1. (Page 1.) At synapses, ions move across cell membranes through chemically-gated channels. The gates are opened or closed by _____________.
   a. synapses  
   b. neurotransmitters  
   c. synaptic potentials

3. (Page 3.) Passive channels are responsible for establishing the ________ ________ ________.
   a. action potentials  
   b. synaptic potentials  
   c. resting membrane potentials

5. (Page 3.) Chemically-gated channels are responsible for producing ________ ________.
   a. action potentials  
   b. synaptic potentials  
   c. resting membrane potentials

7. (Page 3.) Voltage-gated channels are responsible for generation and propagation of the ________ ________.
   a. action potentials  
   b. synaptic potentials  
   c. resting membrane potentials

8. (Page 4.) Binding neurotransmitter to a receptor on the postsynaptic cell causes a change in the shape of the receptor. This can ________, or in some cases ________, the ion channel.
   a. open, close  
   b. depolarize, repolarize

9. (Page 4.) Neurotransmitters that bind to ion channels are said to act directly. They cause a brief, rapid change in the membrane potential of the ______________ _________.
   a. presynaptic cell  
   b. postsynaptic cell

10. (Page 4.) Directly-acting neurotransmitters include __________, __________, __________, and __________.
    a. acetylcholine, glutamate, GABA, and glycine  
    b. acetylcholine, glutamate, GABA, and serotonin  
    c. acetylcholine, norepinephrine, epinephrine, and dopamine

12. (Page 5.) An ____________ ________ ____________, or ________, is produced when the movement of ions makes the inside of the cell more positive.
    a. excitatory postsynaptic potential, EPSP  
    b. inhibitory postsynaptic potential, IPSP

14. (Page 5.) Notice that more sodium moves ______ ______ ______ than potassium moves out.
    a. into the cell  
    b. out of the cell

15. (Page 5.) Excitatory postsynaptic potentials ____________ neurons.
    a. hyperpolarize  
    b. depolarize
17. (Page 6.) An ___________ __________ __________, or ________, is produced when the movement of ions makes the inside of the cell more negative.
   a. inhibitory postsynaptic potential, IPSP  b. excitatory postsynaptic potential, EPSP

26. (Page 7.) In the resting neuron, movement of ________ out of the cell acts to hyperpolarize the cell.
   a. sodium  b. chloride  c. potassium

27. (Page 7.) Closing these channels results in the membrane potential becoming ____ ______ and _________ the cell.
   a. less negative and depolarizing  b. more negative and hyperpolarizing

28. (Page 7.) __________ of the cell by the indirect method is time consuming. The resulting __________ __________ is slow in onset, and long in duration.
   a. Depolarization, depolarization  b. Hyperpolarization, hyperpolarization

29. (Page 7.) Besides excitation, indirectly-acting neurotransmitters can also produce slow inhibition. The neurotransmitters __________, __________, ________, and ________ can act indirectly as well as directly, depending on the receptor to which they bind.
   a. acetyl choline, norepinephrine, epinephrine, and dopamine
   b. acetylcholine, glutamate, GABA, and serotonin

30. (Page 7.) The catecholamines (______________, __________, and __________) and peptide neurotransmitters only act indirectly.
   a. norepinephrine, epinephrine, and dopamine  b. glutamate, GABA, and serotonin

31. Choose the correct order of these reactions:
   a.  
   b.  
   c.  
   d.  