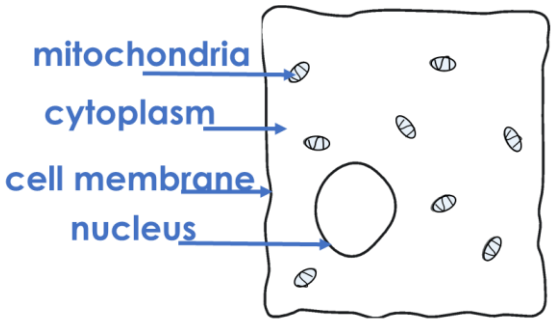
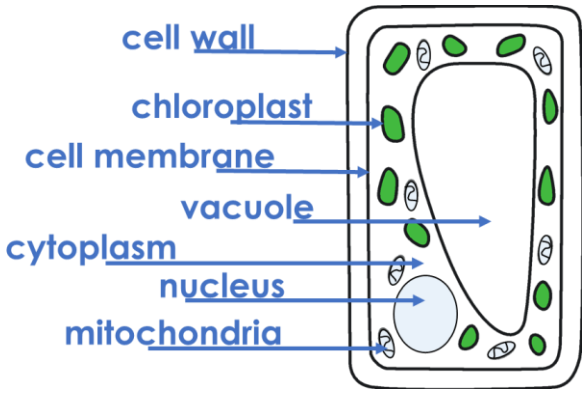
Name _____ Date _____

Science Mastery

Eukaryotic and Prokaryotic Cells

1. Draw a simple animal cell and a simple plant cell and add the following labels to your eukaryotic cells (where necessary):
    - Nucleus
    - Cell membrane
    - Mitochondria
    - Ribosomes
    - Cell wall
    - Chloroplasts
    - Cytoplasm
    - Permanent vacuole





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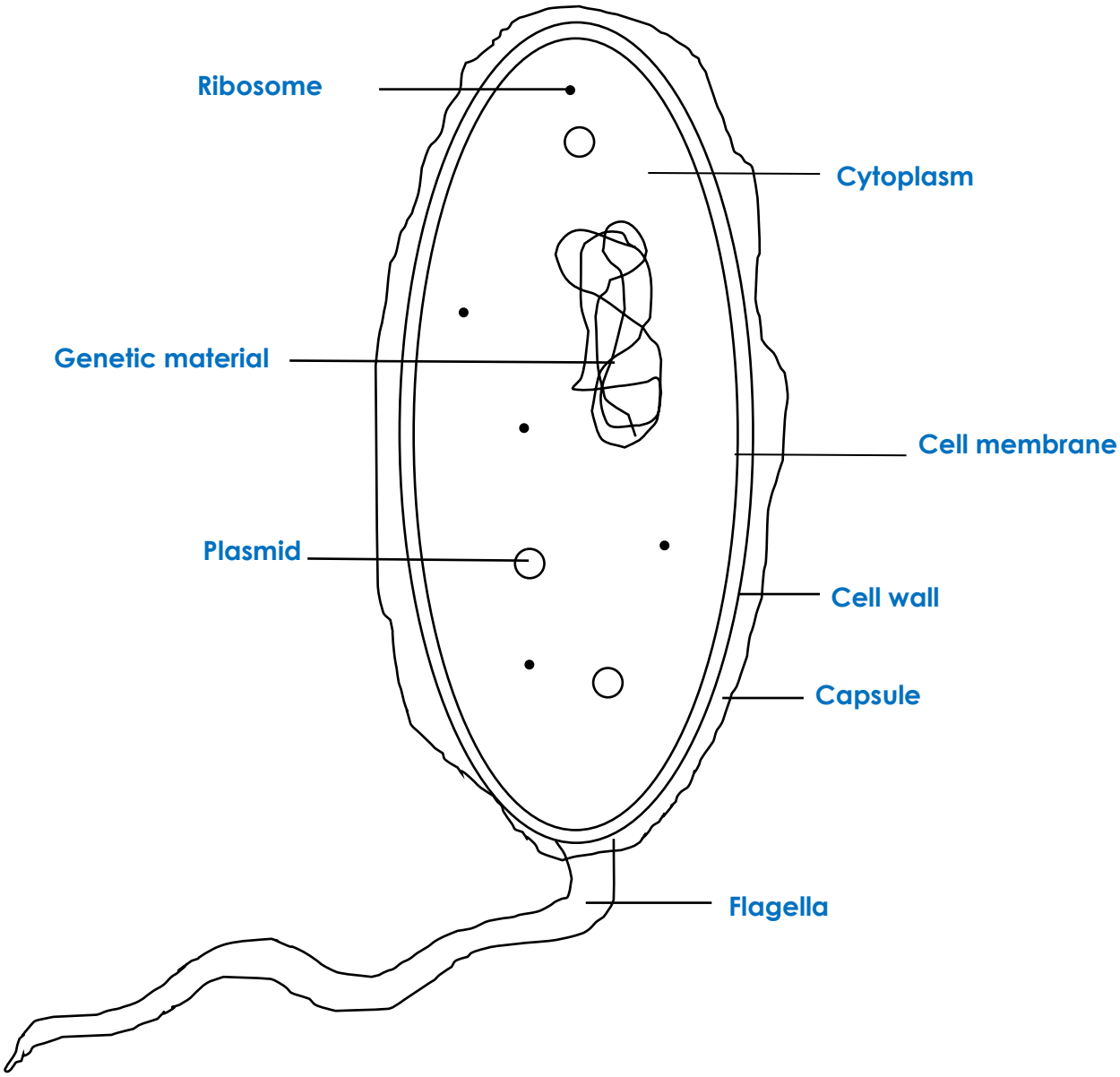
Science Mastery

2. Use your previous knowledge and information about each feature to help you label this prokaryotic bacterial cell:

Genetic material – in the form of a loop of DNA not found in a nucleus
Cytoplasm – jelly-like substance where chemical reactions occur
Flagella – whip-like structures that allow the bacteria to move around
Cell wall – provides structure and support to the cell
Capsule – slimy outer layer that provides protection to the cell
Cell membrane – controls the entry and exit of substances to and from the cell
Plasmid – small ring of DNA
Ribosome – very small organelle that carries out protein synthesis



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Science Mastery

3. Place ticks in the correct boxes to summarise the features that are found in each type of cell.

Feature	**Animal Cell**	**Plant Cell**	**Bacterial Cell**
Nucleus	✓	✓	
Plasmids			✓
Cell membrane	✓	✓	✓
Cell wall		✓	✓
Chloroplasts		✓	
Cytoplasm	✓	✓	✓
Permanent vacuole		✓	
Flagella			✓

Name _____ Date _____

Science Mastery

Stretch Activity

The image below shows a *Euglena* cell. *Euglena* is a unicellular organism. Decide if it is a prokaryotic or eukaryotic cell based on its features and explain your decision.

Although *Euglena* possesses a flagellum, which is generally a feature of prokaryotic cells, it has a nucleus so must qualify as a eukaryotic cell. It falls under the genus of single cell flagellate eukaryotes.