|  |  |  |  |
| --- | --- | --- | --- |
|  | **Write the organelles that fit the general function** | **Describe the specific function of each organelle** | **Make a check for each type of cell that has the structure**  |
|  | **Structure** | **Function** | **Prokaryote** | **Eukaryote:** |
|  | **Animal** | **Plant** |
| **Cellular Control Center** |  |  |  |  |  |
| **Organelles That Build Proteins** |  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
| **Organelles That Store, Clean-Up, and Support** |  |  |  |  |  |
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| **Organelles That Capture and Release Energy** |  |  |  |  |  |
|  |  |  |  |  |
| **Cellular Boundaries** |  |  |  |  |  |
|  |  |  |  |  |

**KEY**

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| --- | --- | --- | --- | --- |
|  | Structure | Function | Prokaryote | Eukaryote: |
|  | Animal | Plant |
| **Cellular Control Center** | **Nucleus** | **Contains DNA** | **Prokaryote DNA is found in cytoplasm.** | **✓** | **✓** |
| **Organelles That Build Proteins** | **Ribosomes** | **Synthesize proteins** | **✓** | **✓** | **✓** |
| **Endoplasmic reticulum** | **Assembles proteins and lipids** |  | **✓** | **✓** |
| **Golgi apparatus** | **Modifies, sorts, and packages proteins and lipids for storage or transport out of the cell** |  | **✓** | **✓** |
| **Organelles That Store, Clean-Up, and Support** | **Vacuoles and vesicles** | **Store materials** | **✓** | **✓** | **✓** |
| **Lysosomes** | **Break down and recycle macromolecules** |  | **✓** | **✓ (Rare)** |
| **Cytoskeleton** | **Maintains cell shape; moves cell parts; helps cells move** | **Prokaryotic cells have protein filaments similar to actin and tubulin** | **✓** | **✓** |
| **Centrioles** | **Organize cell division** |  | **✓** |  |
| **Organelles That Capture and Release Energy** | **Chloroplasts** | **Convert solar energy to chemical energy stored in food** | **In some prokaryotic cells, photosynthesis occurs in association with internal photosynthetic membranes.** |  | **✓** |
| **Mitochondria** | **Convert chemical energy in food to usable compounds** | **Prokaryotes carry out these reactions in the cytoplasm rather than in specialized organelles.** | **✓** | **✓** |
| **Cellular Boundaries** | **Cell wall** | **Shapes, supports, and protects the cell** | **✓** |  | **✓** |
| **Cell membrane** | **Regulates materials entering and leaving cell; protects and supports cell** | **✓** | **✓** | **✓** |