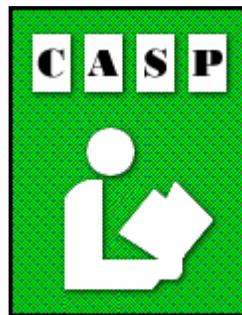


ACADEMIC STUDIES

ENGLISH

**Support Materials and Exercises
for**

CLEAR THINKING



SUMMER 1999

CLEAR THINKING
ACADEMIC ENGLISH

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PURPOSE

The purpose of this unit is to help the learner think clearly when reading, writing, speaking, or listening.

OBJECTIVES

Upon successful completion of this unit, the learner will be able to

1. recognize and differentiate between clear and faulty thinking.
2. use clear thinking to create effective communications.

TEACHING POINTS			Level
Types of Information	1	Facts - provable - objective	7
	2	Types of facts: definitions	7
	3	observations (how to prove)	7
	4	Opinion - not provable - subjective	7
	5	Slanted - intentionally manipulative	7
Identifying	6	Circular arguments	7
	7	Generalizations: all, none, everyone	7
	8	Connotative language: lady/woman/hag; steed/horse/nag	7
	9	Propaganda	7
	10	Loaded words: Nazi, white-collar	7
	11	Faulty logic	7
	12	Opinions disguised as facts	7
Note: Using specific language, up-to-date information, fair sources, and citing sources will promote effective communication and clear thinking.			

NOTE TO FACILITATORS AND LEARNERS:

1. This module presents information and exercises on thinking strategies to accompany the objectives of IAU-ENG 1.4, Clear Thinking.
2. Facilitators are free to use any support materials appropriate to their learners' needs.
3. Additional resource materials will probably be required for those wanting more information on this topic or for those needing more practice mastering certain areas. Most texts on writing can provide additional useful material.
4. Alternate support materials may be appropriate. The Internet provides a wide variety of material on logic and reasoning, including good practice work.
5. Learners should be familiar with the basics of Communication Theory as presented in IAU Writing Paragraphs and Writing Longer Essays.
6. Terminology differs widely in discussions of reasoning and logic. Facilitators and learners should be aware that many of the same errors in reasoning bear many different names.
7. Learners should participate in a variety of activities on a daily basis throughout their studies that challenge their thought processes and encourage them to make clear thinking an automatic response.
8. Learners should be aware that all the methods of development presented in the writing section of this program are examples of logical ways to present information both factual and persuasive.
9. It is the learner's responsibility to search out additional material to supplement the practice work included in this module by consulting with his/her facilitator.
10. Do NOT write in this module. Please make your notes and complete the exercises in your own notebooks so that other learners may also use these booklets.

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CLEAR THINKING

How many times a day do you think? This is an interesting question with at least two quite different answers.

First, you think all the time. Studies show that the brain is always functioning because scientists can identify its electrical impulses, even when a person is asleep. Thinking is a natural ability and so basic to being alive that most of it happens almost automatically. Mental images flow through your mind all the time. You feel cold so you get a sweater; you see a magazine ad for lemonade and get a drink; you hear a new tune and then buy the CD the next time you are at the mall. Thoughts have gone through your mind since the moment you were born, and even, perhaps, before that. They are effortless and constant. This kind of thinking is the process that goes on all the time as your brain decodes and organizes information gathered from each tiny event in your lives.

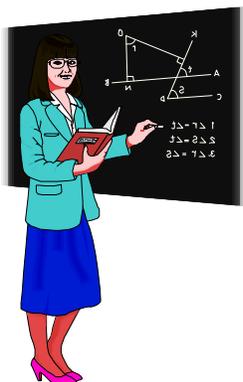


In order to think, the brain needs information and gets it through sensory input. Raw unprocessed information about everything is delivered to us through our eyes (sight), our ears (sound), our noses (smell), our mouths (taste), and our skin (feel). These organs then transmit the information to the brain through our nervous system where it is decoded into thoughts which can be stored as memory or translated into actions. We perform thousands of actions and make hundreds of decisions every day, yet we do them so automatically and naturally that we are not really aware of “thinking”.



The second answer to the question about how often you think is that you may think five or six times a day, or perhaps not at all. This kind of thinking is more active and requires a *conscious* effort to

gather information, organize it logically, evaluate it critically¹, and then create a appropriate response based on your knowledge and experience. Active thinking is hard work, especially at first, but it is an essential skill to develop if you want to live successfully and avoid costly mistakes.



Thinking is rarely taught directly in schools, but every course you have ever taken, or will ever take, is really about how to think and use specialized information in a way that will help you master the world around you. In an English program, when you learn about writing and speaking, you are learning how to organize and encode your thoughts so that others can share your thoughts, what is going on in your head. Instruction in reading and listening give you strategies to decode the messages that others send you about the thoughts in their heads. In math class, you learn new ways to combine and think about numbers; in science, you gather information about the natural world and think about how one thing influences another.

Learning to think clearly begins by being aware of your thought processes as they happen and then understanding that you can develop strategies and techniques to control, direct, and organize your experiences to make your life more manageable and less a question of luck.

This module presents some basic principles about how active thinking works and suggests a number of strategies you can use to make your own thought processes more effective and efficient.

EXERCISE 1

As you both read and answer the questions below, try to be aware of your thoughts, feel your brain in action.

11. In your notebook
 - (1) write your name
 - (2) print your address
 - (3) record your phone number.

¹ Make a judgement about it. (E.g., Is this information accurate? Is the source reliable? What will happen if I.....?)

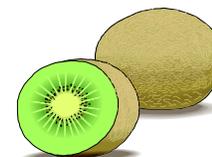
12. In your notebook, record exactly what you ate for supper last night.
13. When was the last time you saw a raccoon?
14. Make a map to show a stranger how to get from your classroom to your home.
15. What thoughts did you have as you answered questions 2, 3, and 4?
16. Two people each earned \$28 dollars a day. How much would they have, in total, at the end of the day? If they decided to give 50% of their total wages as a single donation to charity, what amount should be written on the receipt?



EXERCISE 2

Being aware of your thought processes is the first step to learning how to control and improve them. As you do the following exercise, try to “feel your brain working”. If other students are working on this module at the same time as you are, you can do this exercise as a group activity.

1. From the grocery store, get a fruit or vegetable that you are unfamiliar with. Examine it closely from the outside, using all five senses. Describe its colour. Listen to it. Thump it. Feel its texture. Smell it and taste it. Record your impressions as specifically as possible. Cut the fruit (or vegetable) into sections and investigate all its parts carefully, using your five senses. Record what you experienced.
2. Imagine that you have just won a 2 week, all expense paid, holiday for 4 people to Egypt. Make a list of all the decisions and planning you will have to do before you leave. Be aware of what your thoughts are as you identify these.
3. Remember one moment in your life when you experienced a strong emotion (happy, sad, frustrated, angry, etc.). Try to remember it vividly by recalling sights, sounds, smells, tastes, and textures. Record your memories.
4. Listen to a piece of music and visualize what it makes you think of. Draw pictures of what passes through your mind as you listen.
5. Plan a special meal to celebrate a special occasion in your life. Record everything you can think of including location, colour scheme, dishes, foods, wines, guests, etc. Pay attention to how your brain is working as you plan.



6. Write your own definition (description) of thinking once you have completed these activities.

COMMUNICATION = THINKING

Thinking is at the centre of all communication, both sending (speaking and writing) and receiving (listening and reading). If you haven't completed the section on Basic Communication Theory in Writing Paragraphs, you should do so before continuing with this module.

