

Genetic Dilemmas

Overview

In this exercise, students are presented with scenarios and asked to discuss their views on how they might respond or the choices they might make.

Textbook References

McDougal Littell

Unit C Chapter 5, pp. 144-149, Changes in DNA Can Produce Variation

Unit C Chapter 5, pp. 150-154, Modern Genetics Uses DNA Technology

Prentice Hall

Chapter 15, pp. 562-589, Modern Genetics

Procedure

Through modern genetics and molecular biology, we have learned a lot about human health and reproduction. Much of what we have learned raises personal and ethical issues that we all face. Offering students the opportunity for discussion gives them a chance to begin thinking about the issues before they are actually faced with having to make important decisions.

The following scenarios or situations may be presented to students for discussion. Note that these situations are meant to be hypothetical. For example, gene implantation is not currently possible. It is important to stress to students that they may disagree amongst themselves, but that it is important to listen to what everyone has to say in order to understand the various points of view. In some cases students may get quite emotional when expressing their points of view or when responding to their classmates. While these emotions are personal and appropriate, it is important to advise students not to attack their classmates personally. They should keep their focus on the topics being considered.

- After a visit to the doctor, you learn that you have a genetic disorder (for example, cystic fibrosis or Huntington's disease). Is it important for you to inform your family members who might be carrying the disease but don't already know it?
- If you could have a gene implantation (not currently possible) that would make you extremely good looking, would you do it? What if that gene also shortened your life expectancy by five years?
- Scientists have cloned a number of different animals, including sheep. You have just been informed that you, also, can now be cloned. If you agree to the process, there will soon be 10 people just like you. Would you do it?
- You and your spouse visit a genetics counselor who shows you a catalogue called *Design Your Child*. Leafing through the catalogue, you see that you can make choices about a number of traits—skin color, hair color, sex, height, physique, athletic ability, intelligence, and artistic ability. Would you and your spouse take

advantage of these choices when planning to have children?

- In your family, there is a history of a gene that would cause you to die by the age of 40 years old. Do you want to find out if you are carrying that gene? You are planning to have children. Do you want to find out what their chances are of inheriting the gene?