Module 9: Classification – The Basics
Topic 4 Content: Classification by Domain and Kingdom

Introduction

Click ***NEXT*** to begin.

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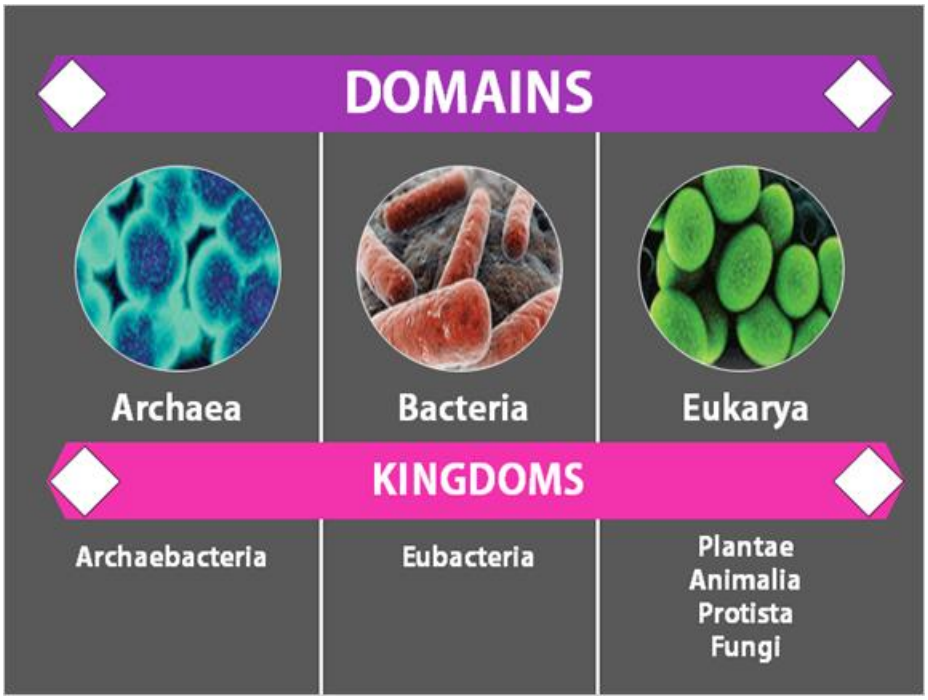
Instructions

