A Recessive Gene in Utah

Summary

Students participate in an activity which models transmission of a recessive gene.

Group Size

Individual

Materials

- Rare Gene article
  (attached)
  checkers or other form of markers

Background for Teachers

Time Needed:

Will vary depending on what you wish to do with the article

Instructional Procedures

Read the article. The last couple of paragraphs may be problematic depending on your school situation and you may wish to delete them.

Have students answer questions such as:

- What is fumerase deficiency?
- What are the symptoms?
- Why is it concentrated in So. Utah?

Use checkers or other markers and demonstrate in class how a trait can be concentrated though intermarriage of related persons.

- Give 4 students two markers apiece and have them hide them in their hand. They are carriers from the same family.
- Each carrier should be assigned 3 "children". They should give 2 children markers and one not.
- Each of the "children" should pair up with a "child" from another family carrying the trait. They should not reveal whether they have marker or not.
- Count how many of the pairs get two markers and would have a child with the recessive condition.
- For the more normal condition: Give a member of the class outside the "families" a marker and redo the simulation.
- Instead of marrying inside the family, the children should choose a class member outside the family to pair with. Count the number of offspring with two markers under these conditions.
- The model should show students that if they marry outside the "family" they would have had little chance of two markers coming together.

For a writing activity, ask students to write a paragraph defending a persons' choice to marry within their family or to defend a position that it should be unlawful to marry closely related persons.

Bibliography

Lesson Design by Jordan School District Teachers and Staff.

Authors

Utah LessonPlans