This is ONE set of homologous chromosomes. During meiosis, the sister chromatids of the chromosomes “cross over” and switch genes. This generates genetic diversity. You are going to use these chromosomes to illustrate crossing over during meiosis.

1. Color each chromosome a different color, and number the chromatids
2. Cut out the entire replicated chromosome
3. Form a tetrad and **cross over!**
   * Actually cut and switch genes between mom and dad.
   * **Be sure to switch the same chromatid** from mom and dad
4. call Ms. Grant over, and show her **Anaphase 1 and Anaphase 2**
5. Create your gametes in your journal!
   * Either make 4 sperm or one egg and 3 polar bodies.
   * This means glue in the chromosome, and draw the gamete around it.
6. Using Ms. Grant’s Key, figure out what genes the gametes will pass on!
7. Write the final traits the gamete will pass on into your journal

D

D

C

d

c

c

D

C

b

b

A

A

B

B

a

a

Chromosome from mom

Color one solid color

Chromosome from dad

Color one solid color (different color)

A= brown hair

a= blonde hair

B=Brown Eyes

b=blue eyes

C= free earlobes

c= attached earlobes

D= normal hearing

d= deafness