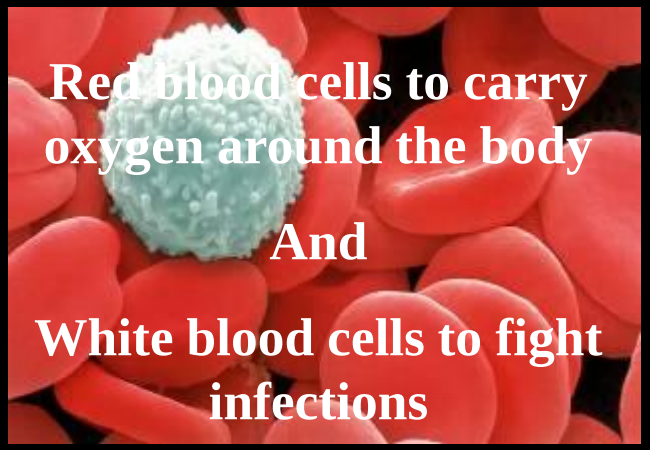
Cell Structure and Function

You have trillions of cells in your body!

1



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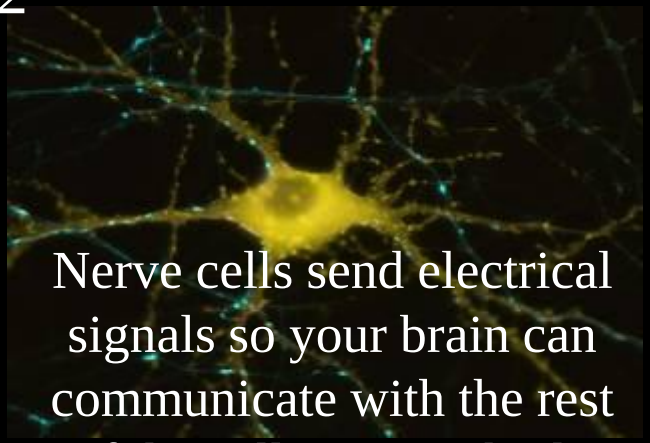
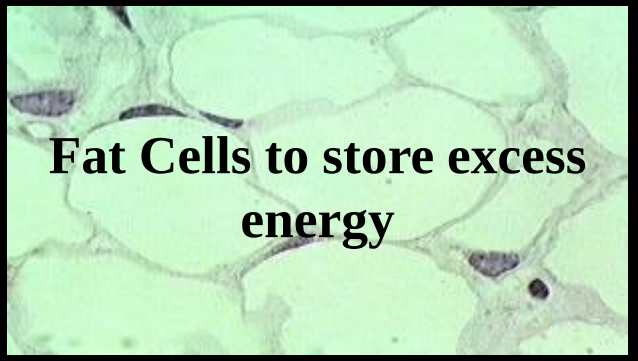


Here are some examples of cells in your body.

Can you guess what they are and what they do?

3



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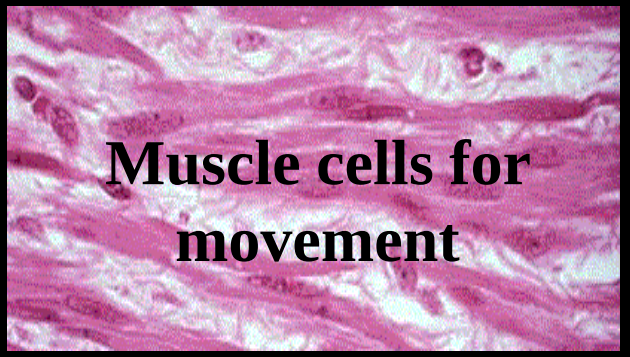

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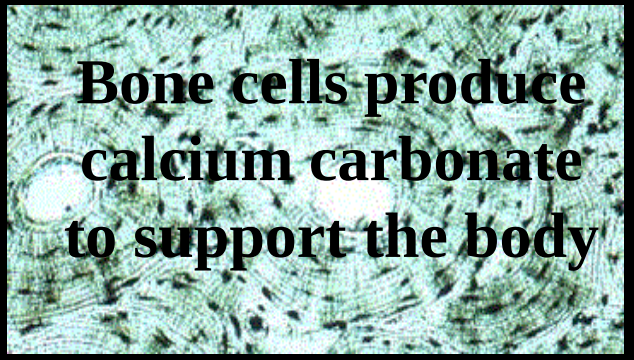


