



PLTW Virtual Learning

Medical Detectives

Lesson 7

April 14, 2020



7 & 8 Grade Medical Detectives

Lesson: April 14, 2020

Objective/Learning Target:
Lesson 7, Part 2

Students will be able to understand and create a pedigree.

Warm-Ups:

Answer the following questions:

1. What is a pedigree?
2. Do families have pedigrees?
3. Is it only for dogs and other domestic animals?
4. What is it used for?
5. What does it have to do with Medical Detectives?



Lesson Introduction/Background Information: What is a Pedigree?

A pedigree is a chart of the genetic history of a family over several generations.

What's a generation? A body of living beings constituting a single step in the line of descent from an ancestor.

Why is it important? A genetic counselor or scientists can find out about your family history and make a chart to analyze this information.

This pedigree information can be used to trace various genetically inherited diseases or traits an individual may have, which is a part of being a medical detective and what physicians do when analyzing a patient's symptoms.

Practice:

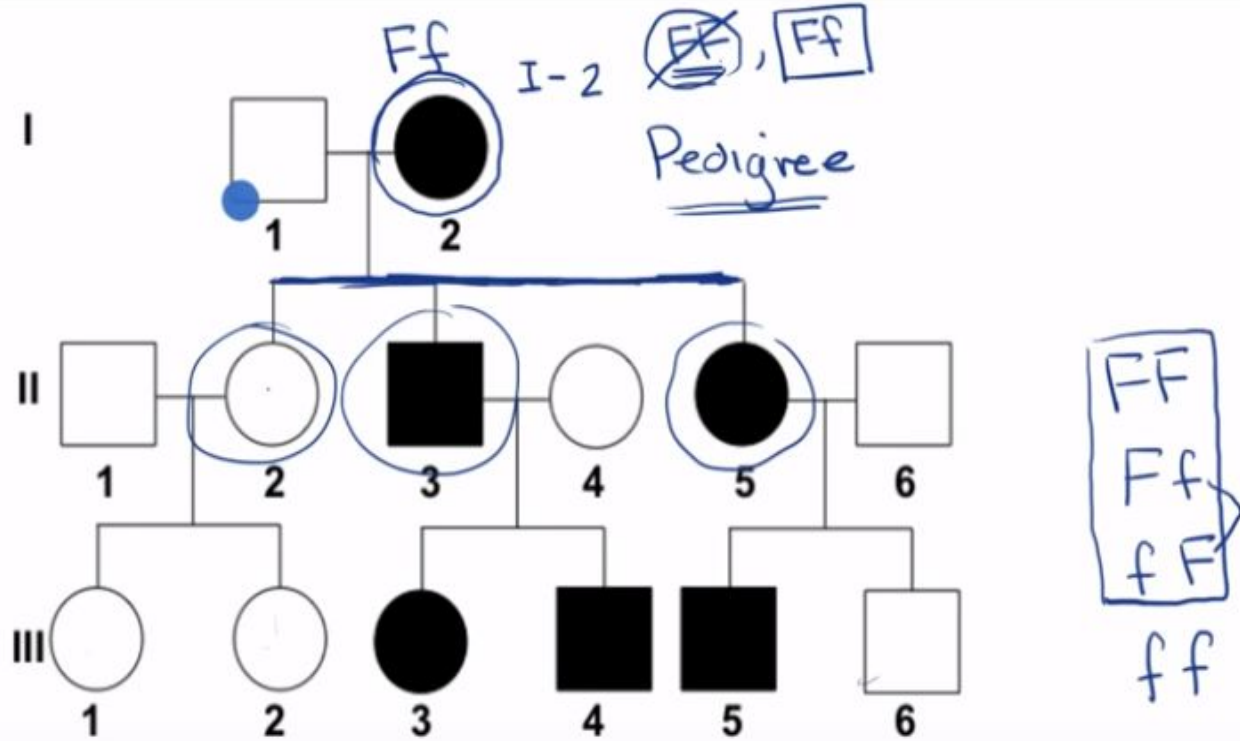


Pedigrees - Classical Genetics Watch the video and

answer the questions below.

1. What does the square symbol mean? _____
2. What does the circle symbol mean? _____
3. What does it mean when the symbol is filled in? _____

Practice:



Autosomal dominant trait F f

Practice:



Looking at the chart in the previous slide and from the video on slide 5, answer the following questions.

1. How many generations are represented in this pedigree? _____
2. Who had the dominant trait of freckles? _____
3. How many children were born from generation 1? _____
4. How many children had freckles in generation 2? Male or female? _____
5. How many children were born from generation 2? _____
6. How many children had freckles in generation 3? Male or female?

7. In generation 3, how would you label those with the trait of freckles? FF, Ff, fF or ff? _____

Practice: Answer Key

Check your answers below for the interactive video, Learned and Inherited Behaviors.

1. **Three**
2. **The Female**
3. **Three**
4. **One male and one female**
5. **Six**
6. **Two males and one female**
7. **Ff or fF**



Self Assessment:

Create a pedigree of your family after watching the video

[Pedigree Charts.](#)

Grab a piece of paper and create your family's pedigree. This will include 3 generations ... your grandparents, parents, and yourself and siblings.

Remember to use the proper symbols for each person and generation. Don't worry about including any traits shared by your family unless you would like to.



Answer Key:

Answers will vary.



1. Did you include the correct symbols?
2. Did you show the generation lines correctly?
Including the sibling lines?
3. Did you number your generations?

Extend Your Learning/Continued Practice:

- 1. Continue expanding on your pedigree chart that you already created for your family by adding your great grandparents and even great, great grandparents, if possible.**
- 2. Create a chart for another member of your family, such as an aunt, uncle, or a cousin.**