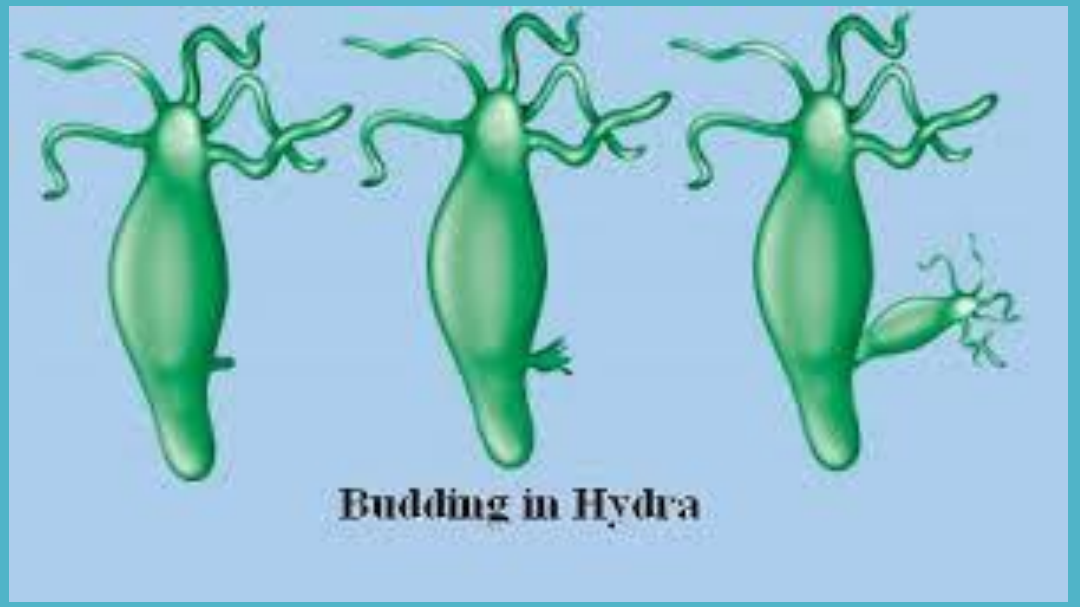
Types of Asexual Reproduction

Part 2!



