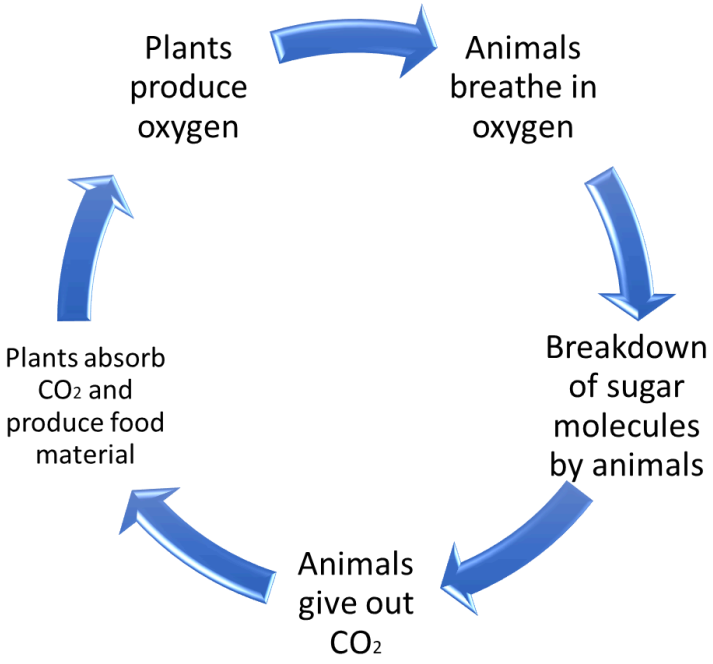
(2) Oxygen cycle



Chapter 8: Energy Flow in an Ecosystem

Question 1. Fill in the blanks:
(1) Yeast reproduces asexually by the **budding** method.
(2) Toxins of fungal origin are called **Mycotoxins**
(3) Leguminous plants can produce more proteins due to **Rhizobium**
(4) The bacteria seen in the fresh buttermilk are **Lactobacilli**
(5) **Probiotic** yoghurt helps to improve our immunity.
(6) While observing **Staphylococcus** cultures Alexander Fleming discovered penicillin.
(7) The bacteria which spoil cooked food are **Clostridium.**

Question 2. Write the names of microbes found in the following food materials:
Yoghurt, Bread, Root Nodules of Leguminous Plants, Idli, Dosa, Spoiled Potato Curry.

(1)	Yoghurt	Lactobacilli
(2)	Bread	Yeast
(3)	Root Nodules of Leguminous Plants	Rhizobium
(4)	Idli	Yeast
(5)	Dosa	Yeast
(6)	Spoiled potato - curry	Clostridium

Question 3. Name the following:
(1) Two useful bacteria.
Answer. (1) Lactobacillus (2) Rhizobium.
(2) Two bacteria used in bio-remediation.
Answer. (1) Yarrowia lipolytica (2) Alcanivorax.
(3) Other products formed in sugar factories.
Answer. (1) Ethanol (2) Spirit (3) Wines.

(4) Two diseases mosquito bites transmitted through
Answer. (1) Malaria (2) Dengue.
(5) Two poisoning. micro-organisms causing food
Answer. (1) Clostridium (2) Some fungi.

Question 4. Complete the paragraph by choosing the words given in the bracket:
(Pathogen, broad spectrum, bacteria, medicine, antibiotics, fungi)

Carbon compounds obtained from some bacteria and **fungi** for destroying or preventing the growth of harmful micro-organisms are called **'antibiotics'**. Antibiotics, a discovery of the 20th century, have brought about a revolution in the field of **medicine**. Antibiotics mainly act against **bacteria**. Some antibiotics are useful against a wide variety of bacteria. They are called **broad spectrum antibiotics.** They are used when the **pathogen** cannot be identified.

Question 5. Define the following:
(1) Probiotic: Eatables which are made healthy by adding useful bacteria like lactobacilli are are called called pr probiotics.
(2) Antibiotics: Carbon compounds obtained from some bacteria and fungi which are used to destroy or prevent the growth of harmful microorganisms are called antibiotics.
(3) Fermentation: Conversion of carbohydrates into alcohol and carbon dioxide in absence of oxygen is called fermentation

Question 6. Answer the following questions:
(1) How many different industries depend upon the Lactobacilli bacteria?
Answer. Following industries depend upon use of Lactobacilli bacteria.
(1) Production of milk products: Cheese, butter, buttermilk, ghee, shrikhand, condensed milk, milk powder, etc.
(2) Food products such as cider, cocoa, pickles of different vegetables.
(3) Probiotic medicines and other food stuffs.
(4) Cattle feed.

(5) Preparation of alcohol and in winery.
(6) Bakeryproducts (bread, biscuits, cakes, etc.).

(2) What are 'broad-spectrum antibiotics'?

Answer. The antibiotics that are useful against a wide variety of bacteria are called broad-spectrum antibiotics. Sometimes there are visible symptoms of the disease but the pathogen causing the disease cannot be identified. In such condition, broad- spectrum antibiotics are used. E.g. ampicillin, amoxicillin, tetracycline, etc.

(3) What are 'narrow-spectrum antibiotics'?

Answer. The antibiotics that can control a particular and specific pathogen are called narrow-spectrum antibiotic. Such antibiotics are used for controlling a specific bacteria. E.g. penicillin, gentamycin, erythromycin, etc.

(4) Are the antibiotics given to humans and animals the same? Why?

Answer. Animals are also affected by different kinds of diseases. They also catch infections from bacteria, virus and fungi. Therefore, they are also given antibiotics by veterinary doctor during their treatment. The bacteria infecting humans are of different species than the pathogens infecting animals, hence some of the antibiotics are different. Few, however, are similar to human antibiotics.

Question 7. Draw neat and well labelled diagram of yeast cells