

Appendix A: Example group discussion and clicker questions

You are a juror in a malpractice case in which a couple sues their doctor because their child was born with Down Syndrome. The couple alleges that the baby's condition was the result of the hospital keeping the temperature in the delivery room too cold, which prevented the mother from completing labor thus the baby now suffers from Down Syndrome.

Clicker Q#1: What is Down Syndrome?

1. A condition caused when the mother drinks alcohol while pregnant.
2. A form of childhood cancer.
3. A birth defect resulting in a split upper lip and speech problems.
4. A condition caused when the baby has too many copies of chromosome 21.
5. A form of brain damage that results when the baby receives too little oxygen during birth.

Discussion Q: How do we normally get the correct chromosome number during division?

Clicker Q#2: The different copies of chromosome 21 seen in a couple are shown above. Which of the following is a gamete that would be produced by one of the parents? (Appendix C, D)

Clicker Q#3: How can a cell end up with an incorrect number of chromosomes?

1. The chromosomes do not separate correctly during mitosis or meiosis.
2. The chromosomes are copied incorrectly during mitosis or meiosis.
3. Cells divide too many times.
4. The chromosomes become damaged when they are being copied.
5. Cells eliminate chromosomes they don't need. Sometimes this doesn't happen like it should.

Clicker Q#4: Based on the information below, when and where did the mistake occur? (Appendix E)

1. Meiosis I of parent #1
2. Meiosis I of parent #2
3. Meiosis II of parent #1
4. Meiosis II of parent #2
5. Either Meiosis I or II of parent #1

Cooperative learning in large classes

