

Science 7  
Date \_\_\_\_\_

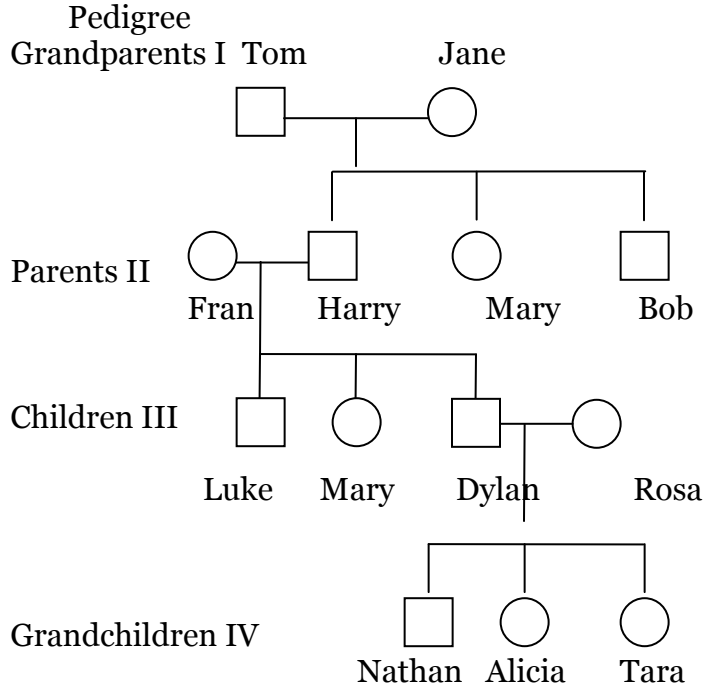
Name \_\_\_\_\_  
Period \_\_\_\_\_

### Tracing traits Project

Have you ever wondered about the traits you inherited from your parent? Do you have a trait that either your parents has? In this project, you will develop a family tree, or pedigree, similar to the one shown below. You will trace an inherited trait through your family to determine how it has passed from generation to generation.

#### Procedure:

1. The diagram at the right shows a family history. On a separate sheet of paper, draw a similar diagram of the family you have chosen. Include as many family members as possible, such as grandparents, parents, children, and grandchildren. Use circles to represent females and squares to represent males. You may include other information, such as the family member's name, birth date, or picture.



Example of a pedigree chart. Make your own on a separate sheet of paper.

2. Use the table below to record data about your family. Survey each member of the family in the family tree you drew. Ask them if they have hair on the middle segment of their fingers. Write each person's name in the appropriate square. Explain to each person, that it is normal to have either trait. The presence of hair on the middle segment is the dominant form of this trait.

Family Member	Dominant Trait (H)	Recessive Trait (h)
	Hair is present on the middle Finger.	Hair Is not present on the middle finger.

3. Trace this trait through out the family tree you diagrams in step 1. Shade in or color the symbols of the family members who demonstrate the dominant form of this trait.

Analyze the results.

1. What percentage of the family members demonstrate the dominant form the trait? Calculate this by counting the number of people who have the dominant trait and dividing this number by the total the total number of people you surveyed. Multiply your answer by 100. An example has been done for you.

**Example: Calculating percentage**

$$\frac{10 \text{ people with trait}}{20 \text{ people surveyed}} = \frac{1}{2} \quad \frac{1}{2} = 0.50 \times 100 = 50\%$$

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2. What percentage of the family members express the recessive form of this trait.

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3. Why doesn't every member of this family have the dominate form of this trait?

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4. Choose one family member who demonstrates the recessive form of this trait. What is this person genotype? \_\_\_\_\_

5. What are the possible genotypes of this person's parents? \_\_\_\_\_

6. Does this person have brothers and sisters? Do they show the dominate or recessive trait? \_\_\_\_\_

7. What is this person's genotype? \_\_\_\_\_

8. What are the possible genotypes for the parents of this individual?

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#### Grade for Project

1 - Point each for correctly answering 8 the analysis question \_\_\_\_\_

10 - Points for having collected data on your family with at least 3 generations. (If this can not be done ask me for a family you can use.) \_\_\_\_\_

10 - Points for correctly making the Pedigree Chart based on your family data.

5 - Point for having a key to your pedigree chart. \_\_\_\_\_

5 - Points for neatness. \_\_\_\_\_

5 - Points for effort. \_\_\_\_\_

Grade = \_\_\_\_\_/43 X 100 = \_\_\_\_\_