As the receiver of a message (communication), your brain decodes the raw information, that your senses perceived, into thoughts you can understand and respond to. Your goal as a receiver should always be to make the thoughts in your mind as close as possible to the thoughts in the sender's mind. On the other hand, the sender must think clearly about how to transmit his/her thoughts, so that the message sent is similar to, if not exactly equal, to what is in his/her mind. The effectiveness of a "sent message" relies entirely on the thoughts that go before it; the full understanding of a "received message" depends on the thoughts that follow it.

As a learner, you are in the business of gathering information. In other words, a lot of the learning process has to do with receiving messages, combining them with information you already possess, and then storing the results in your memory so that what you have learned will be useful to you².

There is, however, one additional step: evaluating the information you gather. In the best of all possible worlds, this would not be necessary as everything you were exposed to would be "true". Unfortunately this is not always the case, so you must be able to distinguish between *fact* and *opinion*.

² (When you do a test, you become a sender who presents what he/she has learned so that your facilitator can make sure that your thoughts and ideas match the ones you were supposed to learn.)

Facts are always provable. For example, the statement that Fredericton is the capital of New Brunswick is a fact. It is provable by reading documents in the NB legislature from the time the original decision was made. You don't always have to go back to the original source to prove a fact. If you find the information in a reliable book or from a reliable authority, you are safe to assume it is correct and that someone else somewhere along the line has actually taken the time to prove it. Before you rely on a piece of information, it must be provable and/or from a good source.

Opinions, on the other hand, reflect personal beliefs and are not provable. *This apple pie is better than the last one. She is really pretty. Lawyers are just out to make big bucks.* These are all opinions. Someone else might have tasted the same pies, seen the same girl, or had a different experience with the legal profession and had another opinion. Here's another opinion: She is really rich. Depending on the amount of money she has, she might be considered *rich* by some and poor by others.

Opinions are not necessarily bad, but they can have a bad effect if you use them as a starting place for your own thinking. Imagine that you want to start your business but you need a partner. You think Suzanne might make a good partner because she is an energetic person with a good personality. Then Fran says, "She's obviously poor. Just look at the tiny little house she lives in." As a result, you don't even talk to Suzanne about going into business together. You based your decision on Fran's opinion and not facts. Perhaps Suzanne has money but just doesn't show it. Maybe she has a rich uncle who would lend her the money or she may even be about to inherit some. Maybe Suzanne has something else to offer, like direct retail experience, that would be more valuable than money.

The first rule of clear thinking is to be sure to start with facts and not opinions and to be able to tell the difference between the two. Opinions often look like facts, so take the time to think about whether the information is provable, comes from a reliable source, or is really related to the problem you are considering.



EXERCISE 3

Identify each of the following statements as fact or opinion.

1. It snows more in Bathurst than in Moncton.
2. In 1996, the population of Fredericton was almost 50,000.
3. Ford trucks are a better buy than Chevys.
4. Mark said that the climate is nicer in New England.
5. That teacher is always mean to me.
6. Halifax was founded in 1749.
7. She is smarter than I am.
8. Capital punishment is cruel and inhuman.
9. It's alright to phone in sick when you have an out of town appointment.
10. Paul is a better ball player than his brother.

OBJECTIVE VS. SUBJECTIVE MESSAGES

When you receive a written or spoken message that contains only facts, it is said to be *objective*. Objective information is important to making good decisions and for effective learning. If the information contains even one opinion, it is called *subjective* because the sender has included his own thoughts, opinions, or reflections.

News reports are supposed to be objective sources of information and facts, so that readers can make up their own minds. In a newspaper, however, some sections do contain subjective information: editorials, advertising, feature stories, columns. As you read, you need to be clear about whether the writer is being subjective or objective. Then you can decide what material you can take at face value and which requires evaluation, or thought about its reliability.

Expository writing can be either informative or persuasive³. Informative essays must be *objectively* written and include only provable facts. There is no room for the writer's opinions in this kind of prose. On the other hand, persuasive

³ See Writing Paragraphs, Writing Longer Essays, and Writing Informal Reports

presentations are largely *subjective*⁴ because they contain lots of opinions in their attempt to persuade the reader to accept the writer's point of view, or opinion. As a clear thinker, your first job is to decide whether the information you are using is informative (objective) or persuasive (subjective).

When reading or listening to persuasive material, it is essential to separate the facts from the opinions so that you can form your own opinions based on facts. Clear thinkers are independent people who are never swayed by someone else's opinions.

REASONING

Reasoning is another word that relates to thinking. When you combine two or more thoughts to reach a conclusion, you are reasoning. For example, you have \$3.67 in your pocket. Apples are \$0.79, a sandwich is \$2.50, and a pop is \$1.10. You figure out that you can have any two of the three items, but not all three. Here's a more useful example. Phillip has just seen the most terrific sound system for \$1,600. Everyone Phillip knows has a good system and he really wants one too. After all, he deserves something nice. The price is \$175 less than Phillip has seen advertised anywhere else, so he thinks about finances and compares his monthly budget to the down payment of \$239 plus \$75 for 24 months, and decides to buy the system "on time". Phillip couldn't be happier until, later, when he sits down with the numbers and realizes that he has just paid \$2039 for a \$1600 system, that's almost 28% more than if he had paid cash. He then realized that he didn't get all the facts and let his emotions influence his decision. What happened is that he really put the wrong thoughts together. (1) I want this. (2) It's cheaper than ever before. (3) I have the down payment and I can probably come up with \$75 a month. The truth is that Phillip may have ended up with a good entertainment system, but he didn't realize that he would be eating Kraft dinner for the next 104 weeks.

There are two basic patterns of reasoning. As your brain processes thoughts, it actually combines ideas (new and old) in one of two ways, called reasoning. The first way, *inductive reasoning*, involves gathering small details and then making a general conclusion about their combined or overall meaning. For example as you

⁴ Persuasive essays also contain objective facts. Often, the more provable facts you insert, the more effective you will be in persuading an audience to accept your point of view.

are driving, you see a series of long skid marks, then broken glass and metal, and finally a deer carcass on the side of the road. What conclusion can you come to? By putting the details together, you decide that a car has hit and killed a deer.

INDUCTIVE REASONING: (*Specific details infer a conclusion*)

<i>Skid marks</i>		<i>broken glass</i>		<i>deer</i>		<i>accident</i>
DETAIL	+	DETAIL	+	DETAIL	=	CONCLUSION

Inductive reasoning starts with observations and then moves towards a theory.

The second kind of reasoning is called ***deductive reasoning***. Deductive reasoning means that you start with a general idea and then you figure out what the specific parts or details have gone (or should go) together to create this situation. Sherlock Holmes, the famous fictional detective, was famous for making deductions about criminals based on tiny pieces of evidence left at the scene. For instance, you come home to find the glass broken in your front door just above the door handle. What can you deduce from this? Someone has probably broken in; some of your things have been stolen; you should not enter your home because they might still be there; you need to call the police.

DEDUCTIVE REASONING: (*A general premise suggests particular details*)

<i>Broken glass</i>		<i>break in</i>		<i>robbery</i>		<i>police</i>
CONCLUSION	=	DETAIL	+	DETAIL	+	DETAIL

Deductive reasoning starts with a theory and moves towards details that support it.

EXERCISE 4

Solve the following problems. Did you use deductive or inductive reasoning?

