

# Create your own edible cells

## You will need:

- A cell membrane – a bowl or container
- Cytoplasm – jelly – use gelatine sachets (or suitable alternative) or a packet mix to make this up yourself
- Organelles of choice – a variety of edible snacks representing your chosen organelles, such as:
  - grapes
  - slices of banana
  - raisins
  - nuts
  - pitted fruit – for the nucleus and nucleolus
  - fruit roll-up
  - strawberry laces or gummy worms
  - small sweets or chocolates

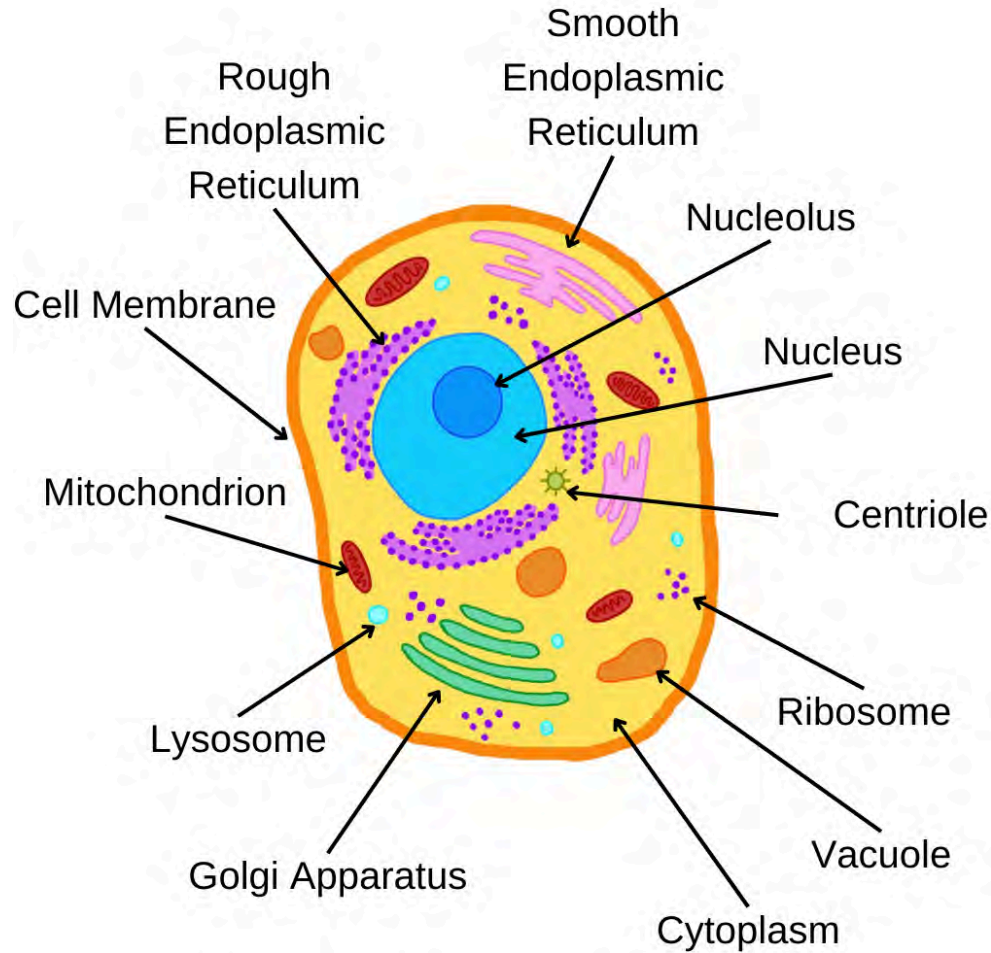
Note: Using fresh pineapple, kiwi or papaya fruit will prevent your jelly from setting.

