<table>
<thead>
<tr>
<th>Topic</th>
<th>Learning Objective</th>
<th>Nervous System Controls &amp; Directs Body Function</th>
<th>Nervous System Structure &amp; Function Are Determined By Both Genes &amp; Environment Throughout Life</th>
<th>The Brain Is the Foundation of the Mind</th>
<th>Research Leads To Essential Understanding for Therapies</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
<td>Explain the process and changes in cell division</td>
<td>1. Basic is the body’s most complex organ. 2. Nervous communications using chemical and electrical signals. 3. Essential structures and functions of the nervous system. 4. Life experiences change the nervous system.</td>
<td>1. Intelligence rises as knowledge grows, becomes problems.</td>
<td>1. Fundamental understanding of life’s mysteries. 2. Fundamental knowledge of treatment of diseases.</td>
<td></td>
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</tbody>
</table>
There are a hundred billion neurons in the human brain, all of which are in use.
Consciousness depends on normal activity of the brain.
Research can ultimately inform us about mind, intelligence, imagination, and consciousness.
The brain is organized to recognize sensations, initiate behaviors, and store and access memories that can last a lifetime.
Simple and complex interactions among neurons take place on time scales ranging from milliseconds to months.
Finding cures for disorders of the nervous system is a social imperative.
Changes in the amount of activity at a synapses can enhance or reduce its function.
Sensory stimuli are converted to electrical signals.
Electrical signals in muscles cause contraction and movement.
Communication between neurons is strengthened or weakened by an individual’s activities, such as exercise, stress, and drug use.
All perceptions, thoughts, and behaviors result from combinations of signals among neurons.
Languages are acquired early in development and facilitate information exchange and creative thought.
The brain learns from experiences and makes predictions about best actions in response to present and future challenges.
Communication can create and solve many of the most pressing problems humankind faces.
Peripheral neurons have greater ability to regrow after injury than neurons in the brain and spinal cord.
Curiosity leads us to unexpected but surprising discoveries that can benefit humanity.