

# 5-Minute Refresher: Inherited Traits

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# Inherited Traits – Key Ideas

- Animals and plants share many of the same physical traits with their parents. From the beginning, the outward physical characteristics of baby animals and young plants are similar or nearly identical to their adult parents. (There are exceptions in cases of animals who experience metamorphosis like frogs and butterflies.)
- Characteristics of animals such as body structure, skin texture or fur coverings, facial shape, ear, eye and nose size and shape, and body, skin, or fur color are determined by the genetic traits of the parent animal.

# Inherited Traits – Key Ideas

- An animal and a plant has genetic make-up or *genes*, which are found on the chromosomes and determine the animal's and plant's traits.
- These characteristics or *Inherited Traits* stem directly from Deoxyribonucleic acid, or DNA. DNA is a molecule that carries the genetic codes for all living things.
- DNA are more specific in determining the physical characteristics or *traits* for humans, plants, and animals.
- A parent plant and its offspring will share similar characteristics of leaf shape and stem structure. The offspring plant will often look like a miniature version of the parent plant.

# Inherited Traits – Prior Knowledge

- Students will recognize that parents produce offspring that resemble the parent.
- Students will know that planting a seedling will reproduce the exact same offspring plant.
- Students will have an understanding that animals from the same animal group have similar physical traits. For example, all fish have scaly skin and fins. Dogs have four legs, hair covered bodies and a tail.

# Inherited Traits – Learning Objectives for Grades K-3

- Observe and describe inherited traits that are unique to specific plants and/or animals. For example, observe the traits that are unique to a cactus plant.
- Compare and contrast the physical characteristics of a two different plants and/or animals.
- Observe and compare specific plants and animals and their offspring. Describe the common traits of each.

# Inherited Traits – Learning Objectives for Grades 4-6

- Describe how DNA contributes to parents and offspring having common traits. Give examples of those traits.
- Compare and contrast the physical characteristics of a group of related animals. For example, compare and contrast the characteristics of crabs, lobster and hermit crabs.
- Observe and compare specific plants and animals and their offspring. Describe the common traits of each.

# Inherited Traits – Common Misconceptions

- Animals produce “like” animals because the egg of the new animals had to produce the same animal.  
**Reality:** While some animals come from eggs, all animals do not. However, all animals have genetic make-up, which was inherited from their parents.
- Animals and plants inherit traits from the “mother” parent only. Or females inherit traits from mother parents and males inherit traits from father parents.  
**Reality:** Traits are inherited from both parents. The traits inherited depends on the dominance of the genes. Offspring can get different traits from each parent.

# Inherited Traits – Additional Information

- When two animals of different types mate and have offspring, both animals will pass on the traits to the offspring. For example, if two dogs of different breeds create offspring, the puppy offspring will take on the characteristics of both parents. That's because the DNA of both parents will be passed on to the offspring. The dominant (stronger) genes will determine which trait the dog will receive.