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 Mabuufo

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

Anopheles Mosquito ♦	♦ Lyme Disease
Rat Flea ♦	♦ Malaria
Body Louse ♦	♦ Plague
Deer Tick ♦	♦ Sleeping Sickness
Culex Mosquito ♦	♦ Typhus
Tsetse Fly ♦	♦ 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!

MEDMYST EXTRA CREDIT **Name: _____**
Mission # 5 - Zero-Hour Zoonosis

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 - _____ c. Mad Cow _____

b. Ringworm - _____ 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 - _____ c. Pulmonary Anthrax - _____

b. Gastrointestinal 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.

MEDMYST EXTRA CREDIT **Name: _____**
Mission #6 - Disease Defenders

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.