



Brief Description:

Designed to take greater than 90 minutes of class time over the course of four or more days, the Three Star Program will

1. engage the attention of the class on the topic of Fetal Alcohol syndrome (FAS) and other alcohol-related birth defects
2. provide fundamental information on the nature, impact, biological basis and importance of preventing these birth defects
3. provide an opportunity to directly observe the affect of alcohol on a developing organism through a hands-on science experiment
4. challenge students to consider prevention strategies.

Objectives:

1. To inform students that alcohol should not be used during pregnancy because it can cause permanent and severe damage to babies.
2. To increase the student's understanding of the biological basis for birth defects.
3. To stimulate thought regarding ways to help prevent birth defects.
4. To demonstrate the effects of alcohol on a developing organism.

Activities:

1. Students view the first segment (approximately 1 minute) of the Better Safe Than Sorry video. Showing an affected young woman, and with narrative by her mother, this clip introduces the topic of birth defects caused by maternal alcohol use. At the end of this segment, prompted by the question "Did you know that alcohol consumption during pregnancy can cause permanent damage to an unborn child?" the teacher may stop the video and break students up into small groups for discussion of their existing knowledge regarding birth defects that are caused by alcohol and the need to know more. Alternatively, a show of hands in answer to the question may be followed by resumption of video viewing by the class.

2. Students view the remainder (approximately 14 minutes) of the video in which parents, doctors and scientists share their perspectives to provide basic information on the characteristics, biological basis and importance of preventing Fetal Alcohol Syndrome and other alcohol-related birth defects. Working in groups to allow discussion, or working independently, students answer questions on a worksheet developed for this video. (Teachers may modify the worksheet, if only single word answers are preferred.) Comparison of responses to those that followed the query at the end of the first one minute video segment (activity one), allows learning assessment. In addition, or alternatively, the teacher or students may bring up discussion points for class consideration. Some possible discussion topics, with brief "answers" and suggested resources for teacher and student information are provided. Teachers may provide the students with lists of available resources for additional study of this topic.

3. Students explore the effects of different concentrations of alcohol on brine shrimp hatching. This hands-on experiment is easy, should at the least stimulate interest in biology, and can be used to teach science, math and reasoning skills. It can also be modified to examine the effects

of water contaminants or other environmental factors on aquatic life. A video of the experiment is available on the CD-ROM and at <http://www.niaaa.nih.gov/publications/Science/curriculum.htm> for teacher preparation or classroom viewing.

Time requirement: 10 minutes on Day 1, followed by 30 minute periods on Days 2 and 4. Kits are available from Carolina Biological Supply (<https://www2.carolina.com/webapp/wcs/stores/servlet/ProductDisplay?memberId=-1002&productId=42048&langId=-1&storeId=10151&catalogId=10101>) with materials for the entire class (10 groups) or for a single set up for a teacher to demonstrate.

4. Students play “The Knowledge is Money Game” available on this CDROM. This is a fun, fact-filled game that tests the student’s knowledge of FAS and other alcohol-related birth defects. Students may print out and turn in their final score from the game as an indication of their completion of the activity.

As an extension of this activity, students may develop questions for an “expert’s round” of “The Knowledge is Money Game” based on their exploration of the internet or printed resources listed in the “Learning More” section of the curriculum. Students will generate 5 multiple choice questions and correct answers that will be submitted to the teacher. From these new questions, the teacher can select those that are appropriate for the second round of the game. This round can be played as a class following the instructions for the printed version of the game that are available in the printed curriculum.

5. Students are asked to write a letter or email message that could be sent to someone, telling of the risks of alcohol exposure to a developing baby. They are also asked to include their advice regarding the importance of preventing these problems and their ideas about how prevention should be achieved. The teacher would encourage the students to make their letters as compelling and effective as possible. Students present their letters or email messages to their teacher and/or to their classmates, either orally or by posting them in the classroom. The teacher or students may select the most effective letter(s) or prevention strategies. The teacher may lead the class in a discussion of how to distribute this information beyond the classroom. Teachers evaluate the letter written by each student.