


Grade 7 Science

Unit 3: Pure Substances and Mixtures




Distillation of Water

Last class we took the period to distill some salt water. As a review, with your table group, please write out the process of distillation in five steps.

1. Heat is used to boil a solution.
2. This leaves the solute in the bottom of the container.
3. The gas is collected.
4. The gas is run through a cooling tube, in which it condenses.
5. The pure, distilled, solvent that drips from the hose is collected.

Next, again with your group, I would like you to make a T-chart. On the left of that chart I would like you to come up with a list of situations for which you would need to use distillation. On the right side of the chart I would like you to make a list of the disadvantages of the distillation process.



Distillation of Water

When to Use Distillation

Survival **X**
 Need clean water **Depends, see below**
 Want a drink **X**

- Performing Experiments - Need Pure Water
- If you only need a little bit of water
- When you need to determine the contents of a solution
- When separating petroleum into useable products

Disadvantages of Distillation

Only get a little **✓**
 Takes long **✓**
 Hard to do **✓**

- Takes a lot of energy for the little amount you get
- Takes a long time
- Specialty equipment is needed
- Potentially dangerous
- Requires an understanding of the process

Distillation of Water

Last class you prepared a sample of three drops of water. Please get that sample from its storage spot and bring it to your desk (you may rearrange to sit with your group).

On the back of your "Air Purification" question sheet you will find 3 questions about Distillation of Water. You have the rest of the period today to work on these questions. Following that there will be no further class time, and they are to be completed as homework.

If you are done the questions, you may use the remaining class time to work on updating/completing anything in your science binder.