1. When you come home from school, you notice your partner looking through boxes in the garage. When you get into the house, you notice a half-filled picnic cooler on the counter, old jeans and shirts draped over a chair. In the dining room, you find a pair of hip waders, and in the front hall, several fishing rods are propped up in the corner. A) What is happening? B) At what point were you sure? C) What kind of reasoning lead you to this conclusion? D) Are there any other possible conclusions? E) What are they?
2. You have a basement apartment to rent. A man dressed in jeans, a freshly ironed shirt, and deck shoes comes to see the apartment. During the conversation, he tells you that he is about to start a course at NBCC. You decide not to rent to him because college students are notorious for wrecking apartments. A) What kind of reasoning did you use? B) Was it reasonable? C) What was wrong with your reasoning?
3. When the police investigate the break-in at your house, they discover a match book with the advertising that reads *McGuinness's = Beer and Billiards: The Perfect Partners*. Neither you nor any of your friends smoke. A) What conclusions might they reach about the thief? B) What kind of reasoning would they be using? C) Would their conclusions be correct?
4. Your seven-year-old comes home with a black eye and then eats a huge snack because he says he is really hungry. Later, he asks for two lunches for tomorrow. A) What conclusion might you reach? B) What kind of thinking is this? C) Are you conclusions necessarily accurate?

LOGIC

One last term is important in the discussion of reasoning and that is **logic**. Logic is the science which deals with deciding whether a conclusion is valid. In its pure form logic has very strict rules which are put together into **syllogisms**. You must begin with a **major premise**, a general rule that is always, *or almost always*, true. Then you add a **minor premise**, or statement that is true of a specific case.

Finally, you reach a *conclusion*. Here is an example of a well-known syllogism.

All men are mortal⁵.
Socrates⁶ is a man.
Therefore, Socrates is mortal.

Here's another one.

Good manner show respect for others.
Marnie has good manners.
Therefore, Marnie shows respect for others.

Syllogisms and deductive reasoning are fine so long as they start with a true premise. To make sure that you are practising clear thinking, you must learn to isolate these premises and check them out before you accept the conclusions that the sender suggests. The Internet has many good websites that include examples. Here are a couple of URLs to try:

[www.gate.net/~tutor/logic.html...and...www.carmen.artsci.washington.edu/propoganda]



EXERCISE 5

Try these syllogisms and see if they show good logic. Where is the flaw?

All skateboarders are bad kids.
John is a skateboarder.
Therefore, John is a bad kid.

All friends are loyal.
Lisa is my friend.
Therefore, Lisa is loyal.

Bicycles conserve fossil fuels.
Paul never rides a bicycle.

⁵ Mortal means “will die”

⁶ Socrates was a famous Greek philosopher.

Therefore, John is not concerned about pollution.

Child molesters cannot be reformed.

S....is a child molester.

Therefore, S.....cannot be reformed.

Most Conservatives favour cuts to welfare.

M. J. is a Conservative.

Therefore M. J. favours cuts to welfare.

Ricin is a deadly poison.

Castor bean plants contain ricin.

Therefore, castor bean plants should not be grown.

Oxalate crystals are poisonous.

Rhubarb leaves contain high levels of oxalate crystals.

Therefore, rhubarb should not be grown.

In everyday communications, syllogisms are shortened, often because it is assumed that the major premise is self-evident and doesn't need to be stated.

“Because sunflowers are plants, they need sunlight and moisture to grow.”

“Anna is my friend because she is always there for me.”

“John never owes money because he always follows his budget.”

Sometimes the logic in statements like the ones below is faulty. On first reading, each sounds like it should be true. Clear thinking will show you where the flaw in reasoning could lead you astray.

“We should abolish our government because it denies people's rights.”

“That criminal should be locked up because he can't be reformed.”

“Castor beans should never be grown because they contain deadly poisons.”



EXERCISE 6 Here are some logic puzzles to practise on.

1. A farmer is taking a fox, a goose, and a sack of grain to market. When he arrives at a wide river, he found the one available boat could transport only himself and one of his articles. How did he get across the river without the goose eating the grain, or the fox eating the goose?

2. Old MacDonald had a farm and so did Old MacAlpine and Old MacManus. From the clues given, can you work out how many cows, pigs, and goats, each farmer had on his farm. (You might find a chart similar to the one on the next page will help you organize your thinking.⁷)

Clues

- a Old MacDonald had more goats, but fewer pigs than Old MacAlpine; both of them had more than one cow.
- b The farmer with two cows had three pigs.
- c Each farmer has a different number of each type of animal.



⁷ Taken from internet: <http://www.puzzler.co.uk>

	Cows			Goats			Pigs		
	1	2	3	1	2	3	1	2	3
Old MacAlpine									
Old MacDonald									
Old MacManus									
1									
PIGS 2									
3									
GOATS 1									
2									
3									

FARMER	Number of Cows	Number of Goats	Number of Pigs

5. What is the next number in this series?
- A) 1, 3, 5, 7,
 - B) 1, 3, 6, 10,
 - C) 2, 4, 8, 16,.....
 - D) 1, 4, 8, 13,.....
 - E) 1, 4, 9, 16, 25,.....

6. PIRATE TREASURE⁸

Captain Morgan has buried his treasures on five different island (Parrot, Skull, Lagoon, Monkey, and Palm Tree). Each island has a different treasure (Gems, Gold, Diamonds, Silver, and Rum) and a different trap (Snare Trap, Pit Trap, Spear Trap, Net Trap, and Fire Trap). Discover where each treasure is and the trap that is set there.

- A The rain on Palm Tree Island prevented the fire trap from being placed there.
- B Spears don't protect the gold and don't protect Parrot Island.
- C Monkey Island has a net trap.
- D The gold is on Lagoon or Skull Island
- E The 5 islands are Palm Tree Island, Lagoon Island, the island with gems, the island with the rum, and the island with the spear trap.
- F The pit trap protects the gems or the diamonds.
- G Palm Tree Island has silver on it.

7. PIRATE CAPTAINS⁹

Four pirates are sailing the sea today. Captain Ahab, Captain Grog, Captain Hook, and Captain Kidd. Each has a ship and a feature that distinguishes him from the other pirate captains. Find out which pirate captains which ship (Bounty, Barnacle, Beauty and Brine) and what distinguishing feature the captains have (eye patch, peg leg, beard, or scar).



- A Captain Ahab's ship met the captain of the Bounty. Ahab complimented him on his peg leg.
- B When the Barnacle hit an iceberg, the captain's eye patch almost fell off.
- C Captain Hook makes fun of the captain who sails the Beauty because of his name. Hook wanted to name his ship Bounty but Kidd already had it.
- D The Brine's captain has a beard.
- E Ahab sails the Barnacle.

⁸ Taken from the internet: <http://www.clarkson.edu>

⁹ Taken from the internet: <http://www.clarkson.edu>

Another form of logical reasoning is the *if-then* model which is very useful because it helps make decisions about the future. The children's programme, Sesame Street, used a good example of a little girl with a balloon and a sleeping cat. She says, "If I pop this balloon, it will scare the cat. If the cat is scared, it will howl. If the cat howls, the baby will wake up. If the baby wakes up, my mom will be mad, so I guess I better not pop this balloon." The trick to the if-then, or cause and effect reasoning, is to make sure that you go far enough to discover any negative effects. Phillip, who bought the sound system in earlier in this section, wouldn't be "strapped for cash" if he had thought farther ahead

Grammar also offers an opportunity to work on good thinking skills. The key to working in this area is to hold a variety of rules in your head. Then when you analyze a situation, you compare the specific case to your mental list of rules, eliminating the possibilities that don't fit. Here's a typical grammar question.

