REVIEW OF TEMPORAL LOBE STRUCTURES

- remember the ________, _______, and _________ temporal gyri.
- the superior temporal sulcus (STS).
- the lateral fissure.
- medial temporal lobe structures include the ____________, and ____________ (with associated cortex including uncus, subiculum, entorhinal cortex, perirhinal cortex).
- Area TE = Brodmann’s 20, 21 & 38 (middle & inferior temp. gyri).
- Parahippocampal gyrus = area TF and TH.
TEMPORAL LOBE FUNCTIONS

Sensory Inputs to Temporal lobe:
1. ____________________________________________;
2. ____________________________________________.

Temporal cortical regions and functional correlates:
1. Within lateral fissure (superior surface of lateral fissure):
   a) Heschel’s gyri (______________________________).
   b) posterior to Heschel’s gyri (______________________________).
   c) Planum temporale (secondary auditory cortex; Wernicke’s area - specialized in __________________________).
Temporal cortical regions and functional correlates (continued):

2. Superior temporal sulcus, middle and inferior temporal gyrus (area TE): _______________________________.

3. Ventral/medial surface of temporal lobe (hippocampus and associated cortex): ______________________________.

- the ventral/medial surface of the temporal lobe is also associated with the amygdala. Together with the surrounding ventral/medial temporal lobe, the amygdala is involved in _______________________________.

Hemispheric “specialization”:

1. Left hemisphere:
   a) __________________;
   b) __________________.

2. Right hemisphere:
   a) _________________________________;
   b) _________________________________;
   c) _______________________________.
Symptoms associated with temporal lobe damage

1. Disturbance of auditory sensation and perception:
   - most likely observed after ______________________________ ______
   - left auditory cortex lesion impairs sound discrimination involved in _________________.
   - right auditory cortex lesion impairs sound discrimination involved in ____________________________.

2. Disturbance of selective attention to auditory and visual inputs:
   - most likely observed after ______________________________ ____________________________.
   - auditory attention deficits detected with ____________________________.
   - left temporal lobe damage produce significant bilateral impairment in ________________.
   - right temporal lobe damage produce significant bilateral impairment in ________________.

3. Disorders of visual perception:
   - particularly significant impairments after ____________________________ ____________________________.
   - have problems recognizing ____________________________.
   - have problems interpreting ____________________________.
   - What is the problem of equivalence?

4. Impaired organization and categorization of verbal material:
   - most likely observed after ____________________________ ____________________________.
   - use of categories (animals, vehicle, etc.) appears difficult if not impossible in patients with ____________________________.
Perception of faces generally performed by ________________ (dominant)

Most individuals chose __ as being more like A (falls on left visual field - right hemisphere).
Symptoms associated with temporal lobe damage (continued)

5. Disturbance of language comprehension:
   - often observed after ________________________________
     __________________._
   - apparent disruption to ________________________________
     ____________________________.

6. Impaired long-term memory:
   - observed following temporal lobe damage, including the
g______________
   - left damage disrupts memory of __________________________
     ____________________________.
   - right damage disrupts memory for __________________________
     ____________________________.
   - usually produces anterograde amnesia for ______________
     ________.
Symptoms associated with temporal lobe damage (continued)

7. Altered personality and affective behaviors:
   - observed following _______________________________.
   - Penfield observed, in some of his patients, signs of ________ _______ upon electrical stimulation of ventral/medial temporal lobe sites.
   - personality characteristics that sometime accompany temporal lobe epilepsy or lobectomy include pedantic speech, egocentricity, perseveration on personal problems, paranoia, and some aggressive outbursts.
   - such alterations may be observed more often with __________ __________.

8. Altered sexual behavior:
   - observed in rare cases of bilateral temporal lobectomy, involving _______________________________.
   - patients can display _______________________________, and other signs of temporal lobe disturbances.
   - originally described by __________________________.
More detailed disorders of visual perception

1. Visual object agnosia subdivisions:
   a) Apperceptive agnosia: ________________________________
      - inability to recognize, copy (agnosia for drawing), or match simple shapes.
      - observed following bilateral damage to ____________________________.
   b) Associative agnosia: ________________________________
      - for instance, these patients can copy drawings rather accurately.
      - related to loss of stored information about objects.
      - associated with ventral visual stream in middle and inferior temporal gyri and STS.

2. Prosopagnosia: ________________________________
      - usually involves bilateral damage of the ________________

Intelligence, as measured by IQ tests, is typically reduced in patients with temporal lobe damage.