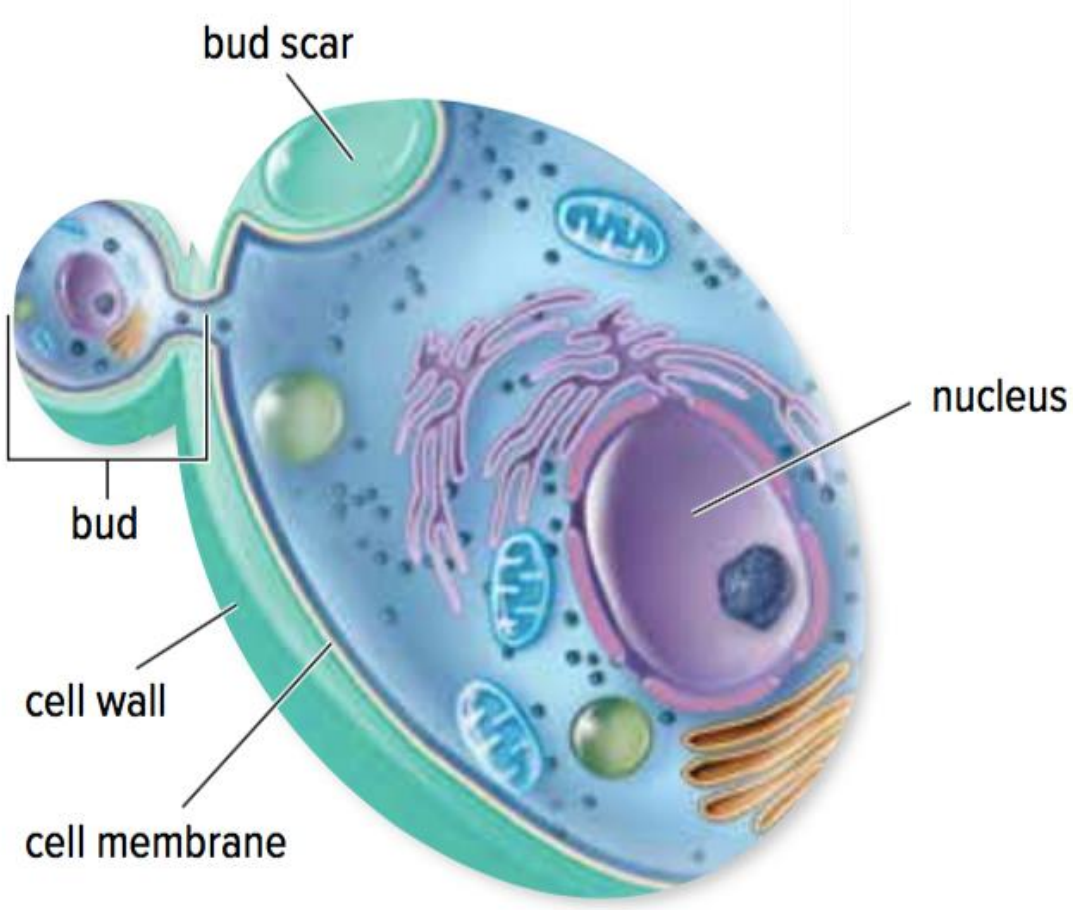
Budding

- Yeasts are unicellular eukaryotic micro-organisms
- Commonly used to make dough, bread, pretzels, soy sauce, cheese, vinegar
- Reproduce by asexual reproduction: **budding**

Asexual Reproduction in Yeast: Budding

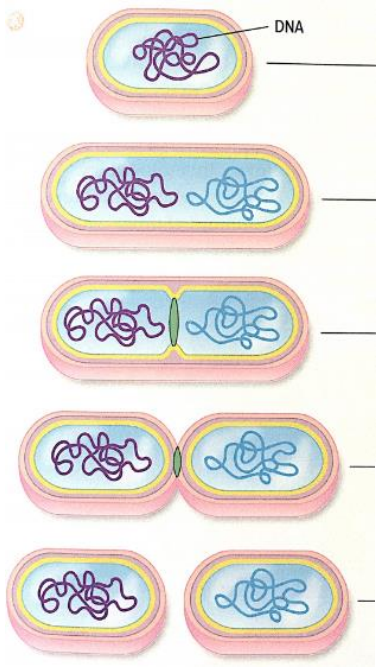
Budding:

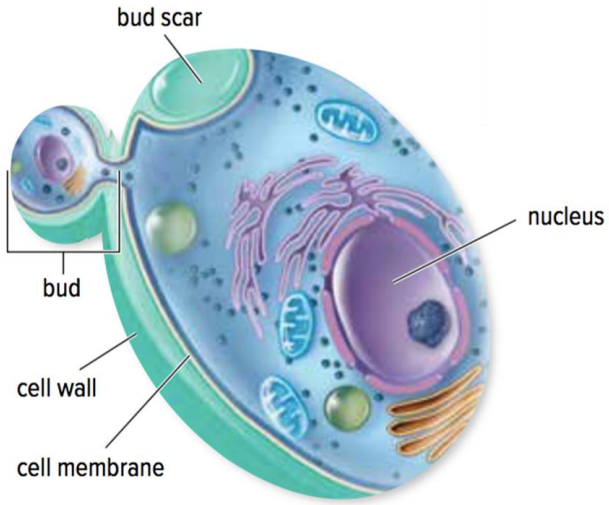
- Yeast cell grows a bud that pinches off to become a separate cell
- New cell is smaller than original cell at first
  - Eventually grows to the same size as other yeast cells
- Hydras and Sea sponges also use this reproduction method



