The advent of genetic technologies has thrust questions regarding the ethics of science to the forefront of American culture and education. We, as a society, are inundated with reports and images that point to the possibility of a brave new world in which the plants, animals (including ourselves), and microorganisms around us could be genetically transformed. The fact that such a scientific trajectory necessarily presents ethical issues is clear; however, effective techniques designed to help students deal with the ethical uncertainties associated with controversial topics remain underdeveloped. Research suggests that students frequently perceive the ethical implications of issues such as genetic engineering (Pedretti, 1999; Sadler & Zeidler, 2004), but they are often unequipped to handle multiple perspectives and articulate well-reasoned positions (Jiménez-Aleixandre, Rodríguez, & Duschl, 2000; Zeidler, Walker, Ackett, & Simmons, 2002). Our schools reflect the pluralistic nature of society; hence, exposing students to varying ideas regarding a controversial topic is one way to begin assisting them negotiate the plethora of ethical dilemmas inherent to issues such as genetic engineering.

The purpose of this article is to present a modified jigsaw activity, appropriate for secondary and introductory college biology classes, that introduces students to human gene therapy and many of the ethical arguments that support or oppose this issue. The proposed activity is consistent with the National Science Education Standards, specifically Teaching Standards B and E; Content Standards C, E, and F (grades 9-12) and Program Standards B (National Research Council, 1996). The context and general structure of the activity are presented first, followed by a narrative (to be read by an entire class) that sets up the activity and describes four positions (to be studied by small groups).

Context/General Structure

Students should begin the activity in groups of four. (These groups will be referred to as the students’ home groups.) All the home groups will read the narrative, “Gene Therapy: A Review of the Past and a Dilemma for the Future,” created specifically for this activity. The historical episodes and