UNIT 4: SENSATION & PERCEPTION

- Sensation
- Sensory Receptors
- Perception
- Bottom-up processing
- Top-down processing
- Selective attention
- Inattentional blindness
- Change blindness
- Transduction
- Psychophysics
- Absolute threshold
- Signal detection theory
- Subliminal
- Difference threshold
- Priming
- Weber's law
- Sensory adaptation
- Perceptual set
- Extrasensory perception (ESP)
- Parapsychology
- Wavelength
- Hue

- Intensity
- Cornea
- Pupil
- Iris
- Lens
- Retina
- Accommodation
- Rods
- Cones
- Optic nerve
- Blind spot
- Fovea
- Young-Helmholtz trichromatic (three-color) theory
- Opponent-process theory
- Feature detectors
- Parallel processing
- Gestalt
- Figure-ground
- Grouping
- Depth perception
- Visual cliff
- Binocular cue
- Retinal disparity

- Monocular cue
- Phi phenomenon
- Perceptual constancy
- Color constancy
- Perceptual adaptation
- Audition
- Frequency
- Pitch
- Middle ear
- Cochlea
- Inner ear
- Sensorineural hearing loss
- Conduction hearing loss
- Cochlear implant
- Place theory
- Frequency theory
- Gate-control theory
- Olfaction
- Kinesthesia
- Vestibular sense
- Sensory interaction
- Embodied cognition

Write your answers in complete sentences in your notebook.

1. What is prosopagnosia? Is it an issue with the *senses* or *perception*?
   _____

2. What three examples from the animal kingdom does Myers give to explain how senses are adapted to help with survival in their environments?
   _____
   _____

Module 16

3. What is the difference between sensation and perception?
   _____
   _____

4. What metaphor does Myers use to explain selective attention?
   _____

5. What does the *cocktail party effect* refer to?
   _____
   _____

UNIT 4: SENSATION & PERCEPTION

6. How much information is estimated to be brought in from your five senses every second? How much can the brain actually process?
   _____

7. What two experiments have been used to demonstrate selective inattention?
   _____
   _____
   _____

8. Describe the details of Petter Johansson's 2005 experiment designed to demonstrate *change blindness*.
   _____
   _____

9. What variables will affect absolute thresholds (whether or not you would detect sensory data)?
   _____

10. How does our psychological state affect signal detection (i.e. combat situation, exhaustion, etc.)?
   _____
   _____

11. Give some examples of *signal detection theory*.
   _____

12. In your opinion, do you believe subliminal messages work? Why or why not?
   _____
   _____

13. What is the other term used for *difference thresholds*? Give one example of difference thresholds being used in your own daily experiences.
   _____

14. What example does Myers give to demonstrate Weber's Law?
   _____

Module 17

15. Give two examples of a perceptual set.
   _____

16. What does Myers explain determines our perceptual set? Is this the result of "top-down" or "bottom-up" processing? _____
   _____

17. How can our emotional state affect our motivation?
   _____

18. What is the difference between ESP and parapsychology?
   _____

19. Why is it problematic to suggest that experiments and studies have shown strong evidence to support that ESP actually does exist? _____
   _____

Module 18

20. What is *transduction*?
_____

21. What is the scientific explanation for how we "see" color?
_____

22. What are the two physical characteristics of light that help determine our sensory experience of them? _____

23. In what order does light pass through the anatomy of the eye (*this will be important for future test questions)*? _____

24. Explain why the retina doesn't "see" a whole image?
_____

25. What is the optic nerve made up of?
_____

26. How is the function of *cones* in the eye different from that of the function of *rods*?
_____

27. Why does the eye have a blind spot?
_____

28. How does the Young-Helmholtz theory explain how the brain creates color from light?
_____
_____

29. What are "opponent colors"? How do they affect "afterimages"?
_____

30. What are *feature detectors* and in what lobes are they located?
_____

31. How can parallel processing be tested in patients with "blindsight" (localized blindness)?
_____
_____

32. Copy a version of the explanation of visual information processing in Figure 18.12.

Module 19

33. How does gestalt psychology help to explain the brain's tendency to perceive more than it senses?
_____

34. Why is figure-ground necessary in our perception of sights?
_____

35. What are the three examples of *grouping* listed in the text? _____
_____

36. How did a Cornell experiment with 6-14-month-old babies help to disprove the notion that babies did not have depth perception?

_____

_____

_____

37. Why does proper judgement of sights require monocular cues AND binocular cues?

_____

_____

38. How does perceptual constancy help to explain optical illusions?

_____

_____

39. What is the term used to describe how humans' sight perception adjusts to "normal" even in distorted or inverted images? _____

Module 20

40. How does the brain convert sound energy into neural messages? _____

_____

41. What is the function of the cochlea? What kind of signals does it send?

_____

42. What is the difference between sensorineural hearing loss and conduction hearing loss?

_____

43. How does a cochlear implant create hearing in patients with sensorineural hearing loss?

_____

_____

44. Why do you suppose the use of cochlear implants in children is controversial in the deaf community? _____

_____

Module 21

45. What are the four basic skin sensations (for touch)? _____

_____

46. What is the neurological explanation for pain? What is the name for the pain-sensing nerves in the body? _____

_____

47. What would be the biological (and maybe evolutionary) purpose for the body's use of *gate-control theory*? _____

48. Name a few of the various ways that physicians and psychologists treat pain.

_____

_____

49. What is the biological term for the sense of taste? What is the evolutionary explanation for enjoyable and aversive tastes? _____

_____

50. How does sensory interaction explain the link between smell and taste (and in some cases sight and taste)? _____

51. What is the name for the receptor cells responsible for smell? Explain the chemical process that creates smell.

_____

52. Why are smells able to bypass the thalamus, unlike the other four senses? _____

_____

53. Why is the sense of smell explained to be so closely tied to memory? _____

_____

54. What is the difference between your brain's use of *kinesthesia* and *vestibular sense*?

_____

55. (Enter *Febreeze* nose-blindness commercial) What is the *nervous* explanation for sensory adaptation (why does it happen)? Why do odors fade from our awareness but not sights?

_____

_____