Topic: Chromosome Mutation Activity

Summary: Students mimic chromosome mutations by cutting and pasting paper chromosomes.

Goals & Objectives: Students will be able to visually see the 5 types of chromosomal mutations. Students will be able to demonstrate the different types of chromosomal mutations.

Standards: *CA 4c. Students know* how mutations in the DNA sequence of a gene may or may not affect the expression of the gene or the sequence of amino acids in an encoded protein.

Time Length: 25 minutes

Materials:

- Scissors; one per student is best or one per two students
- Glue sticks
- Photocopied worksheets

Procedures:

1. Photocopy page 1 and hand out to the students. Photocopy page 2, cut into pieces and hand only one section to each student.
2. Tell the students which section they are to use in the textbook or their associated lecture notes.

Accommodations: Students who cannot use scissors can give verbal directions to another student. Students with an IEP can take the handout home if they need extra time.

Evaluation:

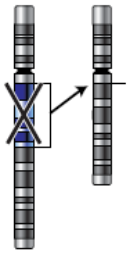
Each mutation is worth 2 points each for a total of 10 points.

Name: _____ Row: _____

Date:_____ Period:_____

Chromosome Mutation Activity

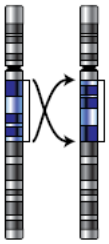
Cut a rectangle around all the numbers keeping the individual squares attached. Each 1-6 box represents a chromosome. Once you have 8 strips of paper, you will cause 5 different mutations to the chromosomes. You can cut out, insert, or flip the segments of the chromosome to cause the mutation. Only glue the **mutated chromosome** next to the label on the left. You will glue a mutated square and circle chromosomes for both insertion and translocation.

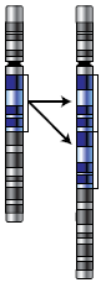


Deletion : Example

1	2	4	5	6

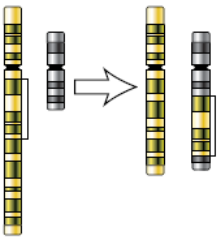
Inversion



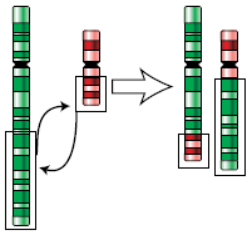


Duplication

Insertion



Translocation



1	2	3	4	5	6
1	2	3	4	5	6
1	2	3	4	5	6
1	2	3	4	5	6

use for insertion mutation

1	2	3	4	5	6
1	2	3	4	5	6
1	2	3	4	5	6
1	2	3	4	5	6

use for translocation mutation

1	2	3	4	5	6
1	2	3	4	5	6
1	2	3	4	5	6
1	2	3	4	5	6

use for insertion mutation

1	2	3	4	5	6
1	2	3	4	5	6
1	2	3	4	5	6
1	2	3	4	5	6

use for translocation mutation

1	2	3	4	5	6
1	2	3	4	5	6
1	2	3	4	5	6
1	2	3	4	5	6

use for insertion mutation

1	2	3	4	5	6
1	2	3	4	5	6
1	2	3	4	5	6
1	2	3	4	5	6

use for translocation mutation