In the following sentence determine the type of complement used.

Sue's work is becoming too difficult.

(1) Rules you know:

Always find the verb first.

Action verbs take complements called direct and indirect objects.

Linking verbs take complements called predicate nominatives or adjectives.

(2) Specifics:

The verb = *is becoming*.

What type is it? Action or linking?

It's a linking verb;

(3) Conclusion you can make.

Eliminate the list dealing with action verbs.

Therefore, the complement will be either a predicate nominative or a predicate adjective.

(4) Examine the sentence again. What part of speech is *difficult*? Does it name (noun) or describe (adjective)? It's an adjective.

(5) The conclusion: Eliminate predicate nominative.

It's an adjective so the complement in this sentence is a predicate adjective.

Math problems work in much the same way.

In five years, Marla will be three times as old as her brother is today. Her brother will celebrate his 8th birthday in three years. How old will Marla be in twenty years?

Begin with what you know or can figure out....

If Marla's brother will be 8 in three years, then he is $8-3=5$ today.

If Marla's brother is 5 today, then Marla is 3 times that (in 5 years) $5 \times 3 = 15$.

If Marla will be 15 in five years, then she is $15-5 = 10$ today.

If Marla is 10 today, she will be $10+20 = 30$ in twenty years.

EXERCISE 7

Think about the possible positive and negative results from the following situations using *if-then* reasoning.

- A) spending this \$20 on dinner and a movie instead of paying my power bill
- B) staying in bed for the day instead of going to school
- C) adopting a pet



PERSUASIVE COMMUNICATIONS

Good communicators have many techniques for persuading their audience to accept their point of view. Learn to identify these techniques and be prepared to analyze the information you receive so you can get to the “truth” by separating objective facts from subjective opinions.

Often faulty logic is *unintentional* and happens because the sender has not thought through his/her ideas logically. The sender is not intentionally misleading his/her audience. People who receive these flawed messages, however, are often persuaded to change their minds about a topic, based on incorrect information. They don't practice clear thinking, and as a result, they can make bad decisions and big mistakes at home or on the job.

Sometimes writers and speakers intentionally *slant* or *bias* their messages. They use faulty logic so they can be extra persuasive and convert their audience to their point of view. This is dishonest and unethical, but it happens all the time. Perhaps you have been a victim of this kind of dishonest persuasion when you have bought a car, a gadget, or other product. The best defense against intentionally slanted messages is to recognize the techniques when you meet them and use your clear thinking skills to find the truth (the facts) behind them.

The word *propaganda* is often associated with persuasive writing and speaking. According to the dictionary propaganda is *the spreading of ideas, information or rumour for the purpose of supporting or harming an institution, cause or person*. In other words, the word propaganda relates to communications specifically intended to persuade, for either good or bad purposes. Since the 1940s, however, when Hitler used dishonest persuasion to convince people to exterminate Jews, gypsies and others, the word propaganda has come to mean the spreading of beliefs by distortion and deception.

The next section of this module outlines some techniques used by persuasive communicators to convince you to accept their point of view. Without evaluating their claims and using your clear thinking skills, you may be convinced to act based on faulty arguments..

Here are some *logical fallacies* to watch out for as you read or listen. (Please note that various textbooks use different terms to describe various errors in reasoning. The errors are the same but the names may change, depending on the book you are using.)

1. **Hasty Generalizations**

Good logic starts with a general statement which is true for all cases. *All children need education*. Generalizations based on large representative samplings are likely to be sound. For example, over many years and in many situations, you have observed that children whose parents read to them from an early age, generally do well in school. Your conclusion that reading to children helps them perform better in school would probably be correct. If, on the other hand, two brothers do well in math, is it logical to assume that their three younger siblings will also do well in math? Is it reasonable to generalize that Fords are bad vehicles because you know 3 people who had

accidents while driving one?

When persuasive material contains the words *all*, *none*, *some*, *most*, *everyone*, clear thinkers should consider whether they are hasty generalizations.

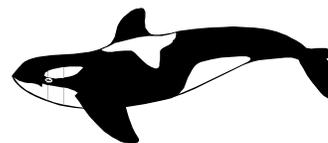
Clear thinking means using generalizations only if they represent all or almost all cases.

2. **Mistaking the Cause**

You took the herb echinacea when you felt a cold coming on. By the end of the next day, your cold is gone. It is easy to confuse cause and effect. What about the fact that you also spent the day in bed, drank lots of fluid, and took aspirin regularly? The herb may, or may not have been the cause of your cure. It is dangerous to assume that the first “cause” that comes to mind is the right one. Think about other reasons too and judge their effect. (If you observe the same effect *over a long period of time*, you may be justified in generalizing that echinacea has a curative effect on colds.) What if you developed a rash after going to the beach and sitting in the sun. Would it be reasonable to assume that the sun was the cause? Why? Why not? Clear thinking means investigating all the possible causes before settling on one.

3. **False Analogy**

Analogies are comparisons used to explain something new by relating it to something already known. For example, *sepals* are specially modified leaves that protect the bud of a flower until it is ready to open, just like wrapping paper protects a present until Christmas morning. The analogy is valid only if the similarities outweigh the differences. Do the similarities outweigh the differences in the following analogy? The Miramichi River runs toward the sea like chocolate syrup on a sundae. How about these? Cod fishermen are like beached whales thrown up on the shore where they can only wait to die. Taking PERFECT VITAMIN TABLETS is like have a magic wand that cures disease. Clear thinking means that good analogies have to have many similarities before they are valid.



4. **Ignoring the Question**

Sometimes arguments and persuasion are moved forward by focusing on one minor issue while ignoring the real question. In an argument for keeping Physical Education as part of the high school curriculum, the speaker devotes most of his presentation to the health benefits students get from physical exercise. He completely ignores the fact that teenagers can also get exercise outside school by mowing lawns, playing organized sports, walking to school, etc. Here's another instance. J. R. is found guilty of stealing \$8,000 from his employer, and his sentence is five years in jail. He argues that he shouldn't be sent to jail because he now realizes he made a mistake; his children will go hungry without his income; he will never be able to get another good job. Clear thinking means focusing on the main issue or argument being discussed and making sure all comments deal directly with that situation.

5. **Begging the Question** (sometimes called **Circular Reasoning**)

When someone begs a question, they begin the argument without proving a major part of it. "That unprovoked beating that Jamie received at recess should be punished by suspending Mary from school for six months." The speaker is assuming that the attack was without cause. Here's another example. "I know what the author says is true because in the introduction, he said that he doesn't lie." or "Public transportation is necessary because everyone needs it."

6. **Name Calling**

When a person and not the argument is attacked, the speaker is not using reasoning, but rather relying on emotions. "K. N. is a lazy, fat slob. Someone like that obviously doesn't know anything about dieting and nutrition." or "A. M has a long history as a troublemaker, so his point of view is no good."

7. **Misusing Statistics**

There's an old saying, "Figures don't lie, but liars can figure." The numbers obviously can't lie, but often they can be used to support an illogical argument. Political polls often report that 59% of the voters favour cost cutting. This sounds pretty good until you think about it and realize that 41% (a lot of people) do not favour it.

