What is the Brain?
The Brain

- Contains 1 trillion cells
- One neuron can have up to 1500 synapses
- Consistency of hard Jell-O
- When awake, your brain produces enough electricity to power a small light bulb
Synapses: How Neurons Communicate
Neurotransmitter-Receptor Binding: The Lock and Key
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- Drug A binds to receptor
- Drug B cannot bind to receptor
Serotonin and Dopamine

Involved in:
- Reward
- Mood
- Pleasure/pain
- Learning & memory
Drug Use, Abuse, and Addiction
Drug Categories

1. Opiates
2. Hallucinogens
3. Stimulants
4. Depressants
5. Cannabinoids
6. Date rape drugs
7. Dissociatives
8. Prescription drugs
9. Inhalants
Why Do People Take Drugs?
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- “It feels good”
- To fit in
- Curiosity
- To escape reality
- Help with illness
- Relieve pain
- Enhance performance (academic, sports, etc)
The reward pathway
Drugs Can Change Brain Circuitry

Drugs can “hijack” the brain’s natural connections and change them, which can cause a variety of consequences.
Addiction

You’re no longer in control... The drug controls you.