Cells

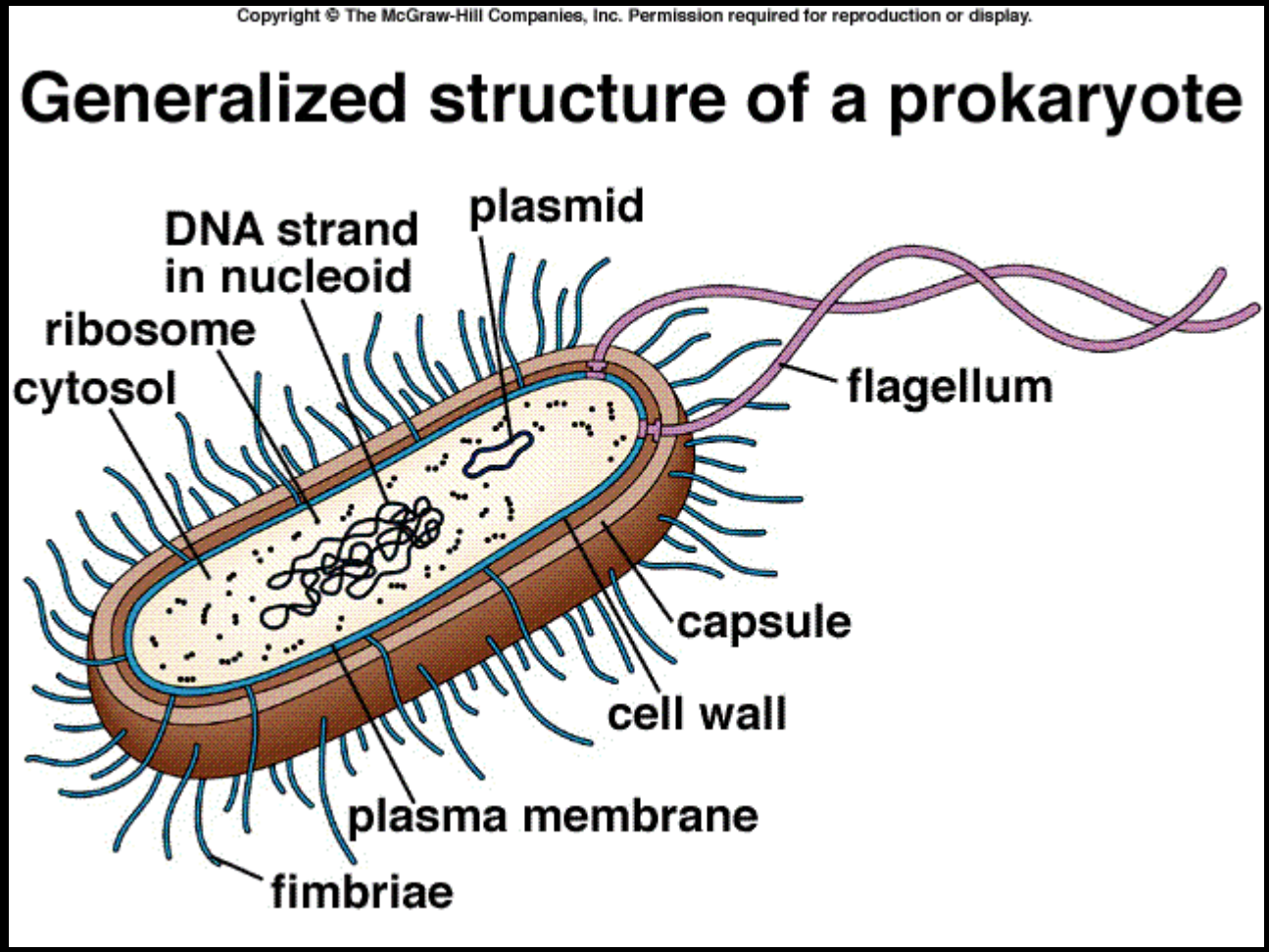
- Living things are called organisms.
- Organisms are made up of one or more cells.
- In living systems cells can be divided into two basic types:
  - Prokaryotes
  - Eukaryotes