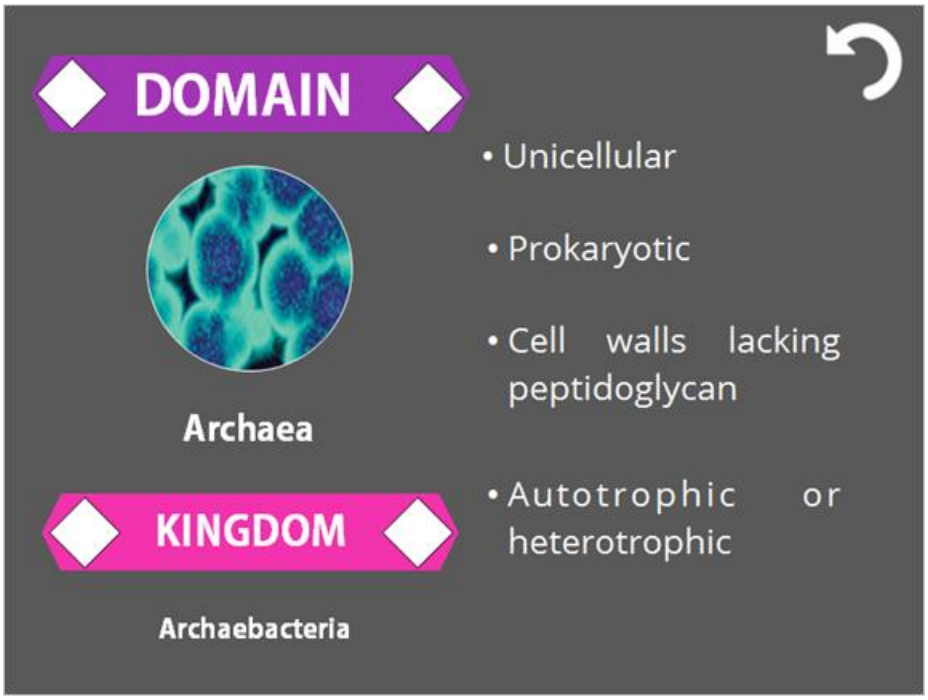


The modern system of classification has the broadest category known as a domain. In this system, there are three domains: Archaea, Bacteria, and Eukarya. These domains are further classified into kingdoms. The Archaea domain includes Archaebacteria kingdom. The Bacteria domain includes the Eubacteria kingdom. The Eukarya domain includes the Plantae, Animalia, Protista, and Fungi kingdoms.

Click each image to learn more about the domains.

Module 9: Classification – The Basics
Topic 4 Content: Classification by Domain and Kingdom

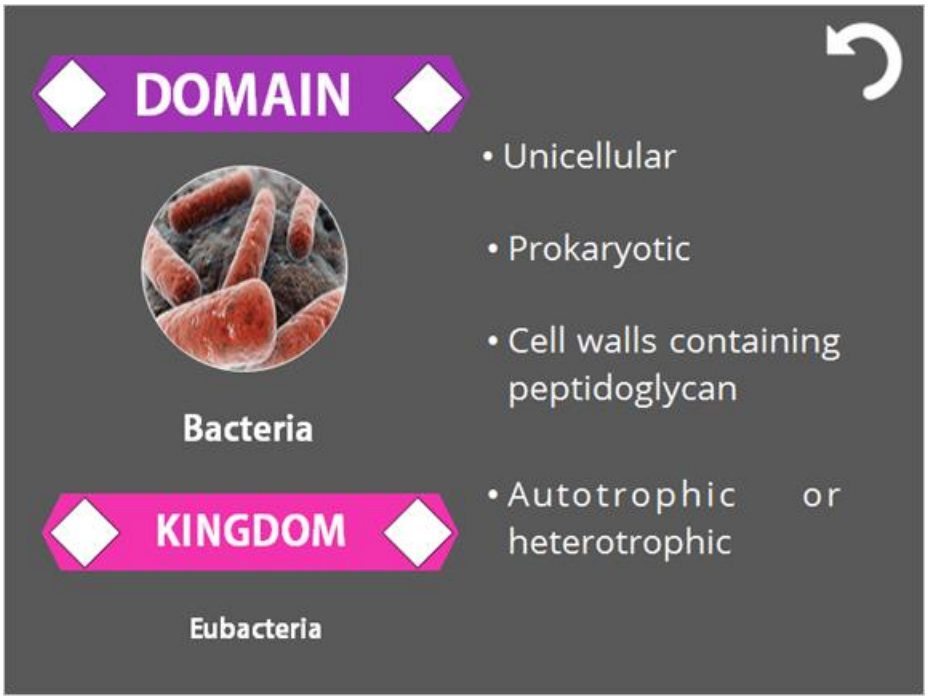
The Archaea Domain



Archaebacteria belong to the Archaea domain. Archaebacteria are unicellular and prokaryotic. They have cell walls that lack peptidoglycan. You can find colonies of archaebacteria where no other life can survive, such as hot springs or very salty water. Some archaebacteria can even survive without oxygen. Archaebacteria can be autotrophic or heterotrophic.

Module 9: Classification – The Basics
Topic 4 Content: Classification by Domain and Kingdom

