

## Diffusion

Please take out your diffusion worksheet. We will take up the answers now.

If you did not do this worksheet, as you were instructed to, please take a clipboard and your pencil, and go out in the hall to finish it. You may re-join us when you have finished.

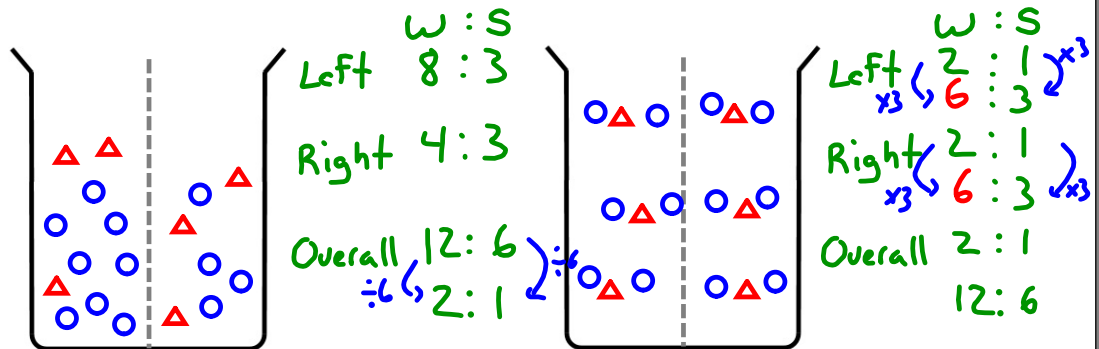
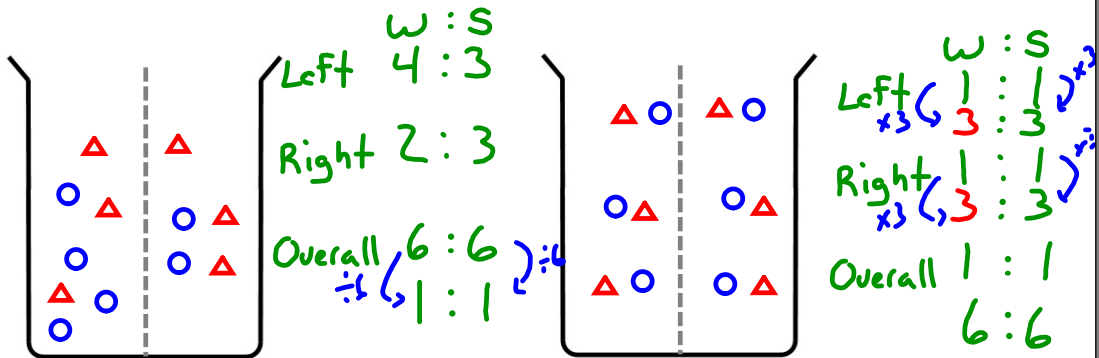




# Diffusion

○ Water

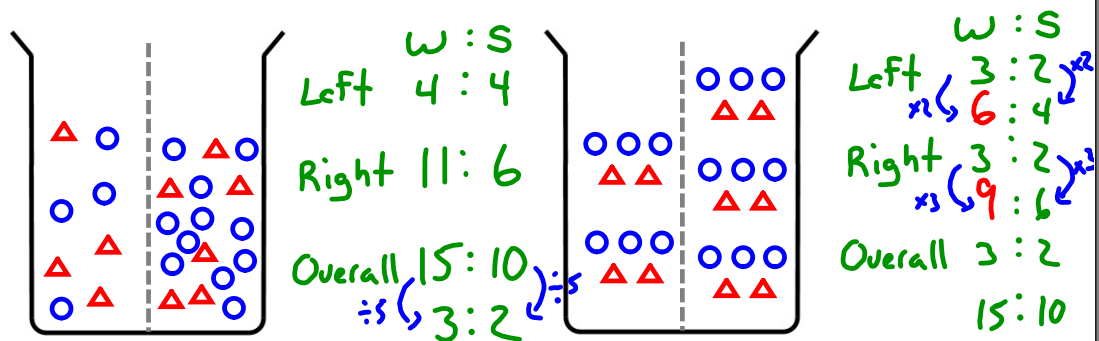
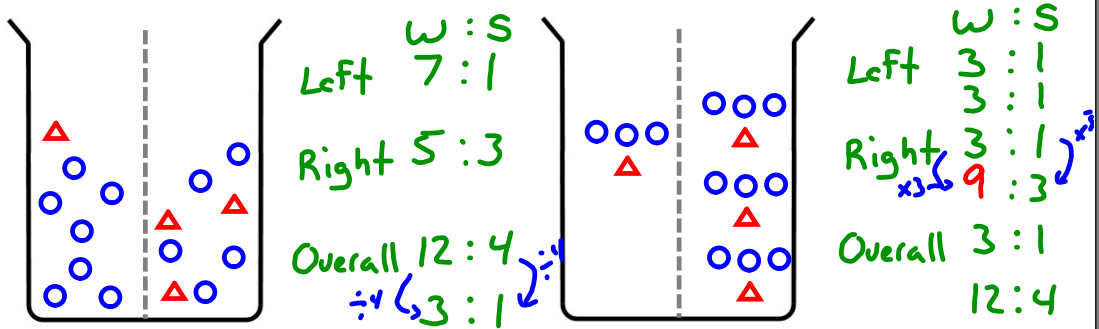
△ Solute



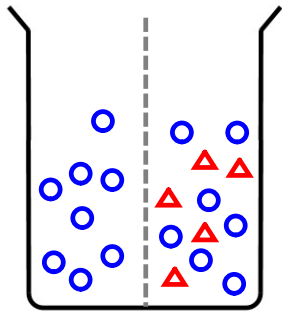
# Diffusion

○ Water

△ Solute



# Diffusion



Why can this example not be re-drawn in equilibrium state?

