



STUDENT GUIDE

Part I: In what domain do I belong?

Fundamental Question: How do scientists organize organisms?

Scientists sort life forms into categories based on their characteristics. First, scientists look at the types of cells an organism has to identify whether the organism is a *prokaryote* or a *eukaryote*.

Cells in a **prokaryote**:

- Lack a nucleus
- Lack structures inside the cell with membranes

Cells in a **eukaryote**:

- Have a nucleus
- Have membranes that enclose complex structures, including the nucleus

Scientists also look at whether an organism likes living in an extreme environment. An extreme environment might mean an extremely hot place, a very acidic one, or a very alkaline one, for example. Considering this additional characteristic, scientists sort organisms into the three largest categories, called Domains. The three domains are:

Archaea – a prokaryote; many thrive in extreme environments

Bacteria – a prokaryote that cannot live in extreme environments

Eukarya – any eukaryote



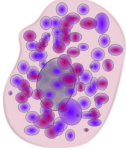









Using the definitions above, cut out the cards on the next page and paste them in Part I of your Student Journal in the correct Domain.





STUDENT GUIDE

Part I: In what domain do I belong? continued

<p>1</p>  <ul style="list-style-type: none"> • eukaryote • normal environment • multicellular • autotrophic • sexual 	<p>2</p>  <ul style="list-style-type: none"> • prokaryote • acidic environment • unicellular • heterotrophic • asexual 	<p>3</p>  <ul style="list-style-type: none"> • eukaryote • normal environment • unicellular • heterotrophic • asexual
<p>4</p>  <ul style="list-style-type: none"> • eukaryote • normal environment • multicellular • heterotrophic • sexual 	<p>5</p>  <ul style="list-style-type: none"> • eukaryote • normal environment • multicellular • heterotrophic • sexual 	<p>6</p>  <ul style="list-style-type: none"> • eukaryote • normal environment • multicellular • heterotrophic • sexual
<p>7</p>  <ul style="list-style-type: none"> • eukaryote • normal environment • multicellular • heterotrophic • sexual 	<p>8</p>  <ul style="list-style-type: none"> • eukaryote • normal environment • multicellular • autotrophic • sexual or asexual 	<p>9</p>  <ul style="list-style-type: none"> • prokaryote • normal environment • unicellular • heterotrophic • asexual
<p>10</p>  <ul style="list-style-type: none"> • prokaryote • very hot environment • unicellular • autotrophic • asexual 	<p>11</p>  <ul style="list-style-type: none"> • eukaryote • normal environment • multicellular • heterotrophic • asexual 	<p>12</p>  <ul style="list-style-type: none"> • eukaryote • normal environment • multicellular • heterotrophic • sexual



STUDENT GUIDE

Part II: In what kingdom do I belong?

Fundamental Question: How do scientists organize organisms?

Scientists sort organisms into smaller categories than Domains, called Kingdoms. The six Kingdoms are: Archaea, Bacteria, Protista, Fungi, Plantae, and Animalia.

CELL COMPOSITION

- Unicellular – composed of a single cell
- Multicellular – composed of multiple cells

EATING

- Autotrophic – makes own food
- Heterotrophic – eats other organisms

REPRODUCTION

- Asexual – offspring arise from a single parent
- Sexual – offspring arise from the mating of two parents



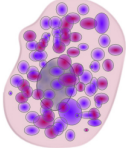






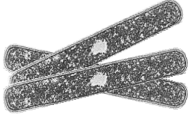


Cut out the cards on the next page. To decide on which kingdom an organism belongs, consider the definitions above, what you learned in Part I. Sort and paste the organisms into the correct kingdoms in Part II of your Student Journal.





STUDENT GUIDE

Part II: In what kingdom do I belong? continued

<p>1</p>  <ul style="list-style-type: none"> • eukaryote • normal environment • multicellular • autotrophic • sexual 	<p>2</p>  <ul style="list-style-type: none"> • prokaryote • acidic environment • unicellular • heterotrophic • asexual 	<p>3</p>  <ul style="list-style-type: none"> • eukaryote • normal environment • unicellular • heterotrophic • asexual
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