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9th - C

Vigyan Pratibha Learning Unit

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My food, My Choice

Did you know that humans started preserving food even before the discovery of fire? Humans would freeze food on ice in colder regions and dry foods in tropical regions. Today, other than freezing and drying, we use a lot of other techniques to preserve food. Can you list some of them?

yes, vacuum packing, freezing, Drying, pasturization
fermentation etc.

Task 1: What spoils first?

Material needed

A slice of tomato, a slice of cooked potato, a spoonful of tomato ketchup or chutney, a potato chip, a spoonful of wheat flour and a piece of bread or chapati, petri-dishes or watch glass

What you will do?

Keep all the food items in plates or watchglasses separately and label them. Make sure you cover the plates with a lid or a beaker (in case of watch glass). Observe them everyday for change (if any) in color, appearance or smell. You can record your observations in the table below. Repeat this for 3-4 days or until your teacher asks you to record.

Table: What changes do you see in the food samples you are observing? Record in the table below

| Tomato/Potato/Wheat | Day 1 | Day 2 | Day 3 | Day 4 |
|-------------------------------|----------------------------------|---|--|--|
| Colour | No change | leaves got black of tomato | each's color became dark/brownish | The colour became more dark/brownish. |
| Appearance | No change | Black spots on tomato | mold was taking place (and black spots) | Each food got spoiled and sticky though. |
| Smell | Tomato smelling | Chutney/Tomato | each component has rotten smell due to decay | The so rotten smell increased and became musty was strong. |
| Ketchup/Chip/Bread or chapati | | | | |
| Colour | No change | No change | Slightly dark | slightly dark/mold spots |
| Appearance | Chapati became hard | Ketchup eaten by ants | hard chapati | chapati became hard and moldy on it. |
| Smell | No smell | No smell | Sour smell of chapati | chip had sour smell/chapati no smell |
| Appearance | Ketchup little bit eaten by ants | Chips are moist with the atmosphere pressure. | chips is becoming soggy | chips are soggy and had lost crispiness. |

Now that you have completed 3-4 days of observation, you can answer the following questions:

1. Which all foods have spoiled? How do you know they are spoiled?

Tomato, potato, wheat, chapatis. ~~For~~ some of them indicate decomposition, ~~as~~ its decaying, sign of spoilage and indicates it's gone bad. (chips not spoiled, only became soggy)

2. Which food was the first one to spoil and how did you know it was spoiled?

Tomato spoiled first because I ~~had~~ knew because of its dark red / brownish colour and wrinkled and / shriveled texture and sour and rotten smell.

3. Which foods are still fresh and why have they not spoiled?

chips are still fresh but they are soggy but not spoiled, even though the ketchup might be fresh if was not eaten by ants.

Table: What is the difference between a tomato and tomato ketchup; a potato slice and potato chip; wheat flour and bread? What are the additional changes in a ketchup, a chip or bread?

| a | b |
|---|---|
| Tomato ① Firm and juicy when fresh. ② High moisture content making it prone to spoilage. ③ Turns dark red or brown. | Ketchup/chutney ① Smooth and thick with a consistent viscosity. ② Low moisture content due to cooking and preservation. ③ I was not able to how it's spoiling. |
| Potato slice ① Soft and raw. ② Higher moisture leads to faster spoilage. ③ Turns brown grey and turns to rotten smell. | Potato chip ① Crispy and manufactured. ② Low moisture, leads to preserve longer time. ③ become soggy but not spoiled fast. |
| Wheat flour ① Fine and powdery. ② Dry, but can absorb moisture if not stored properly. ③ Can develop mould while storage. | Bread/Chapati ① Soft when fresh, becomes hard and dry over time. ② Initially retains moisture from cooking but loses it and can dry out. ③ Can develop mold, dark spots, and stale or sour smell. |

Additional changes → ~~data~~ Ketchup → stays stable for longer time due to preservatives
 ① Potato chip → stays crunchy but can become stale and lose flavor its exposed into air

③ Chapati + Hardens becomes dry, and can develop mould or a sour smell as it spoils.

4. Look at the table ab and answer the questions. Now, tomato ketchup/chutney, potato chip and bread/chapati are made from tomato, potato and wheat, respectively. Wheat flour stay fresh for longer compared to a tomato or potato slice? Why?

yes. ① Low moisture → flour is dry, reducing spoiling risk, while tomato and potatoes have high.
② Nutrition absence → flour lacks sugar that promote spoiling.
③ Storage → flour can be stored in airtight containers while fresh vegetables spoil faster.

6. Do you think tomato ketchup/chutney or potato chip will stay fresh for longer? What is in these foods that they don't spoil quickly? Can you find out what all is present in preserved foods?

Tomato ketchup and chutney last longer than potato chips because they contain vinegar, sugar and salt to prevent spoilage and are stored in sealed packaging. potato chips, despite having low moisture and some preservatives are less shelf-stable than ketchup and chutney. but I crave. This was not happen in my case as ketchup was eaten by ants. We all crave that one delicious packed food. It may be a crisp like chips or biscuit, a chocolate, a drink, a namkeen or other packed food. Which is your favourite packed food?

I like (Cadbury) 5 star chocolate.

What makes you buy that food? Tick whichever is applicable (You can tick more than one).

I like its taste ☒

My friends like it ☐

It comes with a special gift ☐

It is advertised by my favourite star/sportsperson ☐

Any other reason ☐

Please state your reason

I like its taste, because it majorly contain coco solids, nougat and caramel which give it chocolaty taste and sticky texture.

It is highly likely that the packed food of your choiced is also advertised on the television. Now, your teacher will show you a video of a packed food/drink. You will then have a class discussion. After the discussion, watch the advertisement of your favourite food again. Is there anything that surprised you about the ad. of your favourite food?

In the ad. they said that eat 5 star, do nothing if ill do nothing so actual will happen of mine I will be not able to dare/achieve any thing.

Task 3: Explore the labels

Have you ever CAREFULLY seen the backside of a packet of chips or namkeen or biscuit? Take a look at the backside of the packet that you have brought or your teacher gives

1. What all information does it provide?

The information is about the product, the manufacturer's name and address, net weight, serving size, list of ingredients and nutrition information per serving.

2. Which nutrients are present in the food label you explored?

I explored Kissan Ketchup, It had Kcal, Proteins Carbohydrate, Dietary fibre fat, cholesterol etc.

3. After reading the food labels, is there anything that surprised you?

In the ads It's shown that they are pure But there is water, iodised salt, flavor etc that surprised me.

4. Which food would you prefer out of the ones displayed? Why?

I would eat Custard, because it was healthy and the name really said truth in ads.

5. When you go out for buying packed food, how will you make a choice, now that you can explore a food label?

Now, I'll see the labels, nutrients and quality of that packed food.

6. Any other information on the label that you consider equally important?

They should even include that they are lying in advertisement.

7. Any other information which is NOT on the label but you think it should be added to the label?

No, That I mentioned above in the above question and nothing was to add more.