This example cannot be re-drawn in equilibrium state because there are no solute particles on the left hand side. In order to be in equilibrium the concentrations need to be equal, but you cannot match 0 solutes to 5 solutes.

If you are still having trouble understanding these questions, you will need to come see me at a break, as you will see them again.

# Cancer

Note: Today's lesson may be a sensitive topic for some students. Please be sure that all comments made and discussions held are respectful.

Let's review the facts we know about cancer:

1. Cancer is a very serious disease that affects many people around the world
2. There are many different types of cancer
3. There are many causes of cancer
4. There is currently no cure for cancer
5. Cancerous cells are damaged cells (they do not perform properly)
6. Cancerous cells multiply very rapidly

# Cancer

Please take a copy of the worksheet, "Investigating Cancer and its Causes," and borrow a copy of the cancer reading sheet (this sheet is two sided, you will need to read "Cells and Cancer.")

Over the next 20 minutes you are to work independently to answer the questions on your worksheet. If you finish the questions, turn the reading sheet over and you will find a newspaper article reporting about a promising new weapon in the fight against cancer.

Investigating Cancer and its Causes

1. What is cancer?
2. What are the main types of cancer?
3. What are the main causes of cancer?
4. How can you reduce your risk of getting cancer?
5. What are the main symptoms of cancer?
6. How can you tell if you have cancer?
7. What are the main treatments for cancer?
8. Why do we need to know about cancer?
9. What are the main types of cancer?
10. What are the main causes of cancer?

Cells and Cancer

Cells are the building blocks of life. They are made of proteins, lipids, carbohydrates and nucleic acids. They are the smallest units of life that can survive on their own. They are the basic units of structure and function in all living organisms.

Cells are made of many parts. The main parts are the nucleus, cytoplasm, cell membrane, and cell wall. The nucleus is the control center of the cell. It contains the DNA, which is the genetic material. The cytoplasm is the fluid that fills the cell. The cell membrane is the barrier that separates the cell from its environment. The cell wall is the outer layer of the cell.

Cells are constantly dividing. This is called cell division. There are two types of cell division: mitosis and meiosis. Mitosis is the process by which a cell divides into two identical daughter cells. Meiosis is the process by which a cell divides into four daughter cells, each with half the number of chromosomes as the parent cell.

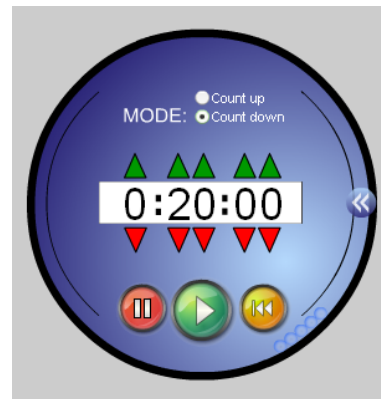
Cancer is a disease in which the cells in the body grow out of control. They divide and multiply without stopping. They can invade other parts of the body and spread to other parts of the body. This is called metastasis.

There are many different types of cancer. Some are more common than others. Some are more deadly than others. The most common types of cancer are lung cancer, breast cancer, and prostate cancer.

There are many things you can do to reduce your risk of getting cancer. You can eat a healthy diet, exercise regularly, and avoid smoking and drinking alcohol. You can also get regular check-ups and screenings to catch cancer early.

If you do get cancer, there are many treatments available. These include surgery, chemotherapy, and radiation therapy. The best treatment for you will depend on the type and stage of your cancer.

It is important to know about cancer so that you can take steps to prevent it. If you do get cancer, you can get the best possible treatment. Knowing about cancer can help you make better decisions about your health.



# Cancer

We will now take up the answers. Please verify that you have the correct answers on your worksheet.

Investigating Cancer and its Causes

1. What is cancer?  
A disease in which the cells in the body grow out of control.
2. What are the main types of cancer?  
Lung cancer, breast cancer, prostate cancer.
3. What are the main causes of cancer?  
Smoking, drinking alcohol, eating a poor diet, lack of exercise.
4. How can you reduce your risk of getting cancer?  
Eat a healthy diet, exercise regularly, avoid smoking and drinking alcohol.
5. What are the main symptoms of cancer?  
A lump, a sore that won't heal, changes in a wart or mole, bleeding from the nose, coughing up blood, changes in bowel or bladder habits, a change in voice, difficulty swallowing.
6. How can you tell if you have cancer?  
By having a physical exam and blood tests.
7. What are the main treatments for cancer?  
Surgery, chemotherapy, radiation therapy.
8. Why do we need to know about cancer?  
So that we can take steps to prevent it and get the best possible treatment if we do get it.
9. What are the main types of cancer?  
Lung cancer, breast cancer, prostate cancer.
10. What are the main causes of cancer?  
Smoking, drinking alcohol, eating a poor diet, lack of exercise.

## Attachments

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2-17 Cancer Questions.pdf

2-17 Cancer Reading.pdf

2-17 Cancer Answers.pdf