When averages are used to support an argument, real situations often become fuzzy. For example, five workers at a local plant gave the following amounts

to the United Way last year: \$50, \$50, \$100, \$500, \$1500. The average donation was \$440, so the campaign leader suggests that everyone should give at least \$400 this year. The average is greatly influenced by one very generous gift. If the median is used the amount drops to \$100 and is, therefore, closer to what most people gave. Averages can be strongly influenced by one very high, or low, number.

Here's another way that statistics can be misused. Two things being compared must be quite similar before the conclusion is valid. One report suggests that the workers saved \$200 per year in 1960 and \$600 per year in 1998. On the surface it looks like people must have more money to spare as they saved more in 1998. But the value of the dollar has changed a lot in forty years. In fact, \$200 in 1960, would buy something worth \$2000 today. The statistics therefore show that people today are saving less.

Clear thinking means making sure that statistics really prove what the speaker/writer says they do.

8. **Bandwagon**

This kind of thinking is based on the fact that people like to be part of a large group and tend to believe something just because a large number of others do. In some cases, the fact that many people have accepted an idea can mean it is true. If, for example, most of your good friends like a particular musician, chances are you will too. On the other hand, the truth of an idea doesn't necessarily make it popular. Throughout history, scientists and other powerful people have actively fought a new idea which later proved true. For example, it wasn't until the 1960s that people came to accept the idea that the world is made up a series of plates which shift around over time, changing the relative position of one continent to another (e.g. Africa and South American were once joined.) Until the 1600s, people believe that the Earth was the centre of the universe, and those who believed otherwise were often severely punished or even executed. Only in the last 10 years have people believed that nicotine is addictive.

Clear thinking means that you shouldn't just follow the crowd, but make up your own mind based on the *facts* of an issue.

9. **Appeal to Authority**

Many arguments, particularly in advertising and politics, rely on testimonials to show the worth of the product or argument. Movie stars often come out in

support of political candidates and sports figures endorse food products. While these authorities might be believable in persuading you about how to be glamorous or about the benefits of team play, they have no particular authority, other than the fact they are recognizable.

Clear thinkers know that it makes sense to ask whether the person promoting an idea has any real credibility.

The bottom line to all these fallacies is that it is important to take control over the information you receive by receiving it critically. This means that you must be prepared to ask questions and investigate the reliability of everything you read or hear before you accept it into your own belief system. Another good way to identify information that may be based on fallacies is to ask yourself whether the sender has any personal motives in persuading you to his/her point of view. Will he/she make some money, gain some prestige, or get some control over you when you agree with them? If the answer is yes, clear thinkers know that this is a signal to put their reasoning skills to work.

EXERCISE 8

Some of the following contain faulty reasoning. Identify each one and name the fallacy.

1. Corn doesn't grow well in the Maritimes. I planted it two years in a row and it never grew.
2. There are 14,000 other people in this town who can donate to the food bank. Why should I?
3. My grandfather raised thirteen kids successfully and he never went far enough in school to learn how to read. Why should I learn to read now?
4. My family has always voted Conservative, so I will vote that way too.
5. Shortened lunch hours at Central High cut down on rowdy behaviour at noon in the courtyard. Northeastern should shorten its lunch hour too.
6. Women are good at raising children, so they should stay home and not go out to work.
7. Respect is part of a good relationship.
8. Reginald Sperry, a lawyer with the federal government, says that it is not necessary to eat meat in order to stay healthy.
9. More people are arrested for drunkenness in C.....than in any other Canadian city, so alcoholism must be a big problem there.



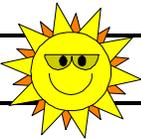
10. The stream in front of my house has never been so low before. It must be that the new industry upstream is diverting the water for their own use.
11. Have you noticed the number of herbal remedies on the drug store shelves lately? Everyone's buying them so they must be doing some good.
12. Everyone I know who graduated from high school has a good job, so I have decided to finish my Grade 12.
13. Because Marcus is a good salesman, he will win the award for the most homes sold this year.
14. Our town has the highest average for incomes in the province. We don't need a Thrift Shop here.
15. She can't be a very good teacher because 50% of her class failed the course.
16. Raising business taxes by 15% will give us the money we need to build a new arena.
17. M..... is just a whiner who is always making trouble for everyone.
18. J..... is a good husband and loving father who devotes hours to community service so he couldn't have given out secret information.
19. A lot of people have made money buying BreX stock. I am going to buy some tomorrow.
20. Nine out of ten doctor's recommend A..... headache tablets. They must really work.
21. The inhuman practice of child labour should be abolished.
22. Beavers work hard all summer building their houses and dams for a comfortable winter; I am going to get a good summer job and that's all I need for the good life.
23. I can swim across this lake four times so I can swim across the Northumberland Strait to PEI.



SLANT AND BIAS

Communicators often use techniques like the ones above to create persuasive presentations. Information which contains any of these create *slanted or biased* messages which are easy to believe but aren't necessarily true. Bias and slant can be included simply by choosing words that carry strong emotions. Words can carry both facts and emotions. Many words carry strong emotional messages which can influence attitudes. The dictionary definition of a word is called its *denotative meaning* or its factual meaning. For example, *dog* is defined as a domesticated

animal closely related to the common wolf. The words *mongrel* and *cur* also refer to dogs but they carry a negative meaning while words like *purebred* and *champion* carry positive meanings. If you accept the word *mongrel*, without questioning it, you are already half way to accepting a negative opinion. Look at these examples.

DENOTATIVE WORDS	CONNOTATIVE WORDS	
	Negative Meaning	Positive Meaning
DOG	MONGREL, CUR	PUREBRED, CHAMPION
OLD MAN	CODGER	GENTLEMAN
FOOD	GARBAGE, SWILL	DELICACIES
LAWYER	SHYSTER	BARRISTER
USED (car)	BEATER, JALOPY	CLASSIC CAR
MONEY	LUCRE, LOOT	FUNDS
CROWD	MOB	AUDIENCE, DELEGATES
CAREFUL WITH MONEY	TIGHT, MISERLY	THRIFTY, CAREFUL
 CHILD	URCHIN, BRAT	TODDLER
SERVANT	SLAVE	ASSISTANT
WOMAN	SHREW, DOG	PRINCESS

EXERCISE 9

Replace the connotative words in italics with neutral words that have no slant. Indicate whether the italicized word had a negative or positive meaning.

1. Stop *badgering* me for a raise.
2. She *wormed* the information out of me.
3. They bought a *palace* on the Red River.
4. Mark *waddled* up to the restaurant.
5. The couple *strolled* along the road.
6. Do you really want to *wash your dirty laundry in public*?

7. She had a *fag* stuck to her lip.
8. He always *whining* about something.
9. That house we bought is a *fixer-upper*.
10. The bedrooms in this house are certainly *cozy*.



EXERCISE 10

Rewrite the following sentences that contain biased messages so that they contain only facts.

1. A fanatic bulled his way to the front of the room and ranted wildly for hours.
2. My old lady ripped me off when she hired that over-priced shyster.
3. Building that haven for young crooks down the street will turn this neighbourhood into a crack slum.
4. All they ever do is hang around and gossip.
5. The garden was a rainbow of blossoms surrounded by green velvet.
6. Her closet spoke of sartorial elegance and pampered self-indulgence.
7. They were jubilant about their hard-hitting victory.
8. Nurses today are treated like slaves and worked like pit ponies.
9. His comments were scathing and mean-minded.
10. He is a narrow-minded bigot whose behaviour is scandalous.

