008), *Writing Across the Curriculum: All Teachers Teach Writing*. Canada: Portage Main Press

Tickoo, M.L. (2003), *Teaching and Learning English*. New Delhi: Orient Longman.

Murry, D.H. (1982), *Learning by Teaching*, Montclair, NJ: Cook

Graves, D.H. (1991), *Build a Literate Classroom*, Portsmouth, NH: Heinemann

<https://writingcommons.org/writing>

<https://andyruayan.pbworks.com>.

<http://orelt.col.org/modules/unit.4>

<https://issues.com/rachidnaj/docs/teaching>

<https://pt.scribd.com/document>