Most of us don’t spend much time thinking about microorganisms, but they often impact our lives. Although most microorganisms – living things too small to be seen without a microscope – are harmless, a few, such as viruses and bacteria, can cause communicable diseases. **A communicable disease** **is a disease that is spread from one living thing to another or through the environment.**

In this web quest, you will research the different causes of communicable diseases and discover how to you reduce your chance of getting infected.

Go to

<https://microbiologyonline.org/about-microbiology/introducing-microbes>

1. All germs are called microbes or microorganisms. Another word for germ is pathogen. Pathogens are organisms that cause disease. However, not microorganisms cause disease. What are the positive functions of microorganisms or microbes (5)?
2. List the four types of germs or pathogens and briefly describe each in 1-2 sentences.

<http://www.cyh.com/HealthTopics/HealthTopicDetailsKids.aspx?p=335&np=152&id=2402#6>

1. How does your body stop pathogens from invading the body (4)
2. Give an example of a disease caused by each pathogen.
3. Using google, on a separate sheet of paper, pick 5 **communicable** diseases and answer the following questions?
   1. What type of pathogen causes the disease?
   2. Who gets this disease?
   3. What are the symptoms?
   4. How is it spread?
   5. What is the treatment?
   6. What can be done to prevent the spread of this disease?

**The Immune System:**

Go to <https://medlineplus.gov/ency/article/000821.htm>

Describe the inflammatory response of the immune system. (3 sentences minimum).

1. What is the difference between an antigen and a pathogen?
2. Immune cells are **white blood cells** produced in huge quantities in the bone marrow. There are a wide variety of immune cells, each with its own strengths and weaknesses. Some seek out and devour invading organisms, while others destroy infected or mutated body cells. Yet another type has the ability to release special proteins called *antibodies* that mark intruders for destruction by other cells. Use the following link to answer the next three questions:

<http://www.cancerindex.org/medterm/medtm9.htm>

**What cells seek out and devour invading organisms?**

**Lymphatic cell are white blood cell that produce T and B Cells. What type of T cells destroy infected or mutated body cells?**

**What type of T cells produce antibodies that mark pathogens for destruction by other cell?**