EXERCISE 11

1. The following is a brief news story reported objectively.

Centreville Town Council last night voted in support of a motion to hire Renewall Consultants of Halifax to study the possibility of offering Virginia City 200 hectares on the Black Barrens Plateau, northeast of town as a possible landfill site. Council agreed to the study after hearing a presentation from the Virginia City Solid Waste Management

Committee who are looking for an environmentally acceptable location for a Transfer Station and sorting plant for residential garbage. The Black Barrens Plateau site would be used to dispose of biodegradable materials only. Recyclable metals and plastics would be shipped out regularly, and no industrial, chemical, or toxic waste would be accepted at the site. The Council

stressed that, although accepting Virginia City's proposal would mean an end to the town's debt problems, their agreement was, for now, only to do a study. No

decisions are to be made until after the study results are in and approved by the Department of the Environment



2. In the next issue of the local paper, two letters to the editor appeared. Read each one carefully and identify the persuasive techniques used. Then decide which of the two presents logical, ethical, and acceptable arguments.

Major Smith and his gang of secret police have done it again. This latest attempt to poison our town for the sake of a few bucks is typical of their style of leadership. Hitler couldn't have done any better!

With a single swipe of their expensive taxpayer supplied pens, they have signed us up for certain death and disease. Our wells will be full of toxic waste and other putrid run-off from the site. Our children will get sick from breathing the germ infested air. Last but not least our property values will sink to nothing. We elected these people to look after our best interests and right off the bat, they are selling us out. Of the people I surveyed, seventy percent said that they didn't want stinking garbage trucked by their homes. Everyone knows that trucks kill roads. With all these hundreds of trucks speeding along our highways, none of our children will be safe and it won't be long before every road will be undrivable.

Wake up Mayor Smith! You and your buddies aren't long for this world. There's an election coming soon and we'll show you who's boss in this town.

Signed,

Angry Taxpayers of Centreville

Mayor Smith and his councillors are to be congratulated for their concern about the ever increasing debts that Centreville is building up. The Black Barrens Plateau landfill site could be the answer to our problems.

As a concerned citizen, I would, however, like to bring some issues to their attention. First, money isn't everything. Although Centreville's roads and leisure services would benefit greatly from the taxes and fees paid by a landfill operator, these dollars could never compensate for the loss of a reliable water supply, increased truck traffic on roads leading to the site, or damage to our beautiful wilderness recreation area. Any threat to these is unacceptable to all citizens of this area!

Secondly, decreased property values have followed the start-up of every landfill site in this province, according to the Provincial Real Estate Review. Surveys by the nationally recognized GreenLeaf Protection Society show that the value of a typical three bedroom bungalow has dropped 40% or an average of \$25,000 within six months of a garbage facility of any kind opening. Can the Council guarantee to pay homeowners the amount lost? Not without increasing their already heavy debts, I'm sure.

Because hosting a landfill site could mean danger to our water quality, increased trucking, deterioration of our wilderness recreation area, and decreased property values, we need to be sure that the proposed study is complete, accurate, and unbiased. Renewall Consultants have a good reputation, but they are a division of Longhurst Disposal Systems, one of the largest garbage management companies in the Maritimes. How believable will any study they do be? To convince taxpayers, the Council needs to search out an environmental consultant with no ties to the industry or to local landowners who might benefit directly from the use of Black Barrens Plateau. In fact, two such studies would ensure allow the townspeople to make their own decisions about the proposed landfill site. Then we can all vote based on solid facts.

My neighbours and I will remain open-minded about Virginia

City's proposal to bring their garbage to Centreville so long as all of these concerns are immediately addressed. We realize that a study is not a commitment, but we will remain watchful of every step in the process and will not hesitate to speak and vote loudly when the health or welfare of Centreville is not at the top of Council's agenda.

Yours truly,

A Vigilant Citizen and his friends

3. List by name (in your notebook) all the techniques you found in these letters to the editor. Indicate which ones are faulty/acceptable and why/why not.

EXERCISE 12

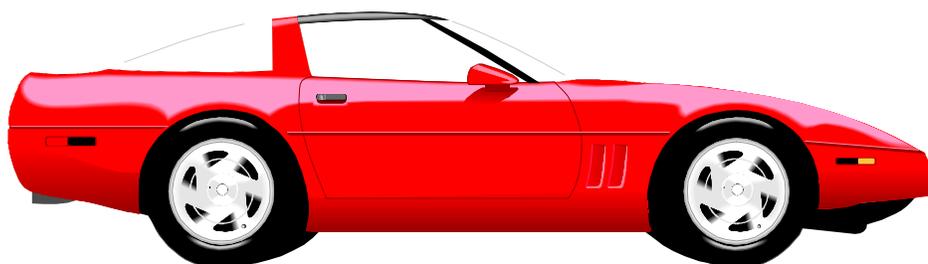
1. Using newspapers and letters to the editor, find at least three examples each of objective writing, logical persuasive writing, and unacceptable slanted wording.
2. Write a letter to the editor to persuade people in your area to support some event, charity, or opinion. If possible, mail the letter to your local newspaper.

EXERCISE 13

Look carefully at the ad on the next page. Identify all the persuasive techniques.



*Your first class ticket
to the GOOD LIFE*



sienna

**Leaves the wimps behind.
Dare to challenge the big leagues.**

43%
of sienna drivers are
doctors, lawyers, engineers,
big players on the market,
professionals, *just like YOU!*



J. Scott, MD

*Make an appointment
for your
private showing
at your home or office*



P. Wills, broker

SENDING MESSAGES EFFECTIVELY

The communication process, as you remember, consists of a sender and receiver exchanging thoughts and information. Most of the material in this module relates to the receiver's need to cut through persuasive techniques to find the clear *objective* information needed to come to his/her own conclusions and make logical decisions. Senders (writer/speaker) can also be *intentionally manipulative* when they try to persuade. It is truly ironic that while receivers need to protect themselves from slant and bias, successful communicators often use a variety of persuasive techniques, like those above, to send convincing messages, particularly if they are trying to make money or gain converts to a new idea..

As a writer or speaker, the choice rests with you: to be informative (objective information); to be persuasive (subjective material). Although some would argue that it is not entirely ethical, all the techniques you just learned to watch out for as you gather information may also be useful to you when you create persuasive messages. Take for example, the nine-year-old who wants a later bedtime: "Everybody I know stays up later than me!" or "You're just a meanie." or "My teacher says I need only eight hours of sleep." or better yet, "If I stay up later, I can get more chores done." Even better may be, "If I stay up later during the week, I'll sleep in longer on Saturdays and Sundays." Even adults says things like, "Don't be an old woman about this move. Everything has always worked out before. We'll have 30% more money, a better house, and Aunt Millie won't be sitting on our doorstep every day looking for a handout." Although we run into these kinds of arguments many times a day, clear thinkers know that it is always a good idea to evaluate every message for logical fallacies and other manipulative techniques like guilt trips or intimidation.



EXERCISE 14



1. Imagine that the school year runs for a full 52 weeks, divided into four equal 11 week terms, separated by two weeks of holidays. Write down all the positive, negative and interesting effects this might have.
 - A) Write a short persuasive piece aimed at a particular audience in which you use acceptable persuasion to support or criticize this new education year.

- B) Write a persuasive piece that uses slant and bias to make your case.
2. Identify at least three major problems you have had or decisions you have made in the last year. Use what you have learned about clear thinking and logic to review your decisions. Did you consider all the factors? Could your decisions have been different if you had used better thinking? What did you do right about your thinking then? What did you do wrong?
 3. Write a short presentation based on Question 3 that begins either “I wish I had.....” or “I am glad that I.....”
 4. Think about a decision you will have to make in the near future. Use clear thinking to help you decide what you will do. Write a short essay describing how you arrived at your decision.

