**Gregor Mendel: The Father of Genetics**

http://www.kidsbiology.com/biology\_basics/genetics/genetics\_4.php

*Instructions: Read each paragraph. Answer the questiosn at the end of each paragraph.*

Throughout most of human history, the reason why an organism looks like its parents, while looking very different than a hound dog (unless its parents were hound dogs), was not known. This changed in the 1860s, when an Austrian monk by the name of Gregor Mendel began experimenting with peas. Mr. Mendel wanted to find out how lifeforms pass physical characteristics, also known as traits, from one generation to the next.

1. What did Gregor Mendel want to find out using peas?

The traits that Gregor Mendel focused his study on were the height of a pea plant, the color of pea seeds, and the shape of pea seeds. By cross pollinating the pea plants, he carefully controlled which plants reproduced, and tracked how each of these traits was passed on from generation to generation. Cross pollination means that Gregor Mendel took pollination from a pea plant which he selected and put it on another pea plant he selected.

1. What is cross pollination?

To better understand what Mendel learned, let’s explore height, which is one of the pea traits that he experimented with. In his early experiments, Mendel took pollen from short stemmed pea plants and put it on other short stemmed pea plants. The result, as you might expect, is that all the offspring were all short stemmed pea plants. Mendel called these true breeders, because all the offspring were the same as the parents.

1. What is a true breeder?

He then took pollen from long stemmed pea plants and put it on other long stemmed pea plants. What do you thing the result was? If you guessed that all the offspring would also be long stemmed, then you made the same guess as Gregor Mendel. Interestingly, this was not the result. Some of the long stemmed parent plants produced only tall offspring, as you would expect. However, some of the long stemmed pea plants also produced short stemmed offspring. How can this be?

1. Why do you think some long stemmed pea plants also produced short stemmed pea plants?

Gregor Mendel discovered that some of the tall pea plants were true breeders, meaning that they only produced other tall pea plants, while others of the tall plants were not true breeders, because they produced a mixed offspring of both tall and short plants.

1. Some traits are called DOMINANT and some are called RECESSIVE. Do you think tall pea plants are dominant, or recessive? Why do you think that?