Prokaryotic Cells

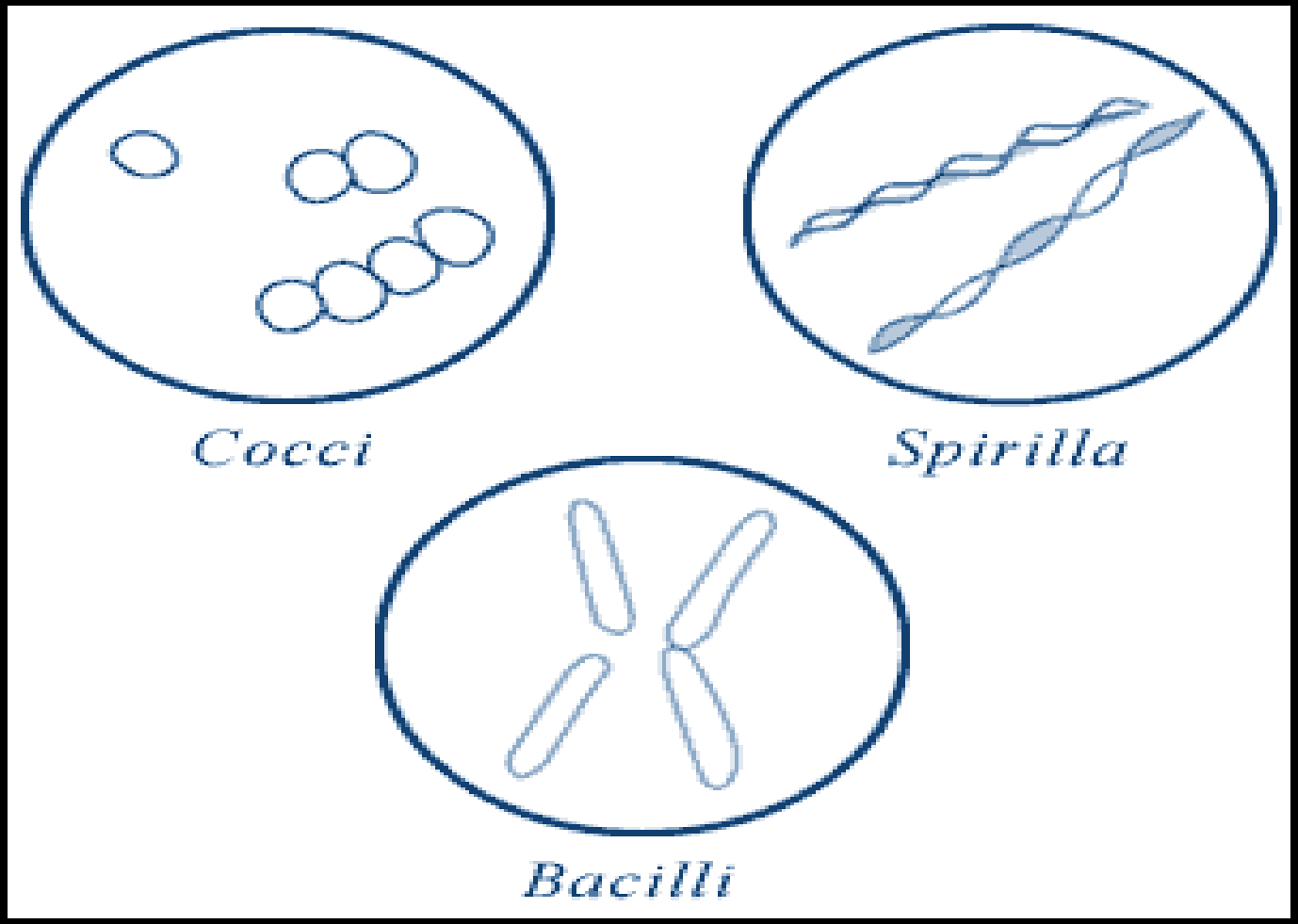
- What Does Prokaryotic Mean?
  (Pro: Before)
  (karyopsis: the kernel of a nut)
  (literally means “without a nucleus”)

