


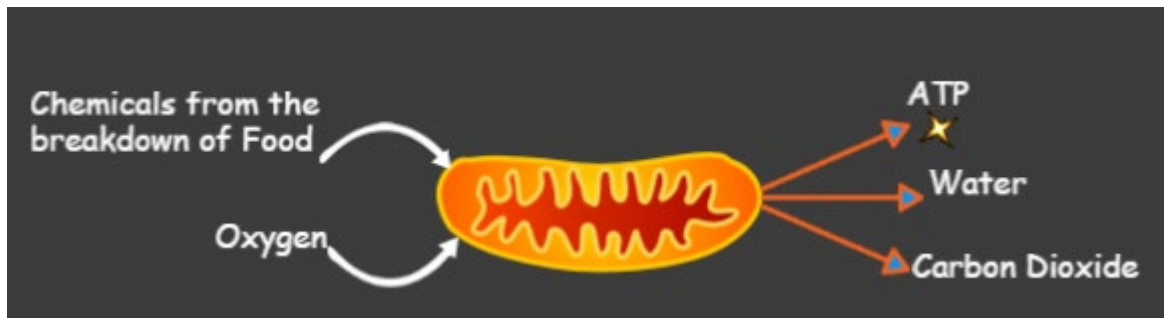
**/16**

<https://biomanbio.com/HTML5GamesandLabs/Cellgames/cellexplorerpagehtml5.html>

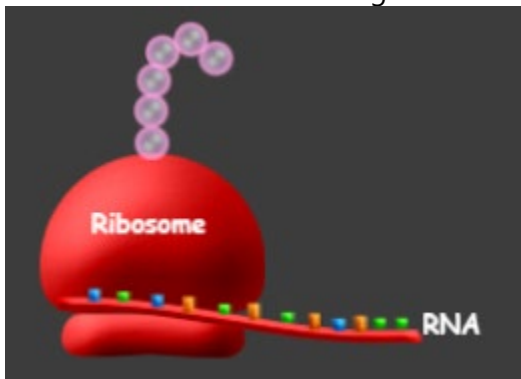
**Mission 1: RECON**

Click  to start the game. Answer the questions below while you play. The questions may not appear in the same order that you encounter organelles, so feel free skip around.

- 1) As a pilot, you should avoid lysosomes. Why?
  - a) Lysosomes digest invaders and other materials with enzymes.
  - b) Lysosomes will transport substances out of the cell.
  - c) Lysosomes will steal energy from invaders and other substances.
  - d) Lysosomes will produce toxins that poison the cell.
  
- 2) What would happen if the Golgi bodies if the cell were destroyed?
  - a) The cell would spontaneously combust.
  - b) The cell would no longer be able to make cell energy.
  - c) The cell would have difficulty processing and transporting proteins.
  - d) The cell would not be able to store DNA effectively.
  
- 3) Why is the plasma membrane critical to the survival of a cell?
  - a) The cell membrane contains the genetic material.
  - b) The cell membrane produces cellular energy.
  - c) The cell membrane regulates what enters and leaves the cell.
  - d) The cell membrane controls other organelles in the cell.
  
- 4) What do mitochondria make?
  - a) Sugar
  - b) Glucose
  - c) ATP
  - d) Oxygen
  
- 5) What is ATP?
  - a) Energy that cells can use
  - b) A type of sugar
  - c) A protein that is important for cells
  - d) A nucleic acid
  
- 6) What would happen if the smooth ER (endoplasmic reticulum) in the cell were destroyed?
  - a) The cell would be unable to produce glucose.
  - b) The cell would no longer be able to produce proteins.
  - c) The cell would not be able to make enough ATP through respiration.
  - d) The cell would not be able to make lipids or break down poisons.



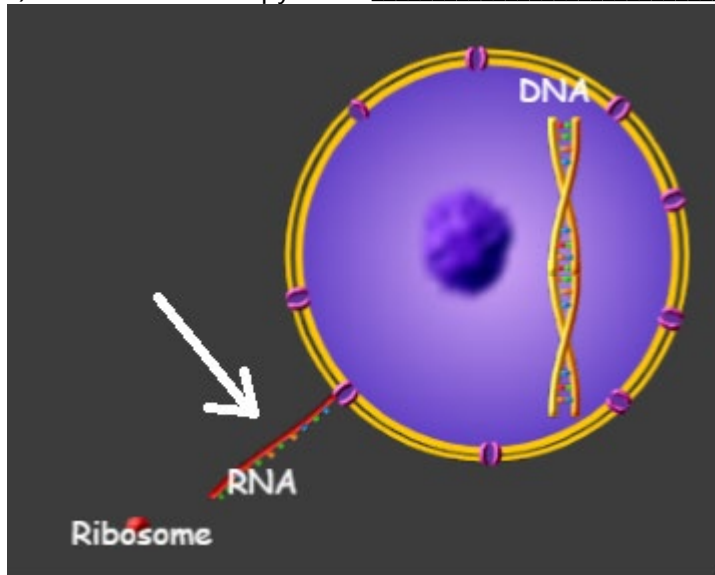
- 7) To make ATP, mitochondria need to take in...
- Food (like glucose)
  - Carbon dioxide
  - Oxygen
  - Both food and oxygen (A and C)
- 8) What would happen if the ribosomes in the cell were destroyed by Dr. Vial's evil scheme?
- The cell would be unable to produce glucose.
  - The cell would no longer be able to produce proteins.
  - The cell would not be able to make enough ATP through respiration.
  - The cell would not be able to make lipids.
- 9) What would happen if the rough ER (endoplasmic reticulum) in the cell were destroyed by Dr. Vial's evil scheme?
- The cell would be unable to produce glucose.
  - The cell would no longer be able to send proteins to the Golgi.
  - The cell would not be able to make enough ATP through respiration.
  - The cell would not be able to make lipids.
- 10) What are the "bubbles" being made at the top of this picture? \_\_\_\_\_



- 11) The cytoskeleton is NOT involved in ....
- Making energy
  - Cell movement
  - Maintaining cell shape
  - Maintaining cell structure

- 12) Why is the nucleus important?
- a) It is useful for making cell energy
  - b) It contains and protects the cell's DNA
  - c) It is the site of protein synthesis
  - d) Both A and C

13) What is RNA a copy of? \_\_\_\_\_



- 14) What is the main function of DNA?
- a) DNA does all the jobs in a cell.
  - b) DNA makes carbohydrates for the cell.
  - c) DNA has the instructions to make RNA. RNA is used to make proteins.
  - d) DNA's only purpose is to determine eye color in mice.
- 15) What would happen if the nucleolus in the cell were destroyed by Dr. Vial's evil scheme?
- a) The cell would be unable to produce glucose.
  - b) The cell would no longer be able to produce ribosomes which are needed to make proteins.
  - c) The cell would not be able to make enough ATP through respiration.
  - d) The cell would not be able to make lipids.
- 16) What is the primary function of vesicles?
- a) To make proteins
  - b) To make energy (ATP)
  - c) To make the rough ER rougher
  - d) To transport proteins and other substances