Lab 6 - Nervous System: Special Senses

Activity 1: Touch Receptors

<table>
<thead>
<tr>
<th>Location</th>
<th>Distance when only one point is felt</th>
<th>Rank the concentration of receptors (High:1-Low:5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finger tip</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heel of hand</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forearm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elbow</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Back of neck</td>
<td></td>
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</tbody>
</table>

1. What can you conclude about the density of touch receptors in your skin?

Temperature of water according to your left hand? _______________________

Temperature of water according to your right hand? _______________________

2. Explain why this occurred? Can’t you trust your senses?

Activity 2: Vision

Visual Acuity

Right eye  w/o glasses  20/_______  w/glasses  20/_______
Left eye   w/o glasses  20/_______  w/glasses  20/_______

1. How would you describe the shape of your lenses?

2. Are you nearsighted or farsighted or neither?
Age of Your Eyes

1. What was the “age” of your eyes?
   - Right w/o glasses ____________ w/glasses ____________
   - Left w/o glasses ____________ w/glasses ____________

2. How does this compare to your actual age?

3. Are they the same? If not, why do you think that could be?

Blind Spot

1. Explain why the dot on the optic disk card disappears. (Hint: Look at the diagram of the eye. How do impulses get to the brain?)

Hole in Your Hand & Circles or Ovals

1. Why does it appear that you have a hole in your hand?

2. Does it work better with one eye or the other? Which one?

3. After completing the “Circle or Oval” exercise, do you think you have a dominant eye?

4. Is it the same eye as the one you answered for #2 above? Why?
Spelling

1. Write out a message (at least two sentences) like the one in the lab:

2. Was it harder to read or write with bad spelling? Why do you suppose that is?

Activity 3: Hearing & Balance

Rinne Test

Results for right ear_____________
Results for left ear______________

1. What is the difference between conduction deafness and sensory-neural deafness?

2. Why do you think people with conduction deafness wear hearing aids that sit against the bone behind their ear and not in the ear canal?

3. How could you use the tuning fork to test for sensory-neural deafness?

4. Why do you think people with sensory-neural deafness cannot be helped with a hearing aid?
Balance

<table>
<thead>
<tr>
<th>Stance</th>
<th>Time (min)</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standing on one foot</td>
<td></td>
<td>high---moderate---low</td>
</tr>
<tr>
<td>One foot, eyes closed</td>
<td></td>
<td>high---moderate---low</td>
</tr>
<tr>
<td>One foot, eyes closed, head back</td>
<td></td>
<td>high---moderate---low</td>
</tr>
</tbody>
</table>

1. Which stance made it the hardest to balance? Why do you think that is?

2. How much of an impact does your inner ear have on your sense of balance?

Activity 4: Taste

1. Label where on your tongue, you tasted each of the following:

   SALTY     BITTER
   SWEET     SOUR

2. How do your results compare to your partner’s?