

NAME: _____

HIDDEN LIFE OF THE CELL: VIEWING GUIDE

Directions: Answer questions below while watching to the BBC video "Our Secret Universe: The Hidden Life of the Cell." You can access the video at http://www.youtube.com/watch?v=4GZXRMG5i_w.

1. How many cells make up the human body? _____
2. _____ are the ancient enemies of cells, changing the course of evolution over _____ years.
3. Cells are the basic building blocks of _____ and the smallest unit of what makes us human.
4. True or False: All of the cells in your body contain the same instructions.
5. _____ are chains of complex chemicals that act as _____ in the cell.
6. What is the role of the motor proteins? _____

7. What metaphor is used to describe the nucleus and DNA? _____

8. In every cell in your body there is _____ feet of DNA.
9. Little goes to waste in the cells. Used and faulty proteins are broken down by _____.
10. _____ check the proteins samples for signs of damage and infection in nearby cells.
11. The human body's first line of defense against viruses and bacteria is our _____. However, openings in the _____ like _____ provide places for pathogens to enter the body.
12. The aim of each adenovirus is to breach a cell's defenses and reach the _____ to _____.
13. _____ are y-shaped proteins that identify alien intruders and patrol the space between cells. They work in tandem with _____.
14. Small molecules like _____ can seep through the cell's membrane.
15. Viruses have evolved to include _____ recognized by _____ that transport the virus into the cell.
16. Why might a virus not be classified as a living thing? _____

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17. _____ of the viruses that enter the cell will simply end their journeys, floating in the cell because the viruses _____
_____—unless it hijacks a motor protein.
18. It takes about _____ for the adenovirus to enter the cell and reach the nucleus.
19. Scientists recently discovered a mechanism inside cells that _____
by recognizing antibodies on the surface of the virus.
20. It takes _____ to take control of a cell.
21. In what way is a virus like a cell? _____
22. The membrane of the nucleus is made of the same materials as the _____.
However, the transport mechanisms are different.
23. To enter the nuclear membrane, the _____ pull in opposite
directions and tear the virus apart, allowing a _____
to enter the nucleus.
24. The DNA of a virus has only _____ genes.
25. Outside of the nucleus, _____ construct viral proteins.
26. Before the virus shuts down all cell activity, a message can be sent to _____
using a vesicle that contains fragments of the virus. Patrolling _____
can destroy the entire cell and the virus inside.
27. After _____ hours, the entire focus of the cell is to build a new army of viruses. After _____
days, the nucleus can contain up to _____ new viruses.
28. Meanwhile, outside the cell, _____ and _____
are prepared to attack the viruses that erupt from the destroyed cell.
29. Surrounding healthy cells even _____ to keep the virus from spreading.
30. The _____ of cells and viruses is like an arms race. Even if one cell
dies because of a virus attack, the entire multicellular organism generally gets better.