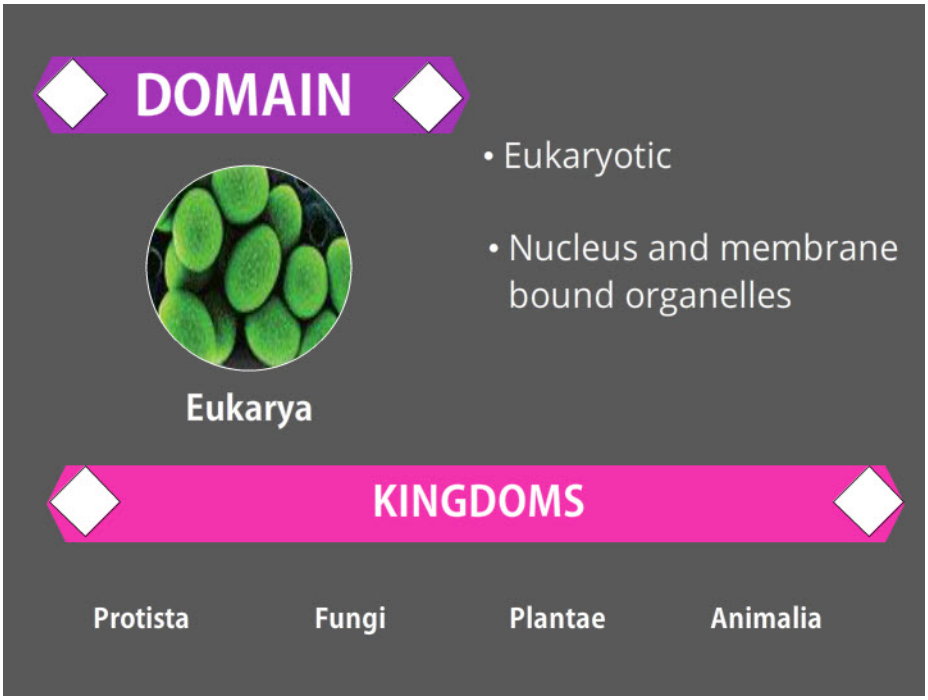
The Bacteria Domain



Eubacteria belong to the Bacteria Domain. Eubacteria are unicellular and prokaryotic. They have cells walls that contain peptidoglycan. Eubacteria are more common in human environments. You rely on members of this domain to keep you alive, and some eubacteria, like *Streptococcus* or *E. coli* can also make you sick. Eubacteria can be autotrophic or heterotrophic.

Module 9: Classification – The Basics
Topic 4 Content: Classification by Domain and Kingdom

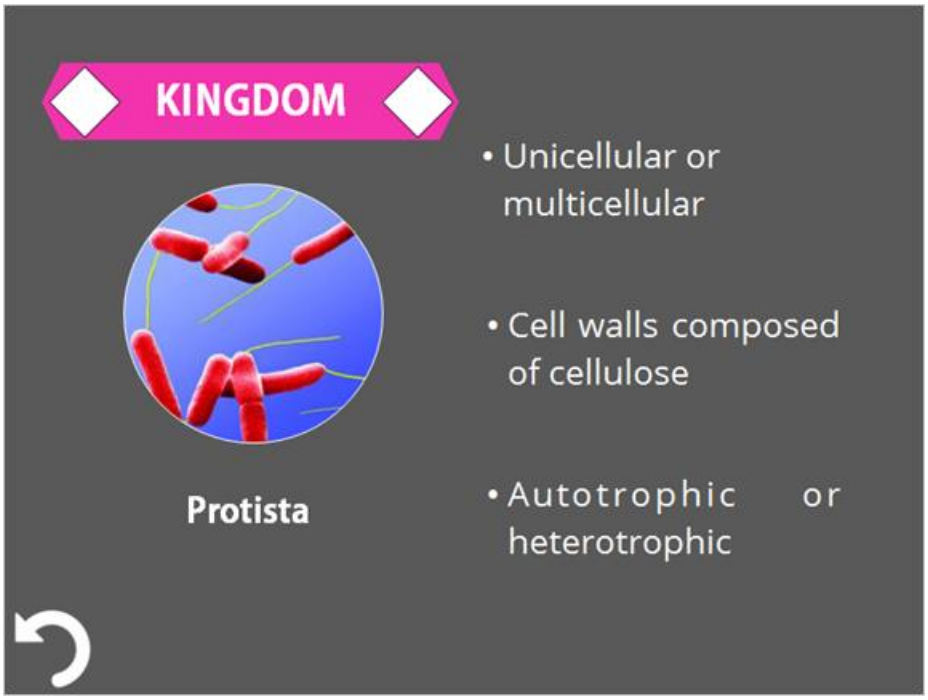
The Eukarya Domain



All organisms in the Eukarya Domain are made up of eukaryotic cells. Eukaryotic cells contain a nucleus and membrane bound organelles. The Eukarya Domain includes the following kingdoms: Protista, Fungi, Plantae, and Animalia.

