

CHAPTER 11	Thought Lab 11.1: The Effects of Drugs on Neurons and Synapses Answer Key	BLM 11.1.16A
ANSWER KEY		

Answer to Analysis Question

1. Addictive properties are unique to each drug. However, one area you could focus on is the action of drugs at a synapse. A drug can affect a neurotransmitter in these ways:
 - a) it can cause leakage of the neurotransmitter out of a synaptic vesicle into the axon terminal;
 - b) it can prevent release of the neurotransmitter into the synaptic cleft;
 - c) it can promote release of the neurotransmitter into the synaptic cleft;
 - d) it can prevent the re-uptake of the neurotransmitter by the presynaptic membrane;
 - e) it can block the enzyme that breaks down the neurotransmitter; or
 - f) it can bind to a receptor protein, mimicking the action or preventing the uptake of a neurotransmitter.

Taking drugs that affect the nervous system leads to physical dependence and withdrawal symptoms if the drug is not taken regularly.

Answer to Extension Question

2. Form your arguments for or against based on facts—not on emotion or urban legends.