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**Lesson 1: “What are heritable traits and how are they inherited?”**

1. Everyone is aware that there are similarities between parents and their children. Below is a list of traits that parents might share with their children. Individually, read each trait and decide on whether it is mostly genetic or mostly not genetic. Circle you answer choice for each trait.

1. Eye color Genetic Not Genetic

2. Height Genetic Not Genetic

3. Hair color Genetic Not Genetic

4. Knowing French Genetic Not Genetic

5. Ability to ride a bike Genetic Not Genetic

6. Having kidneys Genetic Not Genetic

7. Chance of developing cancer Genetic Not Genetic

8. Having mitochondria in skin cells Genetic Not Genetic

9. Being strong Genetic Not Genetic

10. Being good at football Genetic Not Genetic

2. In pairs, discuss your choices and decide on what characteristics make a trait mostly genetic. Then write your list of characteristics on the lines below. There is not a correct number of characteristics. List as many as you can.

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3. As a class, discuss your characteristics.

4. Get into pairs. Now that you have characteristics for what makes a trait genetic, develop a model that **explains how** a genetic trait, like dimples, gets passed on from parents to their children. Write or draw your model in the box below.

Individually, explain your model in your own words.

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5. Now discuss and compare your model with your group. As a group discuss these points:

     A. Explain your model to me.

     B. Do you have any evidence to support your model? What is your evidence? Explain the evidence.

     C. How good do you think your model is? Why? Make sure you use the model goodness criteria as you discuss the answer to this question.