

## Human Karyotyping Activity (Normal)

### **Purpose:**

To determine the normal karyotype of a male or a female.

### **Materials:**

A piece of construction paper

Scissors

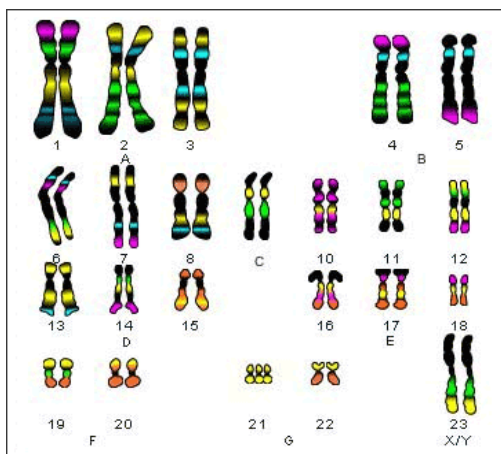
Glue or tape

Picture of normal male or female karyotype (photocopied on large paper to cut out)

Pen/pencil

### **Procedure:**

1. Cut out each chromosome separately.
2. Pair up each chromosome with its homologous pair. Use the size and the pattern of markings on the chromosomes to determine pairs.
3. On the construction paper provided, arrange the chromosomes from largest to smallest and number them directly below each pair. Your numbers should start at 1 (the largest pair of chromosomes) to 22 (being the smallest pair of chromosomes). Put the sex chromosomes (each is labeled either X or Y) last and label them number 23. Glue or tape the chromosomes in the correct order. Make sure both chromosomes are oriented in the same direction. (See example below.)
4. Hand in your construction paper and the question paper with your answers to the teacher.



This activity has been adapted from “A Chromosome Study”, found on the website **Biology Corner** maintained by Shannan Muskopf ([smuskopf@biologycorner.com](mailto:smuskopf@biologycorner.com))

The web address is <http://www.biologycorner.com/worksheets/Chromosomestudy.htm>

Links to printable images of normal male and female karyotypes can be found at this web address. Once printed, the images can be photocopied on larger paper (e.g., 11" x 17") to make it easier for students to do the activity.

Student Name \_\_\_\_\_

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### Questions:

1. How many individual chromosomes are present in your karyotype? \_\_\_\_\_
2. How many chromosomes would be present in each body (somatic) cell? \_\_\_\_\_
3. How many chromosomes would be present in each sex (gamete) cell? \_\_\_\_\_
4. Chromosomes that are **not** sex chromosomes are called autosomes. How many autosomes are present in your karyotype? \_\_\_\_\_
5. Does your karyotype represent a female or a male? \_\_\_\_\_  
Explain your answer.
  
6. What is the diploid chromosome number for your karyotype? \_\_\_\_\_
7. What is the haploid number for your karyotype? \_\_\_\_\_