Logical Fallacies

Introduction and Activities
What is a logical fallacy?

- A fallacy is an error of reasoning. These are flawed statements that often sound true.

- Logical fallacies are often used to strengthen an argument, but if the reader detects them the argument can backfire, and damage the writer’s credibility.
You are going to lunch detention because I said so.

Students who talk get written up. Even though I asked you a question, you were talking, so you will get written up.

If you get caught with a cell phone, you'll have to pay 20 dollars, which means you won't have money for lunch, so you'll lose weight and will get hurt on the football field.

Goths wear black. Dr. Stroud is wearing black. Dr. Stroud must be a goth.

I don't have to do what Mrs. House says. She's not even a real teacher this year.
The word “fallacy” may derive from the Latin word *fallere* meaning, “to deceive, to trip, to lead into error or to trick.” The word may also derive from the Greek *phelos*, meaning “deceitful.”

Like any other form of reasoning, it can be deductive or inductive.
Deductive

- Goes from general to specific

All numbers that are divisible by 5 end in either a 5 or a 0.

Therefore, since 4730160 ends in a 0,

4730160 is divisible by 5.
Tom is allergic to peanuts.

This candy has peanuts in it.

Tom should not eat this candy.

If you can re-word the "given" in terms of all, and the "conclusion" in terms of one, then you have deductive reasoning. Using example #2, for instance, I could have re-worded it as "All peanuts make Tom sick. This one candy has peanuts in it. Therefore, this one candy will make Tom sick."
Inductive Reasoning

- Starts *in* the specific and goes out to the general.

- On Monday, the sun came up in the morning.
  - On Tuesday, the sun came up in the morning. On Wednesday, the sun came up in the morning.

  *Therefore, the sun must come up every morning.*
Your essays use deductive and inductive reasoning.

First Paragraph

Hook

Background Information

Thesis

Last paragraph

Restatement of Thesis

Give them something to think about

Red Bow or go back to information in the Hook
Why study logical fallacies?

- It is important to develop logical fallacy detection skills in your own writing, as well as others’.

Think of this as “intellectual kung-fu: the art of intellectual self defense.” (Logical Fallacies Handlist)
Types of Logical Fallacies

The following slides will *briefly* explain various categories under which logical fallacies can be divided. Each slide contains *one* example from that category; please keep in mind there are many kinds of fallacies in each category.

For a comprehensive list see the following websites:
http://sun-design.com/talitha/fallacies.html
http://owl.english.purdue.edu/handouts/general/gl_fallacies.html
www.datanation.com/fallacies/index.htm
Types of Logical Fallacies

Fallacies of Relevance
- “Bandwagon Approach”
  - “It must be cool because everyone is doing it…”
Types of Logical Fallacies

- “Slippery Slope”
  “If you don’t stop smoking cigarettes, then you are going to start shooting heroin.”

- “Appeal to Fear”
  “If you don’t stop using drugs, you’re going to end up like this.”
Appet to Force/Fear (argumentum ad baculum)
Definition: The reader is told that unpleasant consequences will follow if they do not agree with the author.

Examples:
1. You had better agree that the new company policy is the best bet if you expect to keep your job.
2. NAFTA is wrong, and if you don't vote against NAFTA then we will vote you out of office.
3. If you don't support the party's tax plan, you and your family will be reduced to poverty.
• **Ad hominem / Attacking the Person** An ad hominem argument is any that attempts to counter another's claims or conclusions by attacking the person, rather than addressing the argument itself. True believers will often commit this fallacy by countering the arguments of skeptics by stating that skeptics are closed minded. Skeptics, on the other hand, may fall into the trap of dismissing the claims of UFO believers, for example, by stating that people who believe in UFO's are crazy or stupid.
False Dilemma also known as: Black & White Thinking. Giving two choices when in actuality there could be more choices possible.
False Analogy
Definition: In an analogy, two objects (or events), A and B are shown to be similar. Then it is argued that since A has property P, so also B must have property P. An analogy fails when the two objects, A and B, are different in a way which affects whether they both have property P.

Examples:
1. Employees are like nails. Just as nails must be hit in the head in order to make them work, so must employees.
Kinds of Logical Fallacies 10th

- **Non Sequitur** "It does not follow." arguments don’t follow a logical sequence. The conclusion doesn’t logically follow the explanation. These fallacies can be found on both the sentence level and the level of the argument itself.

- Examples:
  1. We know why it rained today: because I washed my car.
Slippery Slope
Definition: In order to show that a proposition P is unacceptable, a sequence of increasingly unacceptable events is shown to follow from P. A slippery slope is an illegitimate use of the "if-then" operator.

Examples:
You should never gamble. Once you start gambling you find it hard to stop. Soon you are spending all your money on gambling, and eventually you will turn to crime to support your earnings.
**False Authority** – using a biased, suspicious, or incredible source to defend a conclusion. One of the best strategies a writer can employ to support his arguments is to tap into the authority of widely respected people, books, or institutions. A false authority fallacy occurs when people offer themselves (or other suspicious authorities) as sufficient warrant for believing their claims.

Kid: "Why can't I get a new video game?"

Dad: "Because I said so."
Kinds of Logical Fallacy

Post Hoc also known as Post Hoc Ergo Propter Hoc. A Post Hoc is a fallacy with the following form:

- A occurs before B.

Therefore A is the cause of B.

This has been traditionally interpreted as "After this, therefore because of this."

I had been doing pretty poorly this season. Then my girlfriend gave me this neon laces for my spikes and I won my next three races. Those laces must be good luck...if I keep on wearing them I can't help but win!
Straw Man occurs when an opponent takes the original argument of his/her adversary and then offers a close imitation, or straw man, version of the original argument; "knocks down" the straw man version of the argument (because the straw man, as its name implies, is a much easier target to hit, undermine, etc.) The author attacks an argument which is different from, and usually weaker than, the opposition's best argument. Exaggerating the opponents argument in order to make it easier to attack or refute.

Man: "The statue of Venus De Milo has no arms."

Woman: "So you're saying that women can't lift heavy objects!"
Begging the Question (petitio principii) a statement or claim is assumed to be true without evidence other than the statement or claim itself.

Example:
"I think he is unattractive because he is ugly."
- **Red Herrings** A dead fish whose funky smell distracts from everything else. Red Herrings are used in dog training to make sure the dog ignores all other scents except its original goal, when an irrelevant topic or point is brought up to distract from the real issue.

- **Example**

  I know your car isn't working right. But, if you had gone to the store one day earlier, you'd not be having problems.
More Fallacies

On your own, visit the links below to explore the vast universe of logical fallacies!

http://sun-design.com/talitha/fallacies.html

http://owl.english.purdue.edu/handouts/general/gl_fallacies.html

www.datanation.com/fallacies/index.htm
Classroom Activities

- Logical fallacy roundup: in groups, search websites, newspapers, advertisements, etc. to find arguments that may contain logical fallacies. Present these to the class.

- Find two logical fallacies to share with the class
Activities, cont’d

3) Using your list of fallacies, create examples of your own

4) Write a short op/ed article that is based on one logical fallacy

5) Write an argument using as many logical fallacies as you can

6) Make a chart to tally logical fallacies that you hear in everyday conversation
Even more activities...

7) Bring in visual examples of logical fallacies from advertisements, etc.
8) Identify fallacies from in-class video screening
9) Identify logical fallacies from editorial cartoons
In conclusion, always be on the lookout for faulty reasoning!

If you understand this PowerPoint and completed some of the activities, you are a genius! (logical fallacy)

Congratulations!