TENDER HEART HIGH SCHOOL, SEC-33B, CHD

Class - VII Subject - Biology
Chapter-2 Classification of Plants
Teacher - Ms. Nidhi Rana

Good Morning students! Hope all of you are advancing well in understanding the chapter. In the last lecture we have discussed about the kingdom - Protista. We have discussed the mode of nutrition, locomotion and respiration in Amoeba. To continue further, let us know how amoeba excretes and reproduces. Today, we will also study about kingdom - Fungi.

Excretion in Amoeba: Ammonia (the main waste product) is eliminated from the body through the general body surface by the simple process of diffusion.
Also, excess of water from the body of amoeba is collected in the contractile vacuole. The contractile vacuole expands when there is water in it and shrinks when the water is released into the surrounding.

Reproduction in Amoeba: Binary fission and multiple fission are two ways by which Amoeba reproduces.
In binary fission, the nucleus first divides into two equal parts, and then the cytoplasm splits around the daughter nuclei, giving rise to two daughter cells. The two daughter amoebae

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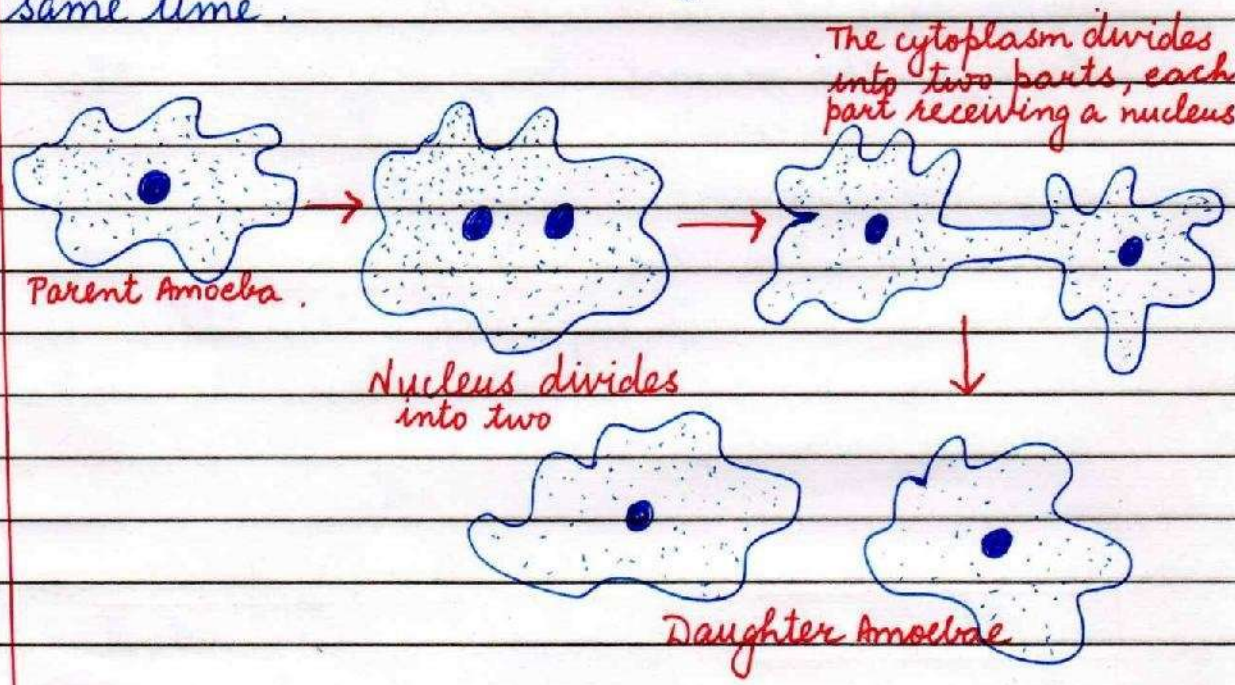
live independently, grow to full size and divide again.
Amoeba undergoes multiple fission under unfavourable conditions. In this case, the cell develops a hard outer covering called a cyst. Within the cyst, the nucleus of the parent cell divides repeatedly, producing several nuclei. This is followed by the division of the cytoplasm into several parts with each part enclosing one nucleus. When favourable conditions return, the cyst breaks open, releasing a number of daughter cells from a single parent at the same time.



Kingdom Fungi. It comprises plant-like organisms that are generally multicellular, non-green and non-photosynthetic in nature.
* Yeasts are the only unicellular form of fungi; all other fungi are multicellular.

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Fungi are eukaryotic organisms (have a well-defined membrane bound nucleus) Since fungi lack chlorophyll, nutrition is heterotrophic. They may either be: saprotrophic or parasitic
Saprotrophic fungi - such as mushrooms, moulds, toadstools. They grow on dead and decomposing plant and animal matter, obtaining nutrition from it.
Parasitic fungi - such as rusts and smuts. They obtain their nutrition from a living organism called host. Parasitic fungi causes various plant and animal diseases.

