

**GRADE 12 BIOLOGY**  
**UNIT C - EVOLUTION**  
**POLYGENIC TRAITS - LAB**

Name: \_\_\_\_\_

Date: \_\_\_\_\_

**Polygenic Traits.** Recall the Genetics idea of a polygenic trait:

“Many traits are produced by the interaction of several genes. Traits controlled by two or more genes are said to be polygenic traits. Polygenic means “many genes.” For example, at least three genes are involved in making the reddish-brown pigment in the eyes of fruit flies. Polygenic traits often show a wide range of phenotypes. The variety of skin colour in humans comes about partly because more than four different genes probably control this trait.”

To see the variety - the spectrum - of varieties of traits that might develop let's do a simple lab.

This is very much like the 'Price is Right' Plinko game if you are familiar with that.

Let's assume that a particular trait, let's imagine height is governed by two alleles, T (Tall) and t (short), but on five different genes. So, a zygote could get all T; some T's and some little t's, or no T's, just all little t. It is random.

Go to this website on your device:

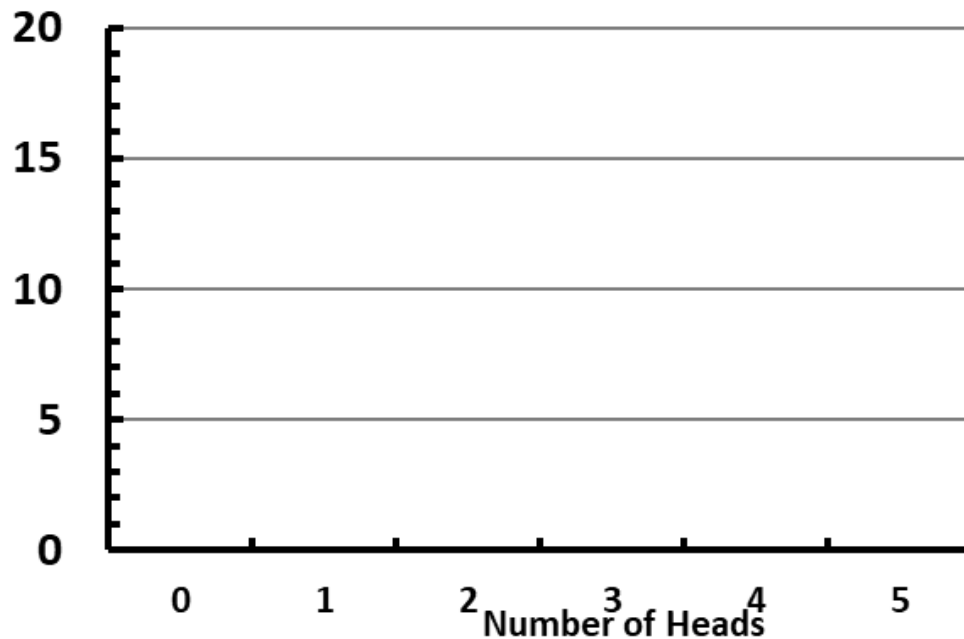


Now select 5 coins to toss. Flip the coins. Record the number of heads on the graph below.

Now **clear that result** and flip the coins again to make the polygenic trait of another organism inheriting some polygenic trait.

Do that 50 times (for a population of 50 organisms)

### Polygenic Gene Distribution



Compare with other students now!! Your populations should be pretty close to the same if they have the same genetic probabilities