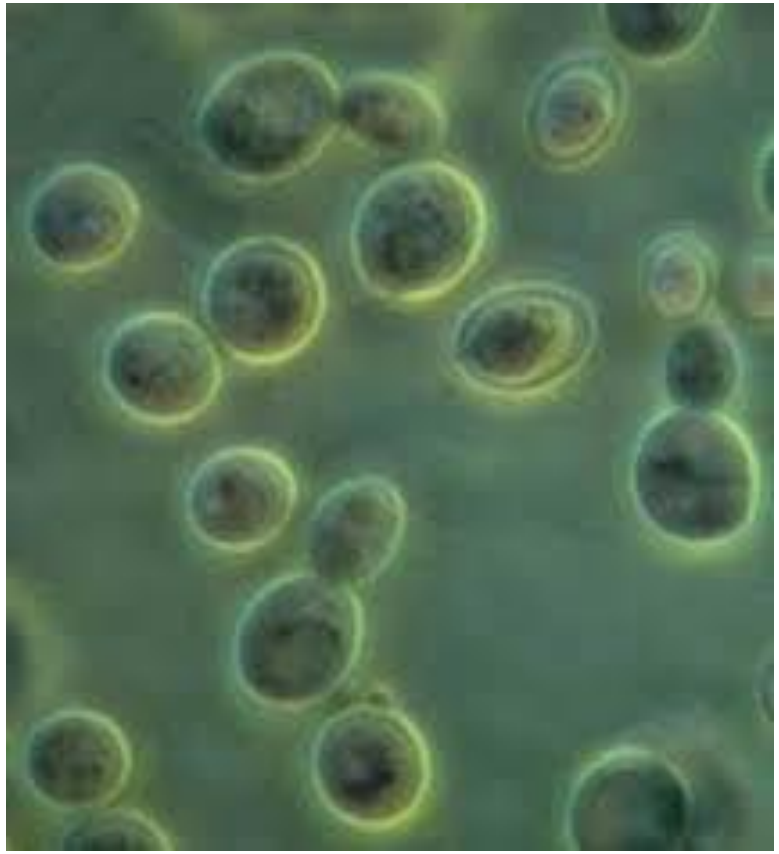
Question!

- How are Yeasts and Bacteria similar? Different?
- Compare the way in which both reproduce.
- As a group come up with one similarity and one difference





Yeast Reproduction Lab ☺



What has happened?

Scenario:

One day at school you don’t finish your sandwich at lunch. You put in your locker to save it for later. You wrap the sandwich in plastic nd put it in your locker. Unfortunately you forgot about the sandwich ☹ A week later you find it in the back of your locker but it is now covered with a black fuzzy material……How did this happen?

Concept 4: Moulds reproduce using spores.

- Moulds are composed of many eukaryotic cells
- Reproduce by asexual reproduction using **spores**
- The fuzzy/hairy appearance comes from how the long threadlike cells weave together.
- Mould can break down food to use as nutrients
- Moulds have structures that help it anchor to the food.

