

STUDENT INSTRUCTIONS

- 1) Log in to Whyville → Go to the BioPlex→BioPlex Lobby→Virus Lab.
- 2) Make sure to watch the Virus Tutorial and the Immune Response tutorials. Clicking on the virus and macrophage in the background will take you to the tutorials. If you don't understand the material on the first try, watch the tutorials again.
Hint: the information in the tutorial will be useful for your worksheet!
- 3) Go to the Whack-a-Virus activity within the Virus Lab. You may need to practice some to get good at putting antibodies on a virus.

How to play Whack-A-Virus:

Enter the room. To skip instructions, type "skip", or "help" to repeat

Game Commands:

Single Click (on an antibody): pick up antibody

Single Click (on the matching virus): drop antibody on the virus

Double Click (on the board): drop antibody on the board (useful if you have the wrong antibody)

ArrowLeft & ArrowRight: rotate antibody

Type "leave" to stop controlling the macrophage or creating antibodies.

Level 1

GOAL: Use **antibodies** to protect your **cells** from **viruses**.

Viruses will attack your **cells** from all sides. If a virus reaches a cell, penetrates a cell, it will take over the cell to replicate itself, **destroying** the cell in the process.

Your job is to protect the cells from viral infection by using **antibodies**. **Click** to pick up antibodies from the panel on the right. Click to drop an antibody on a virus. If the antibody matches the virus, it will stop the virus in its path.

For an antibody to stop a virus, the antibody must match the leading edge of the virus. When you have picked up the correct antibody, click on the virus to drop the antibody onto the virus. A virus tagged by an antibody will stop moving, and a macrophage will come along and remove it.

Level 2

Level 2 only works when there is more than 1 person playing.

GOAL: Work together to fight the viruses. One person produces the antibody (B-cell), one person tags the virus (T-cell), and one person engulfs the virus (macrophage).

1) Create Antibodies

Be a B-cell and create antibodies to combat the most threatening viruses. **Click the chair** in the bottom right corner to start. A box will appear to let you choose your **colors**. The antibodies you create go on the panel for your friends to pick up. **Type "leave"** to leave the antibody creation chair.

2) Engulf Viruses

Be a macrophage and clean up viruses that have been tagged with antibodies from the board. **Click the macrophage** in the top right corner and move over a tagged virus to engulf it and clear it away. **Type "leave"** to leave the macrophage.

Name		Date	
Whyville ID		Class Period	
1. What was this lesson about?			
2. What did you need to know to succeed?			
3. What new questions did you think of while playing through this lesson?			
4. What are the components of a virus?			
5. How does a virus reproduce?			
6. Which types of living things listed can be infected by viruses? (Circle answer)	animals	plants	humans microorganisms
7. What is an antibody? Which immune cell is an 'antibody factory'?			
8. In level 2, which role did you play? What part did you play in fighting the viruses?			
9. How do macrophages destroy viruses?			