



- **Attached Earlobe:** In most people the earlobes hang free. However, when a person is homozygous for a certain recessive gene (e), the earlobes are attached directly to the side of the head.
- **Widow's Peak:** In some people the hairline drops downward and forms a distinct point in the center of the forehead. This is known as the widow's peak. It results from the action of a certain dominant gene (W).
- **Tongue Rolling:** A dominant gene (R) gives some people the ability to roll the tongue into a "U" shape when the tongue is extended from the mouth. Nonrollers (r) can do no more than produce a slight downward curve of the tongue.
- **Bent Little Finger:** A dominant gene (B) causes the last joint of the little finger to bend inward toward the fourth finger. Lay both hands flat on the table, relax muscles, and note whether you have a bent or straight little finger.
- **PTC Tasting:** Place a piece of PTC paper on your tongue. If you detect no obvious taste, you are a nontaster and are homozygous for a recessive gene (t). The tasting of this chemical results from the presence of a dominant gene (T).

Questions:

1. How would it help to extend the outermost section by adding another trait?
2. Why are there always two choices as you move to each step?
3. If two people ended up on the same outer space, would they look alike?
4. If you had 100 circles, would these two people look alike?
5. Could two parents who are tasters have a child who is a nontaster? Explain.
6. How do the ratios obtained for the characteristics observed compare to the national average? The national average is 65% for PTC tasting and tongue rolling and 35% for nontasters and nonrollers.
7. How could you account for a variation from the national averages?