Objective’s for Today’s Class:
Why do we forget?
What is amnesia?

If you couldn't forget, your mind would be
__________________________
__________________________
The ability to forget is essential to the proper functioning of memory

Normal Forgetting
- Memory traces gradually decay
  - During any delay a memory is subject to the __________________________
- Decay: loss of information from memory as a result of disuse and the ______________________
- Memories seem to be forgotten because we no long have the appropriate reminders
Normal Forgetting

Found that most forgetting occurs during the first 9 hours after learning

- Recall drops from 100% to 50% correct within 20 minutes of list learning

After the first several hours – forgetting levels off and slows at that point

If we forget so quickly, why put effort into learning something?

Researchers have demonstrated that forgetting is not as extensive as Ebbinghaus envisioned.

- Studied only meaningless nonsense syllables.

When we memorize more meaningful material, forgetting is neither so rapid nor so extensive.

Reasons for Forgetting

Encoding failure
Reasons for Forgetting
- **Storage failure**
  - The information is in long term memory but you are unable to access it
- **Interference**
  - Proactive interference
  - Retroactive interference

Proactive Interference
- Old material increases forgetting of the new material
- The mental attic gets cluttered

Example
A student studies for a psychology test on Saturday and a sociology test on Sunday. It is Monday and the student is taking the sociology test. He has trouble remembering the sociology information because he confuses it with the psychology information.
- The psychology information was learned first
- The sociology information was learned second
The first information interfered with remembering the second information
Retroactive Interference

New information interferes with recall of old information

Pretend that you’ve been sneaking around on your long-term girlfriend/boyfriend for a couple of months. One day, while talking to your significant other in some casual context, you address them by the name of your secret lover.

New information has interfered with your recall of older information.

Memories often do fade with the passage of time, but decay alone cannot explain forgetting.
Decay theory suggests that the passage of time always increases forgetting.

This theory suggests that when we learn something new, a neurochemical memory trace forms, but over time this trace disintegrates.

Severe Forms of Memory Loss

Amnesia

People with amnesia tend to have poor factual memories, but ____________________________

- Amnesiacs show preserved performance on tests of implicit memory (which do not require conscious recollection for successful performance)
- On tests of explicit memory, amnesiacs show much more severely impaired performance (requires that the individual recognize the correct answer and be aware that long-term memory is being tapped)
Two Types of Amnesia

- **Retrograde Amnesia**
  - involves memory loss for a segment of the past but not for new events.
  - Retrograde amnesia is much more common than anterograde amnesia
  - frequently occurs when the brain is assaulted by an electrical shock or a physical blow such as a head injury to a football player.

- **Anterograde Amnesia**
  - a memory disorder that affects the
  - People who find it hard to remember ongoing events after suffering damage to the head
  - They do not tend to forget their childhood or who they are, but have trouble remembering day-to-day events

---

Are Memories Accurate?

Memory is not a perfect reflection of reality. Memory is like the water in this glass. One drop of color, which represents experiences in the world, can change the memory completely.
Many people have memories for events that could not have happened.

The misinformation effect is ____________.

Eyewitnesses reconstruct their memories when questioned about the event.

When people who had seen the film of a car accident were later asked a leading question, ____________.

False Memories

Many of our memories are incorrect because memory is so susceptible to outside influence. This is not a flaw in our memory system...we all have false memories.
How Can You Improve Your Memory?

Encoding Specificity Principle
The information present at the time of

If you experience something while you're in a particular mood – you are more likely to think of it again when you are in the same mood.

State-dependent retrieval
The tendency to remember something better if your body is in the same condition during recall as it was during the original learning.

Mnemonic Devices
Any memory aid that is based on encoding each item in a special way

- Use silly images
  The sillier the image the more effectively you will remember it

- Use pleasant images
  Your brain often blocks out unpleasant images

- Use vivid colorful images
  They are easier to remember than boring ones

- Use all your senses to code information
  Mnemonics can contain sounds, smells, tastes, touch, movements, feelings, and pictures
Verbal Mnemonics

- Word associations (i.e., acronyms or acrostics)

Example:
- ROY G BIV (acronym for colors of the spectrum)
- King Philip Came Over For Good Sex (acrostic for order of taxonomy in biology)

How Should You Study?

- Distributed practice is better than massed practice
  - Ten 1-hour blocks is better than one 10-hour block

- You should continue to rehearse the material after you first appear to have mastered it
  - Skimming or speed-reading will not promote long-term retention

How Should You Study?

- Active is better than passive (allows you to engage in deeper processing)
  - Writing out a detailed outline is better than passively reading over notes
  - Try to relate material to your own life and experience rather than just memorizing material
  - The better organized you are – the better you learn and remember