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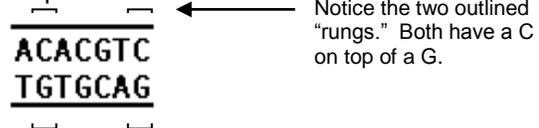
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DNA and Non-sense Code

If DNA could be untwisted, it would look like a long ladder. That ladder's rungs would be patterns of nitrogen bases. The pattern the nitrogen bases make is a code. Scientists have learned how to read this code in order to allow them to understand what an organism's DNA tells about that organism.

A **gene** is a section of DNA containing the code for one specific trait.

For example, look at this clip of DNA:



If **ACACGTC** is the code for blue eyes, then this could be a gene for blue eyes since it contains that code:



Many genes connect together in a long strand of DNA. The nucleus has to read the DNA to figure out what the instructions are. However, if one gene is right next to another gene how does a nucleus know where one gene starts and another ends.

To do this, some "nonsense code" is used to break up the genes. Nonsense code doesn't tell about any trait, it just tells that one gene is ending and another one is starting.

Nonsense code can look like this:



When the nucleus sees these sections of code, it knows that one gene is stopping and another is starting.

So the gene for blue eyes would have two nonsense parts around it



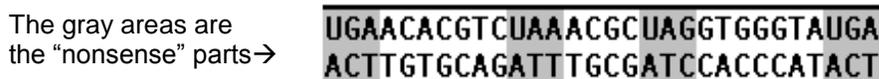
I will not tolerate such non-sense!



Let's put two genes together:



If all this was connected together to form a giant strip of DNA it could look like this:



Now the nucleus can read along the code, and be able to tell where the genes start and stop.

Those make a pretty big code, but remember we are only showing the code for three traits! Your body has millions of traits. Now, that's a lot of code!