**Family Pedigree With Traits**

**Purpose:** To examine inheritance by tracing family traits

**Procedures:** Using the family genealogy chart that you created in the Family Pedigree assignment, add traits for each member of your family. You **MUST** choose at least 5 traits, but you may choose up to 10 for **extra credit**.

Family Pedigree:

Remember the following rules:

1. The oldest member of your family on the chart will be at the top.
2. Female family members’ names will be in a rectangle. Keep all rectangular boxes the same size.
3. Male family members’ names will be in a circle. Keep all circles the same size.
4. Family members of the same generation will lie on the same line, as in below:

   ![Family Pedigree Diagram](image)

5. A horizontal line will connect couples who have had children, as in below:

   ![Family Pedigree Diagram](image)

6. A vertical line will connect parents and offspring, as in below:

   ![Family Pedigree Diagram](image)

**Note:** In order to keep the task manageable, you may need to limit your focus to one side of your family. Clearly indicate and label the subject of the genealogy chart (themselves or another adult).

**Marking family traits:**

Every family as a set of traits that is peculiar to their family, such as large noses. From the table below, find at least five traits, but no more than ten, to trace on your family pedigree. Clearly indicate and label the traits that you are tracing. Use the letter below to indicate a particular allele, and upper case letters for the dominant allele, and lower case letters for the recessive allele. For example, for tongue roller, use the letter “T” for family member who can roll their tongue, and “t” for family members who cannot roll their tongue. As much as possible, use different letters.
**Table of Traits:**

1. **Tongue Roll**
   - RR or Rr = tongue roller
   - rr = non-roller

2. **Widow’s Peak**
   - WW or Ww = widow's peak
   - ww = no widow's peak

3. **Hitchhiker’s Thumb**
   - TT or Tt = hitchhiker’s thumb
   - tt = no hitchhiker’s thumb

4. **Ear Lobes**
   - EE or Ee = unattached ear lobes
   - ee = attached ear lobes

5. **Hair Color**
   - BB = black
   - Bb = brown or red
   - bb = blonde

6. **Blood Type**
   - AA, AB, BB, 00

7. **Size of Nose**
   - LLN = large
   - LlN = medium
   - llN = small

8. **Size of Ears**
   - LLE = large
   - LlE = medium
   - llE = small

9. **Size of Eyes**
   - LLY = large
   - LlY = medium
   - llY = small

10. **Eyelashes**
    - LLL = long
    - LlL = long
    - llL = short

**Note:** Use the subscript N for nose size, E for ear size, and Y for eye size, and L for eyelash length.

11. **Shape of Lips**
    - TT = thick
    - Tt = medium
    - tt = thin

12. **Hair Texture**
    - HH = curly
    - Hh = wavy
    - hh = straight

13. **Spacing of Eyes**
    - WW = wide
    - Ww = normal
    - ww = narrow

14. **Baldness**
    - BB = normal
    - Bb = normal
    - bb = bald

15. **Face Shape**
    - RR = round
    - Rr = round
    - rr = square

16. **Nostril Hair**
    - NN = lots
    - Nn = some
    - nn = few

17. **Eyebrows**
    - BB = bushy
    - Bb = bushy
    - bb = fine

18. **Eyebrow Position**
    - NN = unconnected
    - Nn = unconnected
    - nn = connected

19. **Freckles**
    - FF = present
    - Ff = present
    - ff = absent

20. **Dimples**
    - DD = present
    - Dd = present
    - dd = absent

21. **Eye Shape**
    - AA = almond
    - Aa = almond
    - aa = round

22. **Eye Position**
    - SS = straight
    - Ss = straight
    - ss = slanted up

23. **Chin Cleft**
    - CC = absent
    - Cc = absent
    - cc = present

It’s always useful to also include some of the following information, if you have it.

- Place of birth/origin
- Date of birth
- Date of death (if applicable)
- Profession

**Written Critique**

Finally, write an analysis detailing the process of creating the chart. You should discuss successes and problems encountered in creating the chart as well as any surprises or discoveries made during the process. A paragraph or more should be devoted to analyzing the genetic traits of the relatives on the chart. What patterns related to genetics and inheritance do you see in your chart? Finally, what hypotheses or conclusions can you draw from examining your genealogical data?