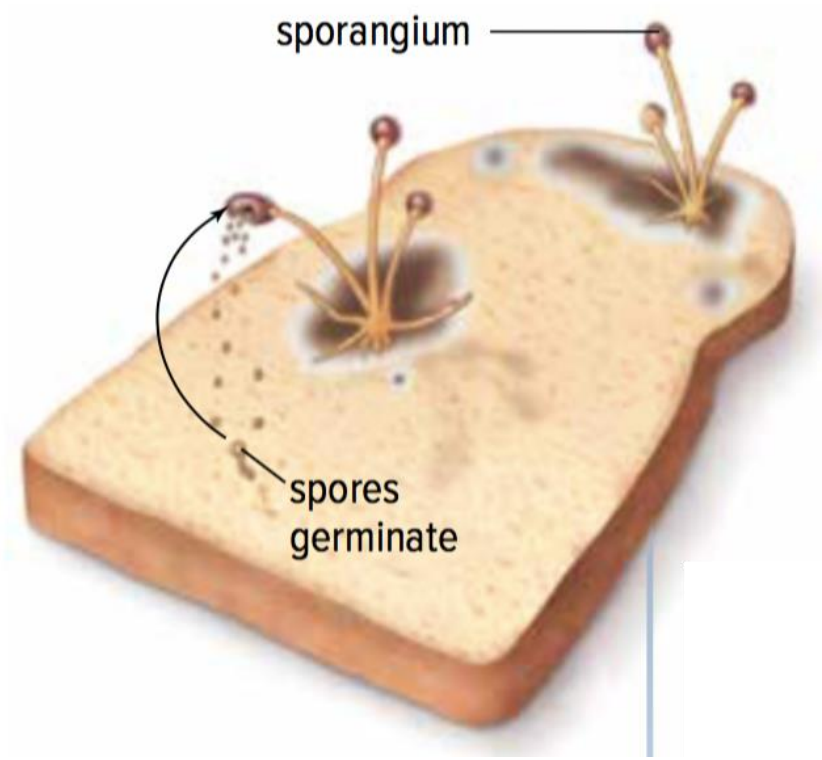


Figure 1.12: Moulds reproduce using spores.

Asexual Reproduction in Moulds: Spores

- Moulds form spores that are genetically identical to the mould cells they come from
- Spores are released into the air from a structure called a *sporangium*
- When a spore lands in a favourable environment (warm, moist), it grows and divides by mitosis and cytokinesis

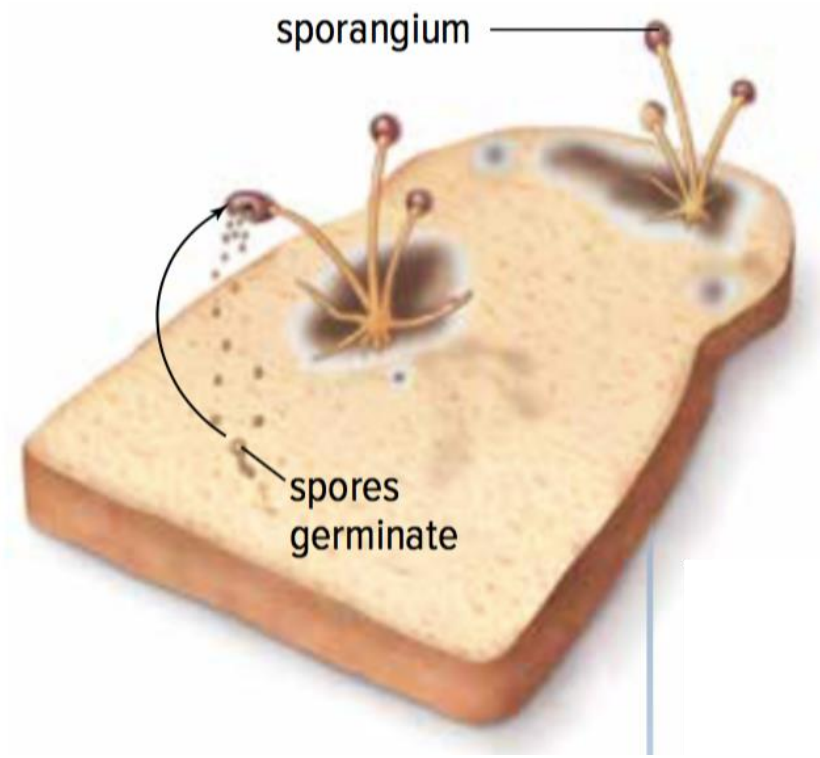


Figure 1.12: Moulds reproduce using spores.

Concept 5: Plants have many ways to reproduce asexually.

- Plants reproduce sexually and asexually

Asexual reproduction: **Vegetative propagation**

- *New plants grow from a portion of the roots, stems, or leaves from an existing plant*

New plants are **clones** (copies) of the parent plant

Figure 1.13: If you look closely at a field of strawberry plants, you will see smaller plants growing near a larger plant. These smaller plants are new plants that grow along runners. Runners are like stems that grow horizontally, above the ground, from a full-grown plant. Eventually runners die, leaving independent, identical plants.

