

Intimate Debate Format
(Instructor's Guide for a 50 minute class)

- 1) Select a topic that allows pro/con positions be taken.
- 2) Provide two aspects of the topic to teams of four students each. Half of the teams receives and prepares their own set of notes on the pro position; the other teams receive and prepares their own set of notes on the con position (8- minutes).
- 3) The teams now jigsaw: two pro team members meet with two con team members to form new groups. Each side has 5 minutes to present their case while the other side takes notes. The teams must not use the original notes that they were given, only the set of notes they prepared (in step 2).

No person may ask more than one question for clarification. The sides **do not** exchange their original written information; they must rely on the notes they take while listening to the other side's presentation.

- 4) Allow 6 minutes for a general (free-for-all) discussion to take place within the groups. Anyone may speak, but participants **must** stay with their originally assigned position.
- 5) Con group members then switch sides and present the pro side and *vice versa*. The groups are to use only the notes they have taken as their information source. Each of the new sides has 5 minutes to present its position.
- 6) The original teams re-assemble. Now, with no forced pro or con positions the teams are given 6 minutes to come to a consensus decision on what the best approach is to the assigned problem. A secretary should be chosen by each team to keep track of its reasoning.
- 7) Each of the teams now presents the conclusion they have reached, and the reasoning that supports their decision to the entire class.

**Intimate Debate
(Student Instructions)**

- 1) Within your team, review the information that you have been given and decide on the key issues it contains. You will be allowed 8 minutes to do this.
- 2) The teams now “jigsaw”: two pro-team members now join with two con-team members to form temporary groups. The sides **may not** exchange the written information they have been given.

Each side has 5 minutes to present its case while the other side takes notes; both sides must rely on the notes they have taken while listening to the other side’s presentation.

No person may ask more than one clarifying question.

- 3) Both sides now engage in a 6-minute “free for all” discussion in which everyone should participate.
- 4) Reassemble in your original teams, and with no forced pro or con positions, reach a consensus decision on what the best approach is to the problem. You have 6 minutes to do this. Choose a secretary to keep track of your team’s reasoning.
- 5) Present the decision that your team has reached, and the reasoning that supports your decision.

To Spray or Not to Spray? A Debate Over DDT's Use

The use of the potent insecticide DDT in the USA was banned many years ago. That ban has subsequently spread and the United Nations Organization has considered whether DDT's production and use should be banned worldwide. There are, of course, good reasons for this, but as is the case with many technological decisions, there is also a cost to be paid for doing so and good reasons for not doing so.

This summary of the pro and con positions on the banning of DDT seeks to generate an informed debate over whether its banning should be extended worldwide, or whether DDT's use should be allowed under limited circumstances. What follows is a summary of the arguments that indicate that DDT's use should be allowed under limited circumstances. Arguments against DDT's use are not presented here.

- The number of malaria infections throughout the world has grown dramatically since the use of DDT for mosquito control has declined.
- The U. S. National Academy of Science estimates that DDT's use for malaria control saved 500 million lives in Asia, Latin America and Africa over the period 1945 to 1966.
- One child dies from malaria every 30 seconds in sub-Saharan Africa, and the toll is rising.
- Between 350 and 600 million people currently become infected with malaria each year and between two to three million deaths result from these infections each year.
- Malaria causes financial damage to the economies of third world countries estimated at about 2 billion dollars annually.
- Malaria infections are caused by mosquito bites, and *nothing* controls mosquito populations more effectively than DDT.
- Despite many efforts to develop one, there is currently no effective vaccine against malaria. No one can say when and if one will be developed.
- Malaria poses a threat to 40% of the world's population, mostly in underdeveloped parts of the world.
- Ninety percent of those who die from malaria are African children.
- In 1973, after DDT had been used for well over a decade for malaria control, there were less than 400 malaria deaths in all of South Africa.

- Currently, the number of malaria deaths is increasing sharply, and the rate of increase is accelerating.
- With global warming increasing each year, malaria is steadily moving into more northern latitudes.
- Many developed countries insist on a ban on DDT as a condition for their aid to underdeveloped countries, imposing their values on poor nations regardless of the consequences for these nations.
- Billions of human beings have been exposed to DDT, yet it has never been shown to cause even a single human death.
- The developed world is far more focused on the theoretical long-term risks of DDT than it is with the very real deaths of millions of third world people.
- It is estimated that the use of DDT could reduce health care costs in third world countries by as much as two billion dollars per year.
- A recent study showed that DDT protects people against malaria not only by killing mosquitoes, but by repelling them. Only 3% as many mosquitoes enter a hut whose walls have been sprayed as is the case when the hut's walls are unsprayed. If DDT is used in this way, it presents a much lower environmental and health risk.
- The study recommended that in order to minimize its potential for abuse, DDT, used as described above, would only be provided in small amounts, and would only be used by trained technicians.
- DDT protects a wide region around that in which it is sprayed.

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This summary of the pro and con positions on the banning of DDT seeks to generate an informed debate over whether its banning should be extended worldwide, or whether DDT's use should be allowed under limited circumstances. What follows is a summary of the arguments that indicate that DDT's use should not be allowed under any circumstances. Arguments for DDT's use are not presented here.

- DDT is very stable in the environment. It takes many years of exposure to water and air to decompose after it has been applied.
- Ten years after DDT was first used, it began to be found in the most remote places on the globe: the Arctic and Antarctic where it had never been used.
- Wind and water transport DDT all over the globe.
- Soon after its use began, DDT was found in the bodies of birds, fish and domestic animals.
- Studies showed that DDT accumulates in fatty tissues and is passed from mothers to infants during breast-feeding.
- Testing of nursing infants worldwide showed that DDT was present in their bodies at levels ranging from one to four parts per million.
- There is no way to know that the long-term effects of DDT will not do irreparable and irreversible harm to the human race as it accumulates in our bodies over time.
- When DDT is used in large amounts in agriculture, it accumulates in the bodies of some birds and inhibits the action of an enzyme that takes carbon dioxide out of the air to make eggshells. This results in thinner shells and causes the deaths of embryonic birds that are not adequately protected by the thinner shells.
- Giant condors and bald eagles were nearly wiped out in areas of the world by this eggshell-thinning phenomenon.