

Food and Antibiotics

Learning Indicators:

Exploration and sharing; investigation and questioning; recording and discussion

Learning Objectives:

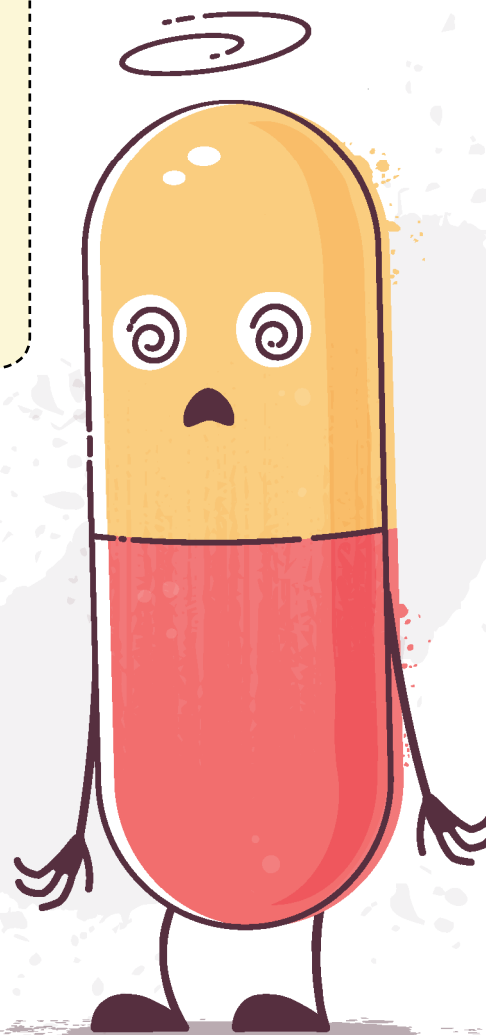
- To help children learn about microorganism-related diseases
- To help children understand the importance of antibiotics and their judicious use

Level: Class 8

Subject: Science

Microorganisms are extremely important for our survival. They help in decomposing organic waste material, and in nutrient absorption by plants and animals. The *idli* or the curd you eat is made actually by microorganisms! Bacteria are a type of microorganisms. Some bacteria live inside our bodies to help us in digesting our food. Can you think of any other role microorganisms play?

But there is another side to microorganisms – they can also cause diseases and make us ill. Many a times, when we are ill, the doctor prescribes antibiotics for our speedy recovery. The use of antibiotics has grown over the years, and this overuse is leading to fears that we may become immune to their influence in future (see activity 2 on antimicrobial resistance).



Activity 1: Knowing the antibiotics

List the names of diseases you have heard of from your family members and friends. Try and think of the medicine prescribed for each. Also, find out if antibiotics were given against each disease or infection.

S. No.	Name of disease/infection	Medicines used	Antibiotic (Yes/No)
1.	For example – Tonsillitis	Usually amoxicillin or penicillin	Yes
2.			
3.			
4.			
5.			
6.			



Activity 2: Antimicrobial resistance

Antibiotics are available in medical stores. Next time you accompany your parents to a medical store, try to observe if the store is selling medicines without prescription. Ask the shopkeeper if antibiotics are available and can they be bought without a doctor’s prescription. Record the answers and share them in your class.

As a rule, antibiotics should not be bought without a doctor’s prescription. It is also prohibited under law (Drugs and Cosmetics Act, 1940). Can you think of the reason – why are antibiotics not available easily without a written prescription from a doctor?

Well, the reason is **antimicrobial resistance (AMR)**. We sometimes take antibiotic medicines without consulting our doctor. Antibiotics are prescribed only to treat bacterial infection and sometimes we end up taking them for any kind of infection. If we do this too often, it makes our body resistant to the drugs: the antibiotic stops being effective. As a result, standard treatments fail, infections continue and may even spread to others.

It is now being found that antibiotics are also used in animals like cows, poultry, etc. This is another reason for AMR.



Activity 3: Antibiotic use in animals

Animals are often given antibiotics – one, when they are ill or have a bacterial infection and two, as a growth promoter (to enable them to produce more milk, eggs or meat). Do you think this should be done? Discuss among friends the ways in which AMR can spread from animals to humans. Share this with your family members and teachers and confirm your findings.

1. _____
2. _____
3. _____
4. _____
5. _____

It is important to use antibiotics responsibly. Disposal of antibiotics is also a point of concern – expired antibiotics must be disposed of properly. If they are tossed into the wash basin, they may find their way into drains where different types of bacteria breed. Gradually, these bacteria will also become resistant to antibiotics, thus leading to AMR.

Both misuse and overuse of antibiotics, therefore, is equally harmful. That is why it is always advised that if the doctor prescribes you to take a three-days course of antibiotics, you should not stop it midway. If you stop, it will make the bacteria become resistant to the drug.

Activity 4: Prevention is better than cure

So, by now, you have understood a bit about the use of antibiotics. At the end, let us think of ways in which we can avoid catching infection which would save us from taking antibiotics in the first place! List a few such measures below and share with your friends, classmates, etc.