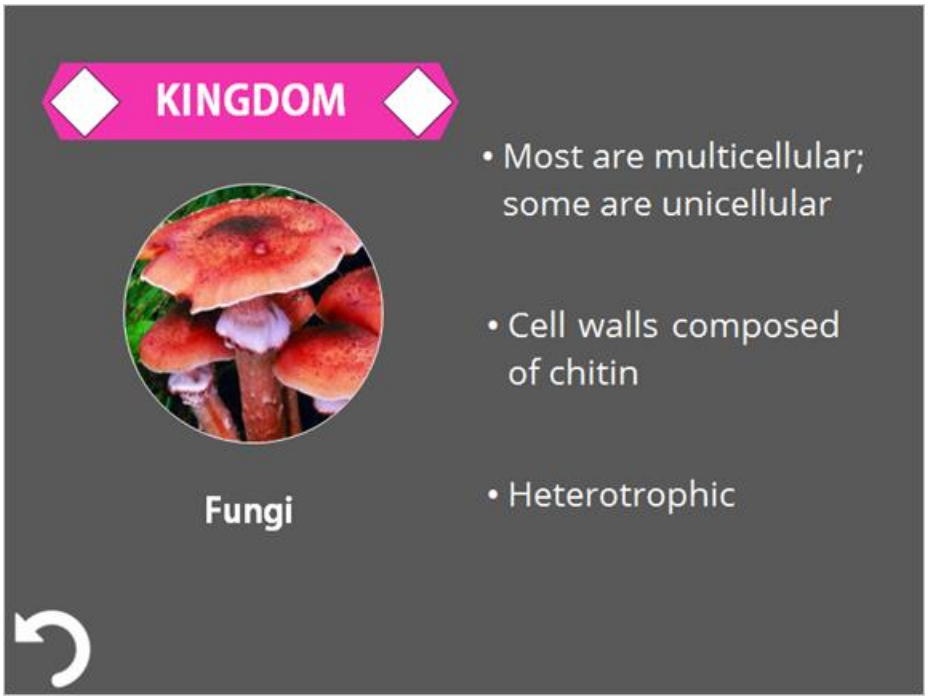
Select each kingdom to investigate them in more detail.

The Protista Kingdom



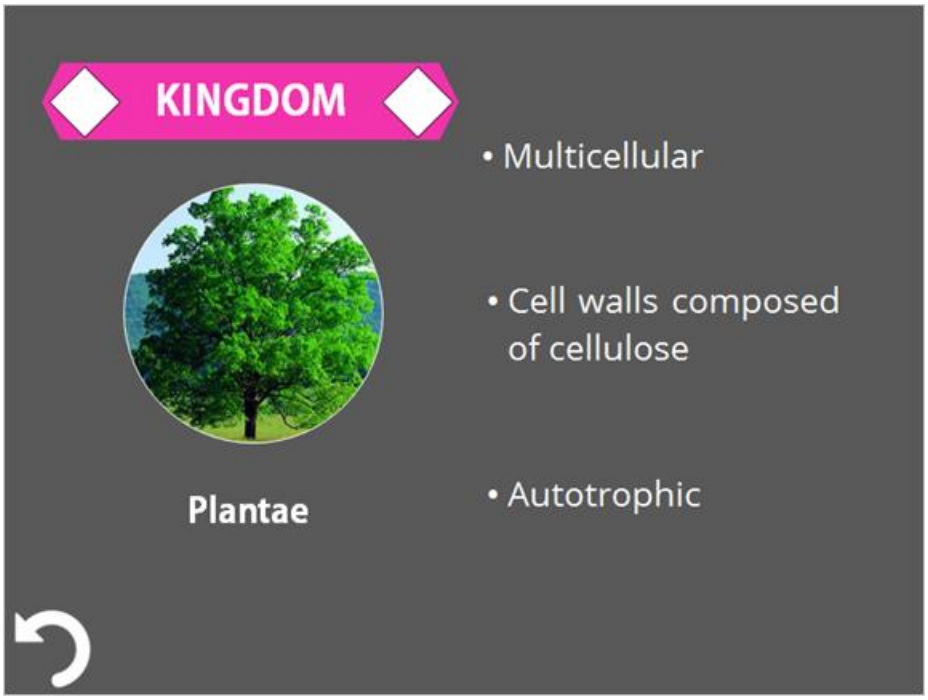
The Protista Kingdom has a great diversity of organisms. Any eukaryote that does not fit into another kingdom is classified as a protist. Some protists are unicellular and some are multicellular. They have cell walls composed of cellulose. Some protists may be mistaken for plants, animals, or even fungi because they may share many characteristics with the other eukaryotic kingdoms. Protists can be either autotrophs or heterotrophs.