CONCLUSION

Clear thinking is hard work because it takes a conscious effort and often requires research and/or asking good questions. Often it appears easier to simply accept what you hear or read. It is true, however, that the more thinking you do, the easier it becomes. As well, the rewards are large: you avoid mistakes; you often save money and embarrassment; you don't have to spend time and energy correcting “messes” you could have avoided.

Clear thinking means finding the objective facts in every case and then using logical thought to reach sound conclusions before you decided how you are going to feel or react.

Start now to build your clear thinking skills by reading and listening critically all the time.

IAU PRE-TEST

1. What is the difference between fact and opinion?
2. Explain the terms *subjective* and *objective*.
3. Name and explain with examples the two kinds of reasoning.
4. What is the denotative meaning of *propaganda*?
What is the connotative meaning of *propoganda* today?
5. Explain and give examples of any five types of logical fallacies.
Answers will vary
6. Give a connotative synonym for any five of the following neutral terms.

Teenager	House	Plant	Overweight
Old	Walk	Sing	Thin
Woman	Politician		
7. Write a good definition of clear thinking.
8. Write a persuasive paragraph in which you use several techniques to include slant and bias. Underline the sections of the paragraph that contain slant or bias.

Answers to Exercises

EXERCISE 1

1. Did you answer this question automatically? Could you feel your brain searching for the information before you recorded it or did it come automatically? Did you **write** your name and **print** your address? If you did, were you aware of the mental processes when you realized this was a trick question?
2. 3. 4. Could you feel your brain processing (remembering) the information you needed to answer these questions?
9. Were you able to identify different steps in your thought process?
10. The answer is their total wages for one day are \$56 and their total donation would be

$$\left(\frac{50}{100} \times 28\right) + \left(\frac{50}{100} \times 28\right) = (14 + 14) = \$28$$

If you were on your toes, you might have realized that one person's wages equalled 50% of the total.

Were you aware of your brain in action?

EXERCISE 2

1. Be sure that you used strong descriptive words (like tangy taste, spicy smell, dazzling red, etc.) to report your sensations.
2. Here are some possible decisions about your trip.
Who will I take? When will we go? Can I spare the time? Is there a cash surrender value for the prize? Where is Egypt? What is the climate like this time of year? What kind of clothes will I need? Do I have to buy suitable clothes? What is the food like? What things are there to see? Where can I find out about tourist attractions? Do I need a passport? How do I get one? Are there any dangerous diseases? Do I need vaccinations? Is this a dangerous part of the world? Are terrorists likely to be a problem? Who will look after my kids? Does the prize include spending money?
- 3, 4, 5 Answers will vary, but the point of this exercise is to give you an opportunity to build your awareness of your mental processes.

EXERCISE 3

Identify each of the following statements as fact or opinion.

1. It snows more in Bathurst than in Moncton. Fact

2. In 1996, the population of Fredericton was almost 50,000. Fact
3. Ford trucks are a better buy than Chevys. Opinion
4. Mark said that the climate is nicer in New England. Fact...It is a fact that Mark said this. What he said is an opinion.
5. That teacher is always mean to me. Opinion
6. Halifax was founded in 1749. Fact
7. She is smarter than I am. Fact or opinion. Depending on how you judge smartness.
8. Capital punishment is cruel and inhuman. Opinion
9. It's alright to phone in sick when you have an out of town appointment. Opinion
10. Paul is a better ball player than his brother. Fact or opinion. Depending on circumstances.

EXERCISE 4

1.
 - A) What is happening?.....GOING FISHING
 - B) At what point were you sure?.....HIP WADERS
 - C) What kind of reasoning lead you to this conclusion?.....INDUCTIVE
 - D) Are there any other possible conclusions?.....YES
 - E) What are they?.....LOANING EQUIPMENT, ORGANIZING FISHING EQUIPMENT (the cooler is for something else)

2.
 - A) What kind of reasoning did you use?DEDUCTIVE
 - B) Was it logical?.....NO
 - C) What was wrong with your logic?FAULTY PREMISE....All college students wreck apartments.

3.
 - A) What conclusions might they reach about the thief?...the thief smokes, drinks beer and plays pool at McGuiness's
 - B) What kind of reasoning would they be using?DEDUCTIVE
 - C) Would their conclusions be logical?.....probably but not necessarily

4.
 - A) What conclusion might you reach?someone is beating him up and stealing his

lunch.

B) What kind of thinking is this?.....INDUCTIVE

C) Are you conclusions necessarily accurate?.....NO.....He may have started a fight and is just really hungry these days.

EXERCISE 5

All skateboarders are bad kids.

John is a skateboarder.

Therefore, John is a bad kid.

There is no proof that all skateboarders are bad kids. This syllogism begins with a hasty generalization.

All friends are loyal.

Lisa is my friend.

Therefore, Lisa is loyal.

The major premise is true by definition, but the minor premise may not be. This is a case of begging the question (circular reasoning) or the statement that Lisa is my friend may be based on too little information.

Bicycles conserve fossil fuels.

Paul always rides a bicycle.

Therefore, Paul is not concerned about pollution.

The conclusion does not necessarily follow the two premises. A correct conclusion would be "Therefore, Paul conserves fossil fuels."

Child molesters cannot be reformed.

S...is a child molester.

Therefore, S.....cannot be reformed.

The major premise may be faulty.

Most Conservatives favour cuts to welfare.

M. J. is a Conservative.

Therefore M. J. favours cuts to welfare.

The major premise is not a general rule. M.J. may be one of the Conservatives who is not in favour of welfare cuts.

Ricin is a deadly poison.

Castor bean plants contain ricin.

Therefore, castor bean plants should not be grown.

Although this may be good advice (It's better to be safe than sorry), the fact that castor beans are poison is not sufficient to prevent them from ever being grown.

Oxalate crystals are poisonous.

Rhubarb leaves contain high levels of oxalate crystals.

Therefore, rhubarb should not be grown.

This is the same argument. As you know people eat rhubarb every day without harm. It is the leaves that can be toxic.

EXERCISE 6

1.

THE FARMER GOES TO MARKET

The farmer first takes the goose across the river (he leaves the fox and grain behind)

The farmer returns and picks up the grain (leaving the fox alone on the shore).

On this return trip, the farmer brings the goose back with him (leaving the grain on the far shore)

Now, the farmer leaves the goose on the first bank and takes the fox over.(Now the fox and the grain are on the far side of the river.)

Finally, the farmer makes one last crossing with the goose and continues on to market.

2.

DOWN ON THE FARM

Neither MacDonald nor MacAlpine had the single cow (clue 1). MacManus must have had it. Therefore, from clue 3, MacManus cannot have had a single pig.

From clue 1, MacAlpine could not have had just one pig either, so the single pig must have been MacDonald's. From clue 3 again, we know MacManus cannot have had a single goat and, from clue 1, neither did MacDonald, so the single goat must have belonged to MacAlpine.

The farmer with two cows and three pigs (clue 2) cannot be MacManus or MacDonald, so he must be MacAlpine. By elimination, MacDonald must have three cows, and MacManus must have two pigs. Since they all had a different number of each type of animal (clue 3), by elimination, MacManus must have had three goats and MacDonald must have had two goats.

