

## WHICH GENDER?

**PURPOSE:** To determine the chances of having either a boy or girl child.

**MATERIALS:** Per pair –

2 paper sacks

15 small pink objects (buttons, beads, etc)

5 small blue objects (buttons, beads, etc)

**PROCEDURE:**

1. Work in teams of two; one partner will be the “mother,” one will be the “father.”
2. Label one sack “mother.”
3. Label the other sack “father.”
4. Put 10 of the pink objects in the sack labeled ‘mother.’ These represent the X chromosomes of the female.
5. Put the 5 blue objects and the remaining 5 pink objects in the sack labeled “father.” The blue objects represent the Y chromosomes of the male, the pink one represent the X chromosome of the male.
6. Without looking, each “parent” should take one of the objects out of the appropriate sack.  
Record the results in the data section.  
These are the chromosomes each parent is contributing to the child. If the child has two X chromosomes, it is a girl. If the child has an X and a Y chromosome, it is a boy.
7. Repeat step 6 nine times, for a total of 10 trials.

**DATA:**

Trial	Mother's Chromosome (X)	Father's Chromosome (X, Y)	Gender of Child
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

**ANALYSIS & CONCLUSIONS:**

1. How many times was the child a boy? A girl? Write these numbers as a ratio.
2. Compare your data with the rest of the class. Were the results similar?
3. Explain your answer to number 2.
4. Were these the results you would expect to get? Explain your answer.
5. Draw the Punnett Square that shows the chances for a girl or boy.