Let us learn more about fungi, by taking a look at Rhizopus (bread mould)
Rhizopus grows on organic matter such as stale bread or rotting fruit. Moulds appear as cottony mass that consists of thread-like multicellular filaments called hyphae. The network of hyphae is called mycelium.

- Hypae that grow downwards to obtain nutrients from the organic medium (bread) forming root like structures are called rhizoids
- Hyphae that grow upwards are called sporangiophores. The tip of each sporangiophore has an oval structure called sporangium which bears spores. The liberated spores germinate on a favourable organic medium and grow into a new individual.

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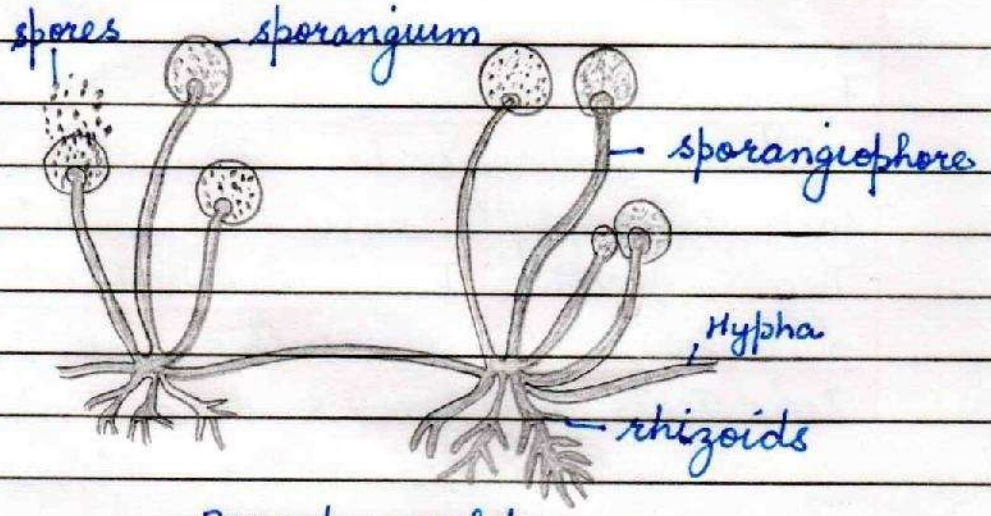

Bread mould

Respiration in the bread mould is mainly aerobic. They respire in the presence of oxygen.
Mode of nutrition is saprophytic in the bread mould. The hyphae of the fungus function as microscopic tubes that spread throughout the food medium on which it grows. These hyphae penetrate the food material, and secretes enzymes into it. The enzymes digest the food particles into simpler, easily absorbable nutrients, which are taken up by the hyphae.

Useful fungi

1. Yeasts, a common fungus, is widely used in the baking industry to make bread, pizza base, cakes and other wheat-based products. Yeasts are also used to produce fermented alcoholic beverages like wine and beer by fermentation of various plant parts.
2. Yeast also produces vitamin B.
3. Many mushrooms and morels are edible and are cooked and eaten.

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4. Several fungi are used to produce cheese of different varieties. They impart flavour and texture to the cheese.
5. Penicillium is an important fungus that is used in the preparation of several antibiotics, such as penicillin and ampicillin.
6. Aspergillus niger is also used to commercially prepare soy sauce from soyabeans.
7. Owing to their saprotrophic nature, several fungi also act as decomposers and help in the recycling of nutrients by feeding on decaying organic matter.

Harmful fungi:

1. Moulds grow on moist food substances, such as bread, fruits, vegetables and spoil food products. They release toxins within the food, which, if ingested, can cause serious food poisoning.
2. Fungi cause spoilage and ultimately destruction of non-food substances such as textile, wool, paper, furniture and even leather shoes. They grow on damp leather goods and textiles.
3. Toadstool is a mushroom-like fungi that is mistakenly eaten as food. Toadstool can be harmful to the health of an animal, possibly resulting in death.
4. Several fungi, like moulds, mildew, smut

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and rust causes diseases in plants. They can destroy whole fields of crops.

5. Fungi can also cause human diseases, such as Athlete's foot, ringworm.

Dear Parents,
Kindly assist your child in reading the chapter till the topic that is covered in the notes so that he/she can understand the topic well. Your effort is highly appreciated.

Home Assignment.

1. Match the columns.

(a) Yeast	(i) spoil food products.
(b) Mushrooms	(ii) is used in the baking industry.
(c) Penicillium	(iii) are cooked and eaten
(d) Moulds	(iv) is used in the preparation of antibiotics.

2. List out five uses of fungi in our lives.
3. Give Two characteristics and two examples of fungi
4. Name two human diseases caused by fungi.
5. Draw well-labelled diagram of bread mould.
6. Amoeba reproduces by splitting into two. This process is called _____.