Week 2       Lesson 1 – Worksheet 1

1. Match the process in Column A with the appropriate response from Column B.

<table>
<thead>
<tr>
<th>Column A</th>
<th>Column B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crushing</td>
<td>Used to obtain sugar crystals</td>
</tr>
<tr>
<td>Crystallization</td>
<td>Used to increase the surface area of sugar cane pieces</td>
</tr>
<tr>
<td>Cutting</td>
<td>Done to remove mud from the juice</td>
</tr>
<tr>
<td>Precipitation</td>
<td>Concentrates the juice through heating</td>
</tr>
<tr>
<td>Filtering</td>
<td>Done to obtain juice from the sugar cane</td>
</tr>
<tr>
<td>Centrifugation</td>
<td>Done to remove impurities</td>
</tr>
<tr>
<td>Vacuum distillation</td>
<td>Done to separate crystals from molasses</td>
</tr>
</tbody>
</table>
2. Using the clues below, complete the crossword puzzle.

Mixtures and Solutions

Across
4. It is when a solid turns into a liquid.
5. The particular temperature for a substance at which it changes state from a liquid to a gas.
9. The center of an atom that has the most of its mass.

Down
1. A change in matter that occurs when atoms link together in a new way, creating a new substance different from the original substance.
2. A particle that contains more than one atom joined together.
3. Any solid, liquid, gas that has mass and can take up space.
14. A substance that is formed by the chemical combination of two or more elements and that acts like a single substance.
15. A substance at the end of a chemical reaction of two substances.
18. The smallest unit of an element that retains the properties of that element.
21. A substance that is dissolved by another substance to form a solution.
23. The maximum amount of substance that can be dissolved by another substance.
24. A substance that dissolves one or more other substances to form a solution.
25. A particle in the space outside the nucleus of an atom that carries one unit of negative charge.
26. A particle within the nucleus of an atom that carries one unit of positive electric charge.
29. The amount of matter in a solid, liquid, or gas.
31. A physical combination of two or more substances that are blended together without forming a new substance.
32. A substance that can attract and repel.
33. A particle in a nucleus of an atom that has no net electric charge.
34. A solid formed by a chemical.
35. The contraction of matter caused by a change in heat.
36. The amount of matter in a given volume.

6. The upward push of a liquid or gas on an object.
7. A mixture of substances that are blended so completely that the mixture looks the same everywhere.
8. The process of changing directly from a solid to gas without first becoming a liquid.
10. The expansion of matter caused by a change in heat.
11. The process of separating the parts of a mixture by evaporation or condensation.
12. The amount of space an object can take up.
13. When a solid, liquid, or gas changes state.
16. It is when a liquid turns into a solid when temperature changes.
17. A solution of a metal and at least one other solid which is often also a metal.
19. A change of matter in size, shape, or state without change in identity.
20. A type of mixture in which the particles of one material are scattered through another and block the passage of light without settling out.
22. A pure substance that cannot be broken down into any simpler substance through chemical reactions.
27. A measure on how gravity pulls on an object.
28. Any group of elements that conducts heat and electricity, has a shiny luster, and is flexible.
30. It is when a particle leaves a liquid and turns into a gas.
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