

## Think it Over

- 10. Predict** How will lack of nutritious food affect a person's phenotype?

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## Reading Check

### 11. Think-Pair-Share

List one of the summary statements below. Then explain that statement to a partner. Listen as your partner then explains a different statement to you.

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## Genes and the Environment

You learned that the genotype determines the phenotype. Genes, however, are not the only factors that affect phenotype. An organism's environmental conditions can also affect a phenotype. For example, your genotype determines the amount of pigment in your skin. You know that if you stay in the sun, your skin color can change temporarily. Skin color in humans is an example of a phenotype that can be altered by environmental factors.

Plant phenotypes also can be affected by the environment. Plants may be genetically identical but have flowers of different colors if the plants grew in different types of soil.

## Inheritance: A Summary

The relationship between a phenotype and a genotype can be complex. First, each gene's alleles interact. Then, genes interact with each other and the environment to produce a phenotype. The most important points you have read are:

- Traits might show intermediate phenotypes.
- Traits might show two phenotypes at the same time.
- Traits might be influenced by more than one allele.
- Traits might be influenced by more than one gene.
- Traits might be sex-specific.
- Traits might be influenced by the environment.
- Mutations can cause human genetic disorders, which might lead to abnormal traits. 