

## Hey, where did you get that from?

Just imagine you have received a call from a lawyer. He calls you into his office and you find out that a long lost and very wealthy great uncle has suddenly passed away. He had worked hard all his life and had invested his money wisely. He had also invented several very small but extremely important computer parts which he had patents on. He has left you all his money and the rights to his patents. Sounds great right.



The above story illustrates two ideas in life. Your uncle worked hard and by his industry had **acquired** his wealth. You on the other hand have **inherited** your wealth. Animals and plants have traits that they either inherit or acquire.

### Traits

Traits are qualities, features or other things that distinguish the organism. Traits can include things like hair color, tooth shape, beak shape, bone size, or muscle structure. Traits come in two varieties: acquired and inherited.

### Acquired Traits

Just like your uncle, animals can acquire useful abilities. These acquired traits cannot be passed on genetically. You can't inherit your uncle's knowledge, skills, ideas or memories and it doesn't work that way with other organisms either. Acquired traits include things such as calluses on fingers, larger muscle size from exercise or from avoiding predators. Behaviors that help an organism survive would also be considered acquired characteristics



Attached earlobe

Unattached earlobe

most of the time. Things like where to hide, what animals to hide from and other behavior like that. For plants acquired characteristics might include bending because of wind or growths resulting from insect bites (such as galls).



### **Inherited Traits**

Like our story some things can be inherited. In organisms, inherited traits must come from a parent or other ancestor. A trait may seem to skip a generation or even two or three, but if a trait shows up it must have been present in an ancestor. Mutations are the exception to this rule. Inherited traits include things such as hair color, eye color, muscle structure, bone structure, and even features like the shape of a nose. Inheritable traits are traits that get passed down from generation to the next generation. This might include things like passing red hair down in a family. For animals it may include things like the stripes on a tiger, a skunk's ability to spray, or the flavor of fruit from different apple trees. All plants and animals that reproduce pass on traits to their offspring.

**Answer the following questions on a separate sheet of paper and compare them with a peer!**

1. What traits have you inherited?
2. What traits have you acquired?
3. List five traits that are inherited in animals.
4. List at least three traits that are acquired in animals?
5. Can you list more than four traits which are inherited in plants?
6. Can plants acquire