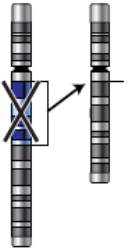


## Chromosome Mutation Activity

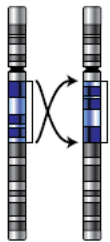
On the left, the numbered rectangle represents a chromosome. Each of the numbers are meant to represent several bands on a chromosome. Cut out each rectangle chromosome while keeping the individual numbered squares attached. Your goal is to perform a mutation to each of your numbered chromosomes. Tape or glue the mutated chromosome to the paper next to each type of mutation. The insertion and translocation mutations will require two different chromosomes (circle and rectangle). One rule is each mutated chromosome must start with the number one and end with the number six.



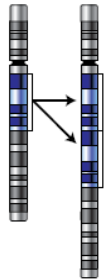
Deletion : Example

1	2	4	5	6
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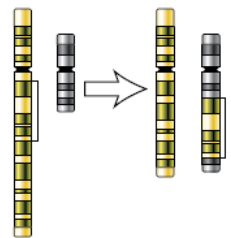
Inversion



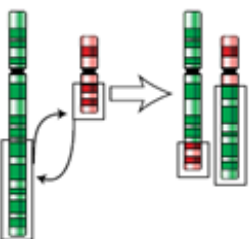
Duplication



Insertion



Translocation



**Practical Applications:**

1. You notice a sign in a parking structure that says "Warning: This area contains chemicals known to the state of California to cause cancer and birth defects or other reproductive harm". How can these harmful chemicals affect your DNA?

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**CER:** Make and defend a claim based on evidence from this activity that (1) inheritable genetic variations may result from (2) mutations caused by (3) environmental factors.

Claim: \_\_\_\_\_

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Evidence #1: \_\_\_\_\_

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Evidence #2: \_\_\_\_\_

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Evidence #3: \_\_\_\_\_

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