## How to make your edible cell:

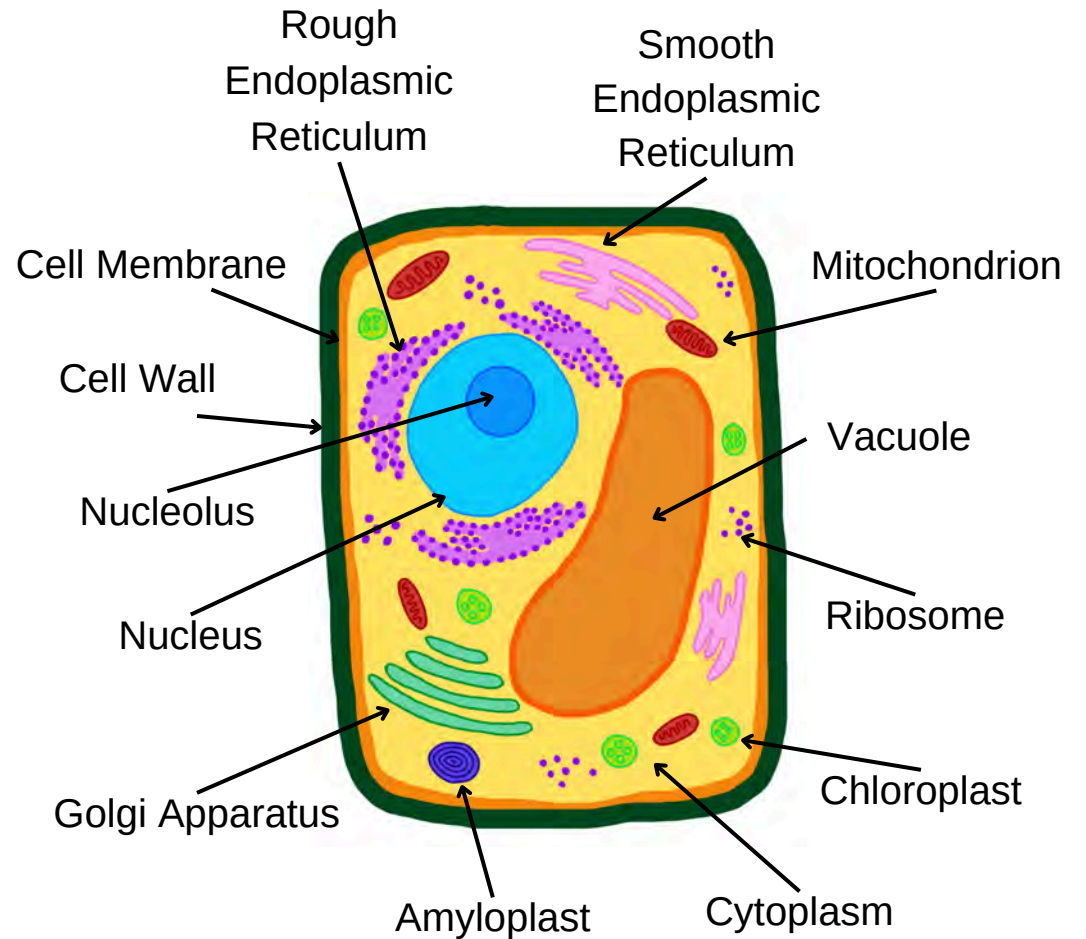
1. Make up your jelly mix following the instructions on the packet
2. Once your mixture has cooled, pour it into your cell membrane container and set in a refrigerator for 45 mins to 1 hour
3. Your jelly should now be soft enough to still insert your organelles but stiff enough that they will suspend
4. Start arranging your edible organelles, these can be pushed into the jelly using spoons, straws or even fingers
5. Once you are happy with your cell, place it back into the refrigerator to fully set
6. Enjoy your edible cell!



# Animal Cell



# Plant Cell



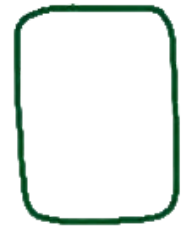
## Organelles

Organelles are the subunits in our cells, each one has a specific structure and function.



**Cell membranes** provide the shape of cells and protect the organelles inside, normally these are made from lipids and proteins and they can allow some smaller molecules to enter the cell.

**Cell walls** also provide shape to the cell, however a cell wall is more rigid than a cell membrane and it provides strength and protection to plant cells.



The **cytoplasm** is a jelly like substance that is made from water nutrients and waste products from the cell.

The **nucleus** is the largest of the organelles and contains all of the cell's genetic information inside the nucleolus.





The **mitochondria**, often called the powerhouse of the cell, is oval shaped and stores energy for the cell to use.

**Chloroplasts** are a type of plastid found in plant cells. These are the organelles that perform photosynthesis, converting light energy into chemical energy.



The **endoplasmic reticulum** is a continuous membrane that forms multiple flattened sacs, these are involved in the synthesis of proteins and lipids, the rough endoplasmic reticulum is covered in ribosomes.

The **golgi apparatus** are sac-like organelles that are involved in the secretion and transport of molecules.



**Ribosomes** are small units that float freely or are found embedded in the rough endoplasmic reticulum. Ribosomes are involved in the making of proteins.

**Lysosomes** are small circular shaped organelles filled with digestive enzymes to help to remove and digest waste or damaged cells.



**Centrioles** are barrel shaped organelles and are usually found in pairs, they help to organise the cell, and are important in cell division.

**Vacuoles** are fluid filled organelles that can help to keep the shape of cells, they also help to digest, excrete and store substances. They are mainly found in plant cells but can also be found in animal cells.



**Amyloplasts** are a special type of plastid that are involved in the making and storage of starch in plants. Another example of a plastid is a chloroplast.