Vegetative Propagation: Example

Potatoes:

- New roots and shoots grow from the eyes of a potato
- If you plant a potato with this new growth, a potato plant will develop
- The new plant will be identical to the parent plant

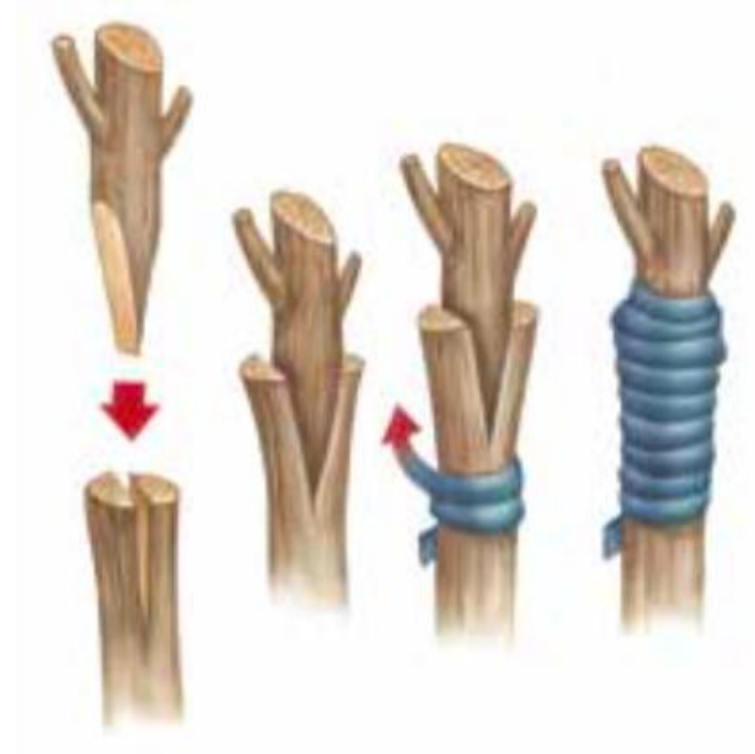
Figure 1.13

Artificial Vegetative Propagation

Artificial vegetative propagation uses techniques to produce plants with specific characteristics

Example: **Grafting**

- A bud, stem, or root is cut from one plant and joined to another
- Used to produce trees with high-quality fruit or resistance to disease



Examples of Artificial Vegetative Propagation

I will give each group a number

#1-Splitting

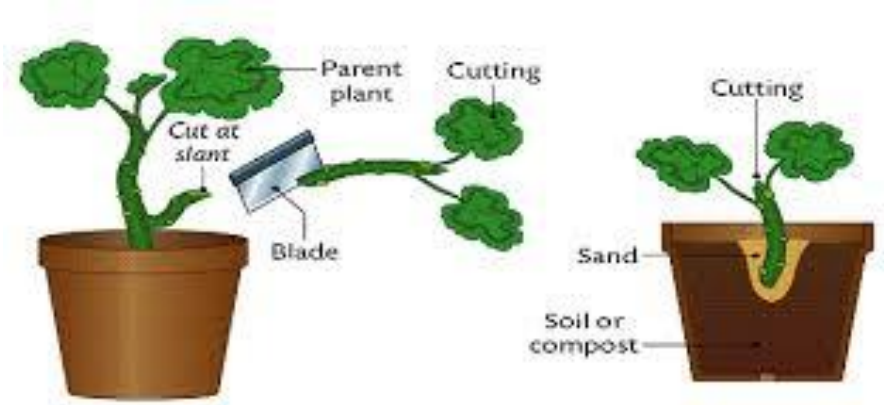
#2- Grafting

#3- Cutting

#4- Simple Layering

#5- Air Layering

#6-Tissue Culture



Your job is to create a short presentation including some sort of visual (ie poster, powerpoint, ad etc) to explain your type of Vegetative propagation