Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**MEMORY HACKERS (PBS, 2016)**

1. What is your earliest memory?
2. What is your happiest memory?
3. Describe Highly Superior Autobiographical Memory (HSAM). How many adults have been discovered with this ability?

**What is a MEMORY? (11:00)**

1. Henry Molaison is known as HM. What did scientists learn from him? And HOW?
2. When asked to do the training activity (tracing the star), what did HM believe?
3. What did his performance prove?

**Eric Kandel wants to know HOW long term memories are stored.**

1. What animal did he study?
2. What did he hope to learn?
3. How did he Classically Condition the animal?
4. Kandel turned memory into a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ question.
5. We now know that memory formation cause a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Where does a memory reside? (20:00)**

1. TRUE FALSE All memories are stored in the hippocampus.
2. A memory only becomes alive when you \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
3. Memory has been pictured like a library. Is this true?
4. The act of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the memory will rewrite the story.
5. How did Karim Nader test this?
6. Nader was able to erase a memory. How?
7. Every time a memory is recalled it is vulnerable to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Reconsolidation (30:00)**

1. Reconsolidation could be used to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ memories.
2. How did they prove this?
3. How could this be put to practical use (besides erasing fears of spiders)?

**Unreliable Memories (37:00)**

1. Elizabeth Loftis studies how \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_memories are.
2. Describe Julia Shaw’s study on false memories.
3. Shaw was able to convince over 70% of participants that they \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

1. How does this affect the criminal justice system?
2. Optigenetics involves the use of light to control cells in living tissue, typically neurons. In this case, it allows scientists to map a specific memory and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ it with \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
3. What is a downside to HSAM?
4. Why is forgetting important?