Polygenic Traits Lab: How tall is tall?

Purpose: This activity will demonstrate how polygenic traits work and why certain traits in a population can be graphically represented by a bell curve.

Materials: 6 pennies (Genes)

Procedure:

1. Each "couple" (lab partners) will carefully flip all six coins in the cup provided. Shake the cup each time with your **hand over the top.**
2. Record the number of heads and tails that result from the flips in Table 1.
3. Continue to flip the coins **(hand over the top)** and to record the number of heads and tails that result from the flips until Table 1 is complete.

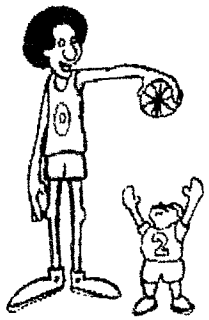

Table 1. Group Results

Flip (Group)	1	2	3	4	5	6	7	8	9	10
# Heads										
# Tails										

4. Add up the number of times the following situations occurred. Record your totals in Table 2 in the row labeled Group Total. Then, add your totals to the Group Total sheet provided by the teacher. When all groups have recorded their results, copy the Class Totals into Table 2.

Table 2. Group and Class Results

Flip Situation	0 Tails 6 Heads	1 Tails 5 Heads	2 Tails 4 Heads	3 Tails 3 Heads	4 Tails 2 Heads	5 Tails 1 Heads	6 Tails 0 Heads
Group Total							
Class Total							

5. Construct a bar graph from the class data on the graph paper below. The number of heads and tails is on the X axis while the number of times that the situations occurred is on the Y axis.

Frequency

		Bar Graph:	**Frequency**	**of Heads**	**and Tails**		
0							
	0 tails 6 heads	**1 tail 5 heads**	**2 tails 4 heads**	**3 tails 3 heads**	**4 tails 2 heads**	**5 tails 1 head**	**6 tails 0 heads**