1. **Uptake transporter protein inhibitors**
   a. Below is a picture of how the anti-depressant drugs like Prozac works. SSRI, selective serotonin reuptake inhibitors) is one of the main ingredients in Prozac. Explain how it works and the neurotransmitter involved.

   ![SSRI Mechanism](image1)

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   b. Adderall contains amphetamine, a stimulant, known to treat the symptoms of ADHD and narcolepsy. Explain how it works and the neurotransmitter involved.

   ![Amphetamine Mechanism](image2)
2. Neurotransmitter mimickers - Narcotics or **painkillers** like Percocet, Morphine, Fentanyl, and Ketamine work similarly by mimicking a neurotransmitter like endorphin (Morphine).

What happens after an opioid docks on the receptor on the post synaptic nerve?

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3. Enzyme Inhibition Anti-inflammatory Medicine like acetaminophen, aspirin, and ibuprofen inhibits the enzyme that produces inflammation reaction. Use one of the medicines to explain how this works.
4. Asthma medicines like Albuterol sulfate works to relax the bronchial smooth muscle. Explain how it works. In the picture, B2 receptor antagonist would be the albuterol.

6. The diagram below shows how HIV works. Explain how you would engineer the drug to stop its attack on the T-cells.