- These are very small cells that lack membrane bound organelles

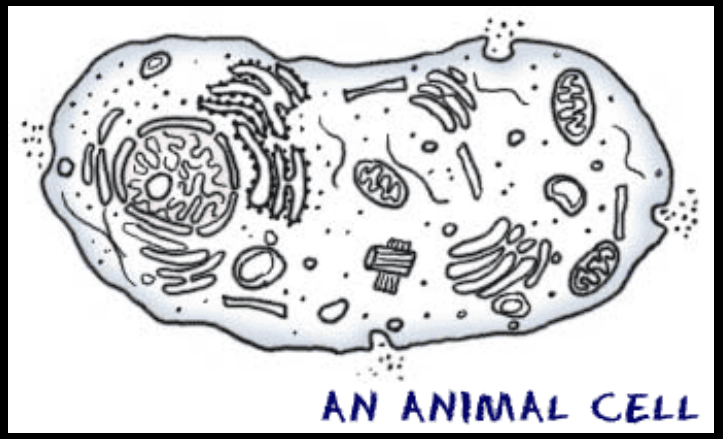
A generalized Prokaryotic Cell

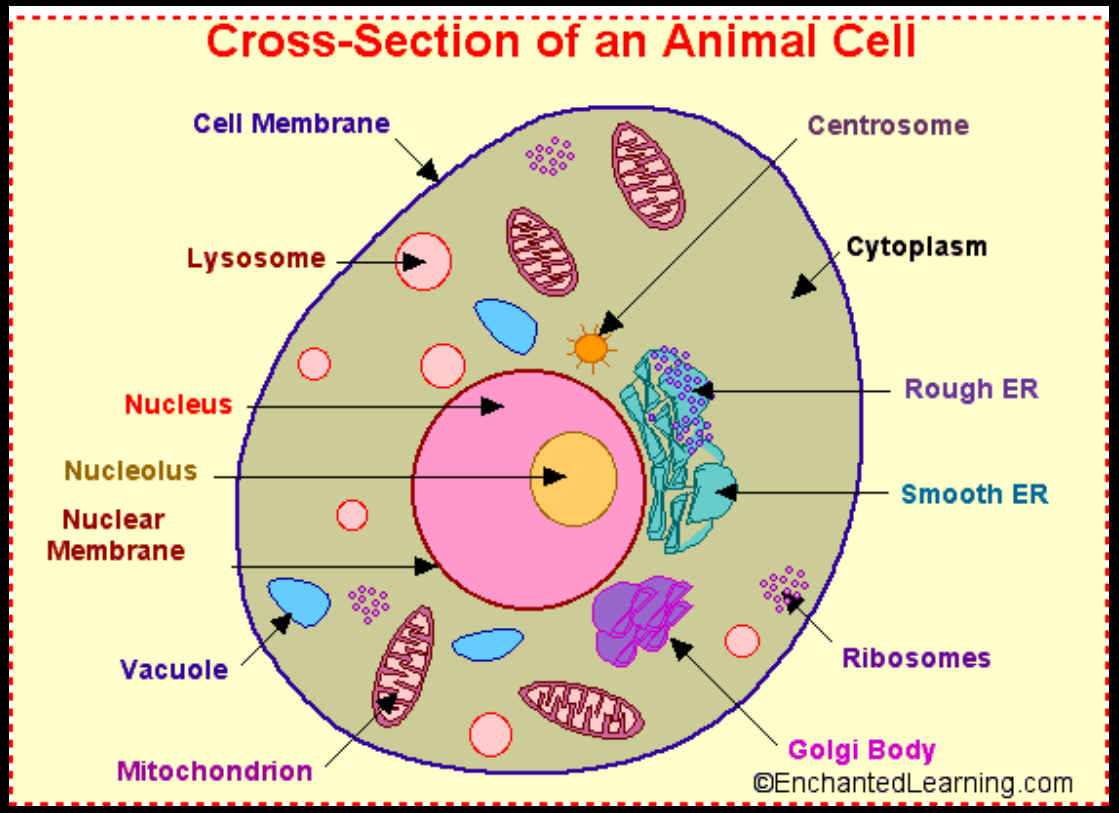


Example - Bacteria



A generalized Eukaryotic Cell (Animal)



