An experiment to try and think about

Three objects were weighed in and out of water

Here are the results

<table>
<thead>
<tr>
<th>Block</th>
<th>Weight in air</th>
<th>Weight in water</th>
<th>Buoyancy force</th>
</tr>
</thead>
<tbody>
<tr>
<td>Block A</td>
<td>18 N</td>
<td>16 N</td>
<td></td>
</tr>
<tr>
<td>Block B</td>
<td>10 N</td>
<td>8 N</td>
<td></td>
</tr>
<tr>
<td>Block C</td>
<td>4 N</td>
<td>0 N</td>
<td></td>
</tr>
</tbody>
</table>

Complete the table to show the size of the buoyancy forces acting on each block.

Which block floated on water?

Which block experienced the greatest buoyancy force?

What can you say about the buoyancy forces acting on blocks A and B?

Further thinking

Blocks A, B and C are shown in this sketch.

Note that blocks A and B are the same volume but block C is much larger.

Which block is made from the most dense material?

What does this tell you about buoyancy forces, volumes and different materials?