Grade Level: 9th Subject: Biology Teacher: Grochowalski

Go to this link and read the article about genetics and addiction. Answer the questions.

http://learn.genetics.utah.edu/content/addiction/genes/

1. Can addiction be inherited? If you inherit addiction genes does that mean you will become an addict?

2. Explain how genes influence addiction.

3. What is a pedigree used for?

4. How do animal models help scientists research addiction?

5. How does medication treat addiction?

Go to this link and to learn how to use a pedigree.

http://learn.genetics.utah.edu/content/addiction/pi/

Read the information and click play.

Read the information and click next.

Under the title "Pedigree Analysis Information"

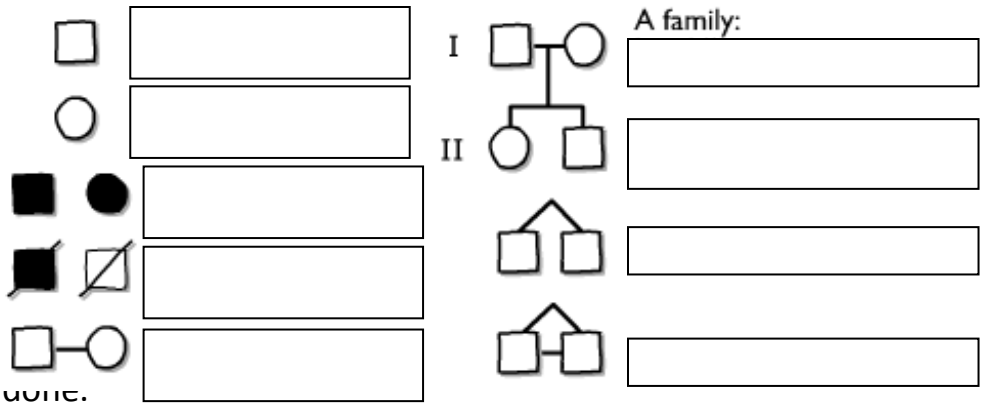
Click "What is it?" Read and click next for each slide. Answer the questions as you go.

1. What is a risk factor?

Click done.

Click “What do the symbols mean?”

2. Define each symbol here.

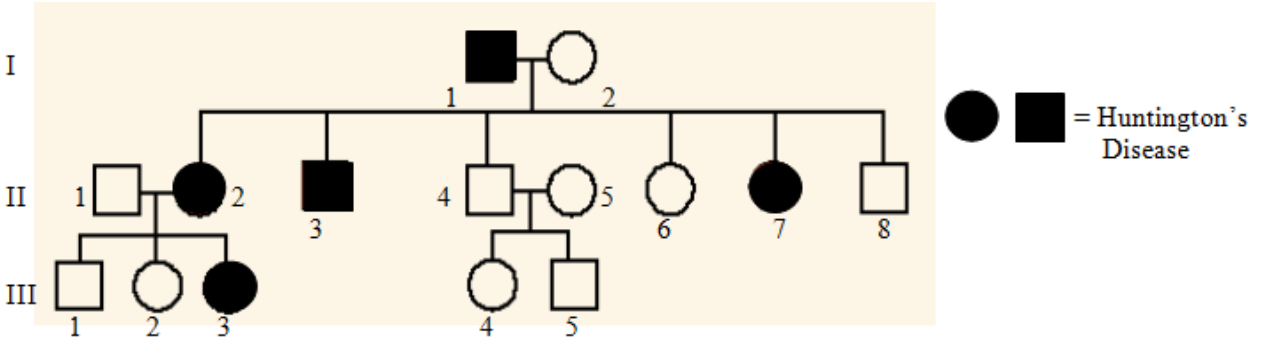


Click done.

Click “Why do it?”

3. What are two common complex disease scenarios:

Click done. Follow the directions in the text box in the top left of the screen to complete the pedigree.



1. Which members of the family above are afflicted with Huntington's Disease? _____

2. There are no carriers for Huntington's Disease- you either have it or you don't.
With this in mind, is Huntington's disease caused by a dominant or recessive trait? _____

3. How many children did individuals I-1 and I-2 have? _____

4. How many girls did II-1 and II-2 have? _____ How many have Huntington's Disease? _____

5. How are individuals III-2 and II-4 related? _____ I-2 and III-5? _____