In Summary:

Old MacAlpine: 2 cows, 1 goat, 3 pigs

Old MacDonald: 3 cows, 2 goats, 1 pig

Old MacManus: 1 cow, 3 goats, 2 pigs

3. NUMBERS IN A SERIES

- A) 9.....count by twos
- B) 15.....add consecutive number each number +2, +3, +4, +5
- C) 32.....double previous number
- D) 19.....add consecutive numbers +3, +4, +5, + 6
- E) 36.....squares of consecutive numbers 1, 2, 3, 4, 5, 6

4. PIRATE TREASURE

The gems are on Parrot Island and are protected by a pit trap.

The diamonds are on Skull Island and are protected by a spear trap.

The gold is on Lagoon Island and is protected by a fire trap.

The rum is on Monkey Island and is protected by a net trap.

The silver is on Palm Tree Island and is protected by a snare trap.

5. PIRATE CAPTAINS

Captain Ahab captains the Barnacle and wears an eye patch.

Captain Grog captains the Beauty and has a scar.

Captain Kidd captains the Bounty and has a peg leg.

Captain Hook captains the Brine and has a beard.

EXERCISE 7

Answers will vary.

EXERCISE 8

1. Corn doesn't grow well in the Maritimes. I planted it two years in a row and it never grew. HASTY GENERALIZATION
2. There are 14,000 other people in this town who can donate to the food bank. Why should I? IGNORING THE QUESTION...MISUSE OF STATISTICS
3. My grandfather raised thirteen kids successfully and he never went far enough in school to learn how to read. Why should I learn to read now? FALSE ANALOGY.....Not enough similarities.

4. My family has always voted Conservative, so I will vote that way too.
BANDWAGON
5. Shortened lunch hours at Central High cut down on rowdy behaviour at noon in the courtyard. Northeastern should shorten its lunch hour too.
FALSE ANALOGY
6. Women are good at raising children, so they should stay home and not go out to work. IGNORING THE QUESTION...HASTY GENERALIZATION
7. Respect is part of a good relationship.
TRUE
8. Reginald Sperry, a lawyer with the federal government, says that it is not necessary to eat meat in order to stay healthy.
APPEAL TO UNQUALIFIED AUTHORITY
9. More people are arrested for drunkenness in C.....than in any other Canadian city, so alcoholism must be a big problem there.
FAULTY LOGIC.....MISUSE OF STATISTICS
10. The stream in front of my house has never been so low before. It must be that the new industry upstream is diverting the water for their own use.
MISTAKING THE CAUSE
11. Have you noticed the number of herbal remedies on the drug store shelves lately? Everyone's buying them so they must be doing some good.
12. Everyone I know who graduated from high school has a good job, so I have decided to finish my Grade 12.
BANDWAGON.....HASTY GENERALIZATION.....Although this may be a good decision, it is not necessarily based on sound reasoning.
13. Our town has the highest average for incomes in the province. We don't need a Thrift Shop here.
MISUSE OF STATISTICS
13. Because Marcus is a good salesman, he will win the award for selling the most homes.
MISTAKING THE CAUSE
14. She can't be a very good teacher because 50% of her class failed the course.
MISUSE OF STATISTICS.....She may only have had two people in her class.
15. Raising business taxes by 15% will give us the money we need to build a new arena.
TRUE.....although it may have a negative effect on business.

16. M..... is just a whiner who is always making trouble for everyone.
NAME CALLING
17. J..... is a good husband and loving father who devotes hours to community service so he couldn't have given out secret information.
FALSE ANALOGY.....HASTY GENERALIZATION
18. A lot of people have made money buying BreX stock. I am going to buy some tomorrow.
BANDWAGON
19. Nine out of ten doctor's recommend A..... headache tablets. They must really work.
MISUSE OF STATISTICS.....MISTAKING THE CAUSE
20. The inhuman practice of child labour should be abolished.
TRUE.....although if child labour means cutting the grass, taking out the garbage, it is faulty logic.
21. Beavers work hard all summer building their houses and dams for a comfortable winter; I am going to get a good summer job and that's all I need for the good life.
FALSE ANALOGY
22. I can swim across this lake four times so I can swim across the Northumberland Strait to PEI.
FALSE ANALOGY

EXERCISE 9

23. Stop *badgering* me for a raise. *Negative Asking*
24. She *wormed* the information out of me. *Negative Got*
25. They bought a *palace* on the Red River. *Positive House*
26. Mark *waddled* up to the restaurant. *Negative Walked*
27. The couple *strolled* along the road. *Positive Walked*
28. Do you really want to *wash your dirty laundry* in public? *Negative Discuss*
29. She had a *fag* stuck to her lip. *Negative Cigarette*
30. He always *whining* about something. *Negative Talking*
31. That house we bought is a *fixer-upper*. *Positive Needs repairs*
32. The bedrooms in this house are certainly *cozy*. *Positive Small*

EXERCISE 10

1. A strong supporter walked to the front of the room and talked for a long time.
2. My wife got a very big divorce settlement when she hired a good lawyer.
3. Building that group home for young people down the street could have some negative effects.
4. All they ever sit and talk.
5. The garden full of bright colour and green grass.
6. Her closet was full of well-designed, expensive clothes.
7. They were happy about winning.
8. Nurses today work hard and not appreciated.
9. His comments were negative.
10. He is inflexible and his behaviour is bad.

EXERCISE 11

The first letter is full of logical fallacies including name calling, hasty generalizations, ignoring the question, misuse of statistics, bandwagon, intimidation
The second letter presents much more reasoned arguments backed up with facts.

EXERCISE 12

Answers will vary.

EXERCISE 13

Bandwagon, name calling, appeal to authority, misuse of statistics, mistaking the cause

EXERCISE 14

Answers will vary.

ANSWERS TO IAU PRE-TEST

1. What is the difference between fact and opinion?
Facts are provable. Opinions are just statements of someone's beliefs without and proof.
2. Explain the terms *subjective* and *objective*.
Subjective means material containing opinions.
Objective means material containing only facts that are provable.
3. Name and explain with examples the two kinds of reasoning.
Inductive reasoning. Start with details and draw conclusions
Deductive reasoning. Start with generally accepted truth and deduce details that may be possible.
4. What is the denotative meaning of *propaganda*?
The denotative meaning of propoganda is the spreading of ideas, information, or r rumour for the purpose of supporting or harming an institution, cause or person.
What is the connotative meaning of *propoganda* today?
The spreading of beliefs by distortion and deception.
5. Explain and give examples of any five types of logical fallacies.
Answers will vary
6. Give a connotative synonym for any five of the following neutral terms.

Teenager	House	Plant	Overweight
Old	Walk	Sing	Thin
Woman	Politician		

 Answers will vary.
7. Write a good definition of clear thinking.
Answers will vary but should include mention of facts, not influenced by opinions, logic, etc.
8. Write a persuasive paragraph in which you use several techniques to include slant and bias. Underline the sections of the paragraph that contain slant or bias.
Answers will vary.

FEEDBACK PROCESS

For feedback, please forward your comments to:

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Tel.: 506-325-4866 Fax.: 506-328-8426

- * In case of errors due to typing, spelling, punctuation or any proofreading errors, please use the enclosed page to make the proposed correction using red ink and send it to us.

- * For feedback regarding the following items, please use the form below:
 - insufficient explanations;
 - insufficient examples;
 - ambiguity or wordiness of text;
 - relevancy of the provided examples;
 - others...

Page number	Nature of the problem	Proposed solution (include your text if possible)

FEEDBACK PROCESS

Page number	Nature of the problem	Proposed solution (include your text if possible)
Comments:		