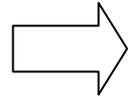


## MEDMYST Mission # 2 - Peril in Prokaryon



1. Where will you go for this mission? \_\_\_\_\_
  2. What is the outbreak? \_\_\_\_\_
  3. Explore the Germ Theory lesson to answer these questions.  
\_\_\_\_\_ proved that microorganisms were responsible for fermentation.  
\_\_\_\_\_ developed a procedure for determining the specific microbes that cause a disease.  
\_\_\_\_\_ was the first person to treat wounds with dressings soaked in carbolic acid.
  4. Explore the Infectious Agents lesson and then try the sorting game. What was your time? \_\_\_\_\_
  5. On which date did the number of diarrhea cases show a dramatic increase? \_\_\_\_\_
  6. Complete the jumper cable activity.
  7. What is the name of the bacteria that is causing the disease? \_\_\_\_\_
  8. What is the name of the disease caused by these bacteria? \_\_\_\_\_
  9. How is it spread? \_\_\_\_\_
  10. What was the source of the contamination? \_\_\_\_\_
  11. How did you stop the spread of the disease? \_\_\_\_\_
- 

## MEDMYST Mission # 3 - Nemesis in Neuropolis

1. What did you learn from Dr. Xu?  
\_\_\_\_\_
2. What was stealing information? \_\_\_\_\_
3. True or False? Viruses can only reproduce in a living cell. \_\_\_\_\_
4. Put these steps in order using 1st, 2nd, 3rd, & 4th. \_\_\_ Entry \_\_\_ Release \_\_\_ Docking \_\_\_ Replication
5. Search Jeremy's room for 5 clues and then send the message to Alpha.
6. What disease does Jeremy have? \_\_\_\_\_
7. What disease could make someone immune to smallpox? \_\_\_\_\_
8. Follow the directions to make a smallpox vaccine.
9. Who developed the smallpox vaccine? \_\_\_\_\_
10. Follow the directions to make a smallpox vaccine.
11. How did you stop the spread of the disease? \_\_\_\_\_

**MEDMYST Mission # 4 - Malady at Mabufo**

1. Draw a line to match each vector with its associated disease.

Anopheles Mosquito ♦

Rat Flea ♦

Body Louse ♦

Deer Tick ♦

Culex Mosquito ♦

Tsetse Fly ♦

♦ Lyme Disease

♦ Malaria

♦ Plague

♦ Sleeping Sickness

♦ Typhus

♦ West Nile Virus

2. What type of animals are usually vectors? \_\_\_\_\_

3. How many people die from malaria each year? \_\_\_\_\_

4. What did Laveran notice in the blood of malaria infected soldiers? \_\_\_\_\_

5. What did Manson discover? \_\_\_\_\_

6. Help Dr. Ross complete the experiment.

7. What did you use to help the people in Tswana? \_\_\_\_\_

8. What is the best weapon against malaria? \_\_\_\_\_

9. True or False? Male and female adults can bite. \_\_\_\_\_

10. Complete the activity to protect the village from malaria.

11. What term refers to malaria parasites? \_\_\_\_\_

12. What organ do they invade? \_\_\_\_\_

13. What type of blood cells make antibodies? \_\_\_\_\_

14. What type of cell gets rid of the invaders? \_\_\_\_\_

15. What are the symptoms of malaria? \_\_\_\_\_

**Want extra credit?**

**Complete one of Missions 5 & 6 in the MedMyst set. Ask your teacher for a worksheet!**

**Location 1: NCDC Headquarters**

1. \_\_\_\_\_ are diseases that can be passed from animals to humans.
2. List the type of pathogen that causes each disease.
  - a. Rabies - \_\_\_\_\_
  - b. Ringworm - \_\_\_\_\_
  - c. Mad Cow \_\_\_\_\_
  - d. Anthrax - \_\_\_\_\_
3. List two of the causes for the increasing number of zoonotic diseases.
  - 1 - \_\_\_\_\_
  - 2 - \_\_\_\_\_

**Location 2: BioDefense Research Facility**

4. List the four "Category A" pathogens that are zoonotic. \_\_\_\_\_  
\_\_\_\_\_
5. Identify the area(s) of the body that are affected by each type of anthrax.
  - a. Cutaneous Anthrax - \_\_\_\_\_
  - b. Gastrointestinal Anthrax - \_\_\_\_\_
  - c. Pulmonary Anthrax - \_\_\_\_\_

**Location 3: Neuropolis University**

6. After handling any animal, including your pets, you should always \_\_\_\_\_.
7. True or False: You can catch a zoonotic disease from unwashed vegetables.

**Location 4: Biosafety Level 4 Lab**

8. Why do researchers tape their gloves and socks to their BSL4 coveralls? \_\_\_\_\_  
\_\_\_\_\_

**Location 5: Farm**

9. What did the Japanese use to spread plague infected fleas over China before World War II? \_\_\_\_\_
10. From where did the terrorist get the anthrax bacteria? \_\_\_\_\_

Done? Turn in to the bin for your class.

**Part 1: Microbiology Training**

1. A scientist who specializes in investigating pathogens in a laboratory is a \_\_\_\_\_.
2. What is step 1 of formulating a hypothesis? \_\_\_\_\_
3. What is step 2 of formulating a hypothesis? \_\_\_\_\_
4. What is step 3 of formulating a hypothesis? \_\_\_\_\_
5. What independent variable is being tested? \_\_\_\_\_
6. What is the dependent variable? \_\_\_\_\_
7. Why do you have to put on PPE before filtering the rabies fluid? \_\_\_\_\_

**Part 2: Veterinary Medicine Training**

1. What is studied in the necropsy suite? \_\_\_\_\_
2. What is the vet's hypothesis? \_\_\_\_\_
3. Which brain tissue sample serves as the positive control sample? \_\_\_\_\_
4. Which brain tissue sample serves as the negative control sample? \_\_\_\_\_
5. Which two brain tissue samples look very similar after staining? \_\_\_\_\_ & \_\_\_\_\_
6. Was the vet's hypothesis supported or rejected by the results? \_\_\_\_\_
7. The brain tissue staining confirmed that \_\_\_\_\_.

**Part 3: Epidemiology Training**

1. A scientist who specializes in tracking outbreaks of disease is in the field of \_\_\_\_\_.
2. What exposure and outcome are being investigated? \_\_\_\_\_
3. Who are the cases in the outbreak simulation? \_\_\_\_\_
4. Who are the controls in the outbreak simulation? \_\_\_\_\_
5. What animal is hypothesized to be the source of the rabies? \_\_\_\_\_
6. You analyze the results of the questionnaire by putting them into a \_\_\_\_\_.
7. The exposure odds ratio measures if there is an association between the \_\_\_\_\_ and the \_\_\_\_\_.

Done? Turn in to the bin for your class.