What would the current trace look like if we eliminated Na⁺?
Region Identification

2. **region**

If someone has a stroke and has trouble with their vision, where did the stroke likely occur?

Round 1

- **146 responses, 93% correct**

Text responses:

- primary visual cortex
- the occipital lobe, more specifically the primary visual cortex

☑️ 11 get it now
☒ 0 still don't get it
What is the equilibrium potential for K+ in our prototypical neuron at 37°C?

<table>
<thead>
<tr>
<th>Ion</th>
<th>Concentration Outside (mM)</th>
<th>Concentration Inside (mM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>K+</td>
<td>5</td>
<td>100</td>
</tr>
<tr>
<td>Na+</td>
<td>150</td>
<td>15</td>
</tr>
<tr>
<td>Cl-</td>
<td>150</td>
<td>13</td>
</tr>
<tr>
<td>Ca²⁺</td>
<td>2</td>
<td>0.0002</td>
</tr>
</tbody>
</table>

**Round 1**  
162 responses, 9% correct

-184.4: 1%
-184.39: 1%
-184.36: 1%
-184.357: 1%
-184.357mV: 1%
-103.446: 1%
-80.1 mV: 1%
-80.1mV: 1%
-80.1: 6%
-80.07 mV: 2%
-80.07mV: 1%
-80.07: 33%
Given the location of atrophy in frontotemporal dementia, what symptoms do we expect?

Round 1
118 responses

- Motor loss
- Planning and decision making
- Lack
- Memory planning
2. short answer

Why would you want a chemical synapse?

• You can control how strong and what kind of response you elicit in the second cell
• wider variety of responses given to next neuron
• versatile
• variety of signals to target tissues
• variety of responses from different neurotransmitters
• variety of responses
• Variety
• useful for sending specific information by controlling amount of chemicals
• unidirectional; strong, definite signal
• unidirectional and more specialized functions
• Transmits further away receptors
• Transfer signal to other sensory output, creates post synaptic potentials between neurons
Individual to Group Quizzes

1. **multiple choice**

If you want to calculate the resting membrane potential of a neuron, which equation would you use and what information would you need to know?

A. Nernst equation; you would only need to know the ion concentrations in and out of the cell.

B. Nernst equation; you would need to know the ion concentrations in and out of the cell and the relative membrane permeabilities.

C. Nernst equation; you would need to know the driving force for each ion and their conductances.

D. Goldman’s equation; you would only need to know the ion concentrations in and out of the cell.

E. Goldman’s equation; you would need to know the ion concentrations in and out of the cell and the relative membrane permeabilities.

F. Goldman’s equation; you would need to know the driving force for each ion and their conductances.