The Fungi Kingdom



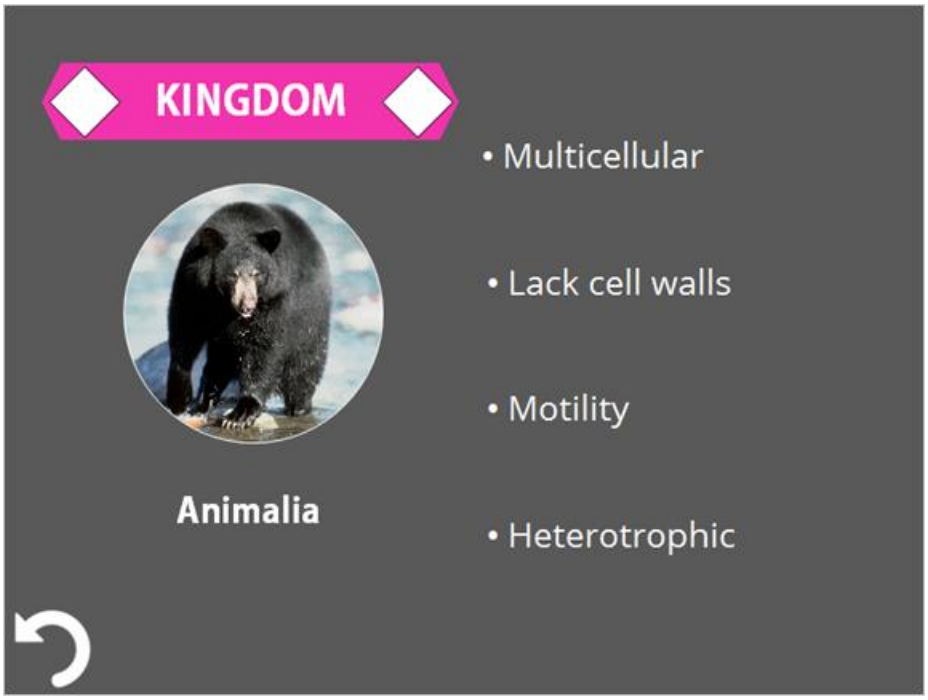
Have you ever noticed a mushroom growing in your yard? How about mildew in the shower? If so, you have come face to face with members of the Fungi kingdom. Most fungi are multicellular with cell walls made of chitin. Some types of fungi, like yeast, are unicellular. All members of the Fungi kingdom are heterotrophic, meaning they feed on other substances to provide the energy they need for life.

The Plantae Kingdom



The Plantae kingdom includes all of the plants on Earth. All plants are multicellular with cell walls made of cellulose. Some plants use cones for reproduction while others use seeds protected by a fruit or flower. All plants are autotrophic.

The Animalia Kingdom



The Animalia kingdom includes all of the animals on Earth. All animals are multicellular, and their cells lack cell walls. All animals can move at some point in their lives, even if it is just in their larval stage, like the marine sponge. The Animalia kingdom is very diverse; animals live in almost every part of the planet. All animals are heterotrophic.