

Model of a Bacterial Cell

Materials:

Modeling clay

String

Wooden or plastic beads

Saran Wrap®

Tooth picks – cut in tiny pieces

1. The modeling clay is going to represent your cell body – the cytoplasm. Place a glob of clay and make it the shape of your bacteria. You can make it any shape: coccus, bacillus, or spirillum. What is the shape you chose?
2. The string represents the DNA. Place it in the nucleoid region. What kind of DNA does a bacterial cell have?
3. The pony beads represent the ribosomes. Place them around your cell.
 - a. What are the purpose of ribosomes?
 - b. If bacterial cells have no membrane bound organelles then why do they have ribosomes?
4. The Saran Wrap® is going to represent a cell wall. Decide if your bacterium is gram positive or gram negative. If it is gram negative put one piece of Saran. If it is gram positive put two. Place it on top of your bacterial cell.
 - a. What is a bacterial cell wall made from?
 - b. What is the difference between gram positive and gram negative bacteria? (Why did we place 2 pieces of Saran on the gram positive critters?)
5. The coffee stirrers represent cilia – poke them through the saran wrap and into the clay. What are the purpose of cilia?