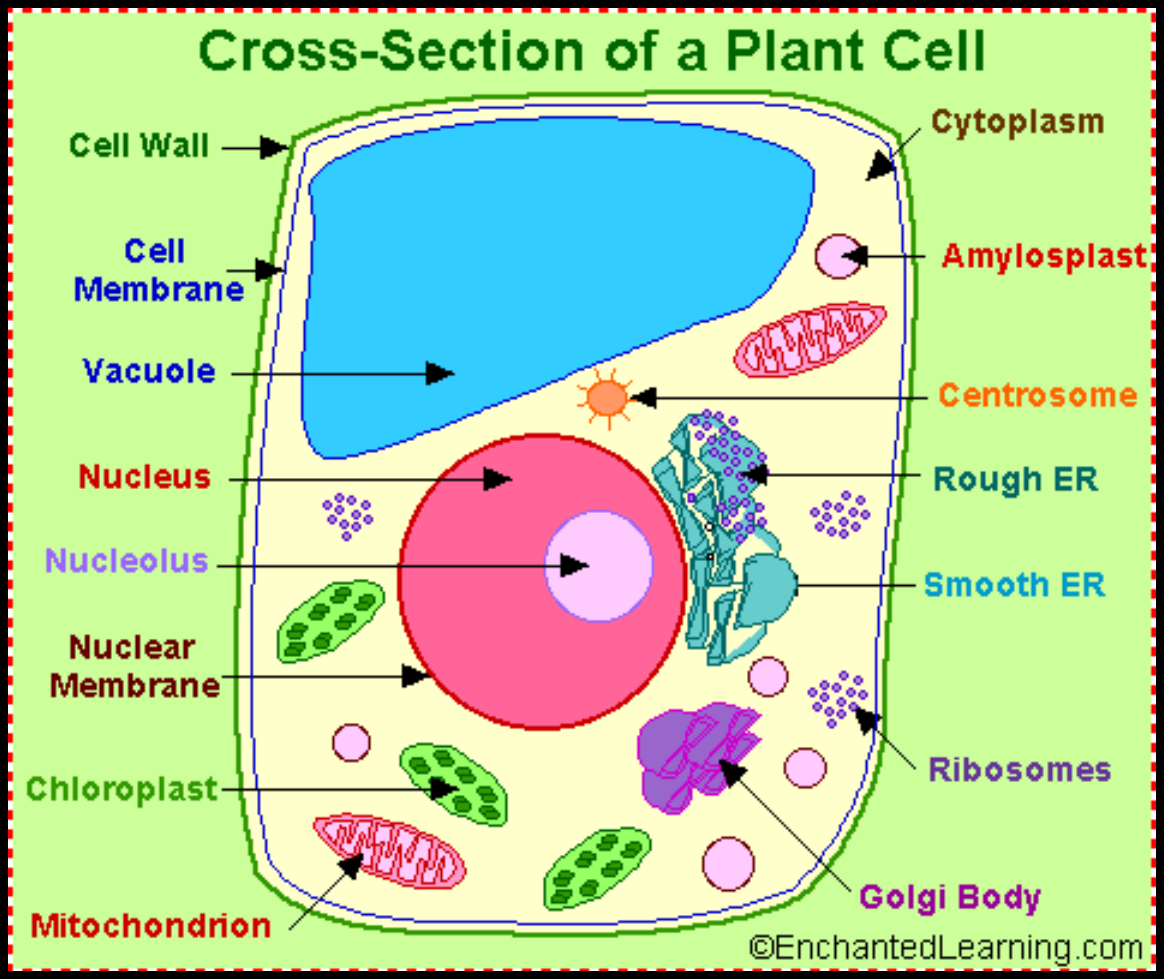


Eukaryotic Cells

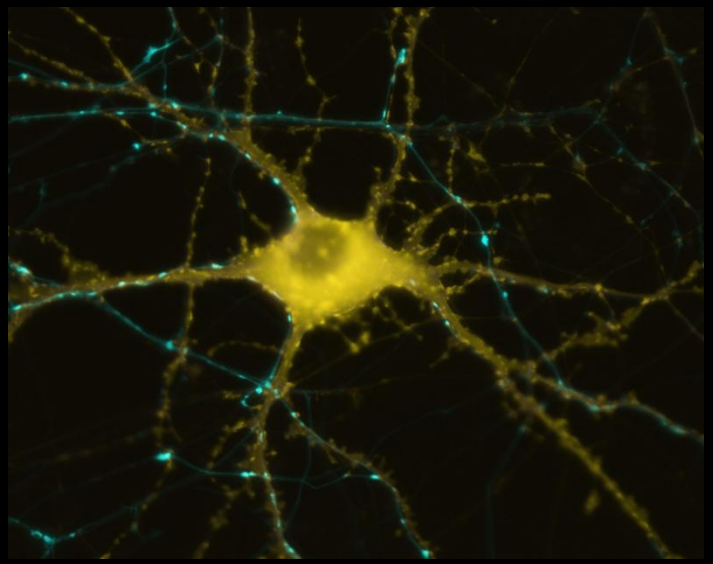
- What does eukaryotic mean?
  (eu: with)
  (karyopsis: the kernel of a nut)
  (literally means “with a nucleus”)

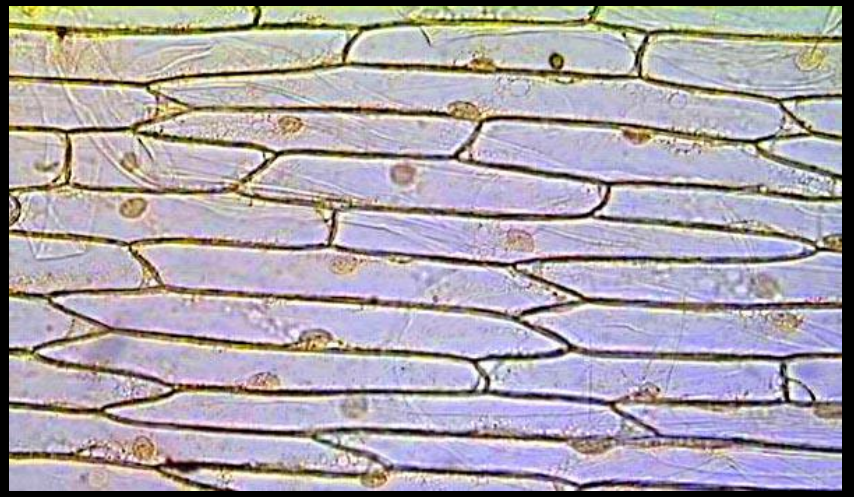
- These cells possess membrane bound organelles

A generalized Eukaryotic Cell (Plant)



Examples of Eukaryotic cells





Kingdoms

Prokaryotes (1-10µm)

Eukaryotes (10-100µm)

Monera	Plant	Animal	Protist
Bacteria Cyanobacteria	Onion cell Banana cell Capsicum cell Elodea leaf	Blood cells Epithelial Cells Neurones Muscle Skin Liver	Algae Diatoms Dinoflagellates Paramecium Amoeba Euglena Giardia

Cells and Light Microscope

- Will not be able to see all structures
- Should see Cell membrane, Nucleus, Cell Wall, Cytoplasm and at time make out other granular material.
- Need an electron microscope to see other organelles

Drawing cells

- Use simple lines
- Limit shading of organelles
- Label all drawings
- Do not cross over lines when making drawings
- Identify the magnification

Activity

- Use light microscope to observe an “e” from a newspaper. What do you see?
- Use light microscope to draw some typical animal and plant cells.
- Label all diagrams.
- Identify magnification used.
- Use the proscope to take graphics of at least one sell that is hard to draw.
- Use a drawing package to label the picture.