Orbital exercises

<table>
<thead>
<tr>
<th>Stress Pattern</th>
<th>Number of Syllables</th>
<th>Primary Stress</th>
</tr>
</thead>
<tbody>
<tr>
<td>OR bi tal</td>
<td>3</td>
<td>first</td>
</tr>
</tbody>
</table>

Suggested exercises

1. Explain to your students what nodes in the wave function are and how the number and shapes of nodes defines the kinds of atomic orbitals.

Useful words

zero electron density
no node, 1s orbital
one sphere, spherical node, 2s orbital
one plane, planar node, 2p orbital
two spherical nodes, 3s orbital
one plane and one sphere, 3p orbital
two planes or one cone, 3d orbital

2. Explain what the difference is between bonding, non-bonding and antibonding orbitals.

molecular orbitals
overlap of atomic orbitals
wave function
different signs
electrons shared between nuclei are a bond
electrons not shared do not bond
antibonding electrons create repulsive force