

VIII CLASS
BIOLOGY
LAB RECORD_(EM)



Prepared by: **K.MANJULA**, SA(BS)
HINDUPUR, ANANTAPUR

www.mescienceguru.blogspot.in

D.MURALI



8008544670

SRIKAKULAM

ACTIVITY – 1

CONDUCTING EXPERIMENT WITH DIFFERENT SOILS (WHAT IS SCIENCE)

Aim: To find out the soil in which the bean seeds show the proper growth.

Materials required: Bean seeds, three flower pots, sandy soil, clay soil and potting soil.

Hypothesis: My hypothesis is that bean seeds sprout best in potting soil.

Procedure:

1. I have taken three flower pots filled with sandy soil, clay soil and potting soil.
2. I have sown identical seeds in these three pots with different soils as mentioned above.
3. Each pot is provided with same amount of water and light as these are the controlling variables.
4. I have measured each plant every 3 days and recorded the results in the table.



Observations: I have recorded my observations in the following table.



DAY	HEIGHT OF THE PLANT		
	SANDY	CLAY	POTTING
3			
6			
9			

Analysis: My hypothesis is not correct. The seeds sprouted equally well in potting soil and sandy soil.

Conclusion: All the three pots are provided with same amount of water and light. But potting soil and sandy soil could be the best soil for the growth of bean plant. We can further hypothesis and test for the combination of potting soil and sandy soil.

ACTIVITY – 2

OBSERVATION OF CELLS IN MATCH STICK (CELL- THE BASIC UNIT OF LIFE)

Aim: To observe the cells in the match stick and to compare it with cells in the cork.

Materials required: Match stick, water, slide, cover slip and microscope.

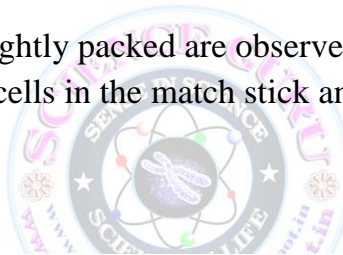
Precautions: While cutting the match stick, we should be careful. Thin slices should be taken.

Procedure:

1. Taken a match stick, soaked it for half an hour and cut thin slices of it.
2. Put a drop of water and covered it with a cover slip, with out allowing air bubbles.
3. Observed it under microscope and compared with the diagram of cells in the cork.

Observation:

1. Small cells which are tightly packed are observed under microscope.
2. When we compare the cells in the match stick and cork, we find a lot of similarities.



Details: All the organisms are made of small chamber like structures called cells. Cell is the basic structural unit of life.

ACTIVITY – 3

OBSERVATION OF CELLS IN ONION PEEL (CELL- THE BASIC UNIT OF LIFE)

Aim: To observe the cells in the onion peel and to draw their diagram.

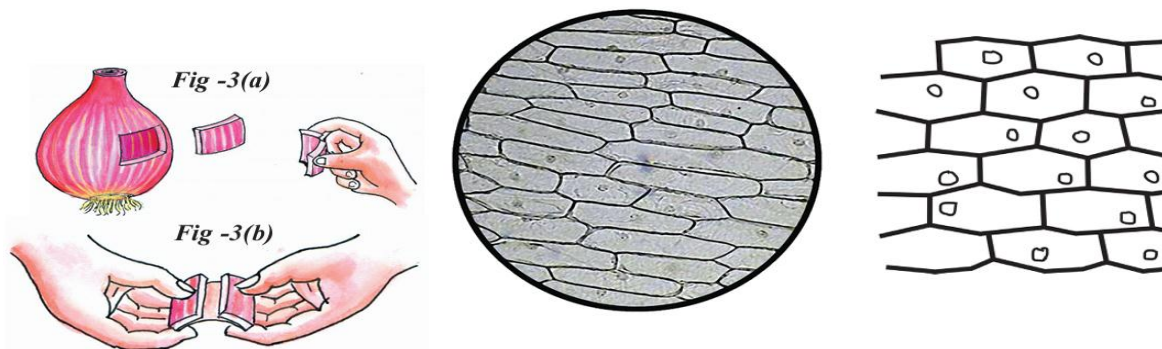
Materials required: Onion, slide, water, cover slip and microscope.

Precautions: Care should be taken while placing the peel on the slide with out folding.

Procedure:

1. Peeled an onion and cut out a small fleshy portion from the bulb.
2. Broke this piece into two small parts and try to separate them.
3. A translucent membrane is noticed holding the pieces together.
4. Taken out the membrane , cut a small piece from it and spread it evenly in a drop of water on a slide.
5. Covered it with a cover slip and observed it under microscope.

Observations: The cells are similar in structure and shape.



Details: The cells in the onion peel are typical plant cells. They are rectangular in shape and packed very closely with a nucleus pushed towards the cell wall.

ACTIVITY – 4

OBSERVATION OF CHEEK CELLS (CELL- THE BASIC UNIT OF LIFE)

Aim: To observe the human cheek cell and draw their diagram.

Materials required: Spoon, slide, cover slip and microscope.

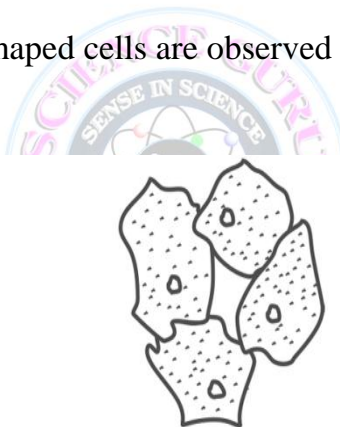
Precautions:

1. Wash the spoon thoroughly before using it.
2. Do not scrape too hard or else it hurts us.

Procedure:

1. Scraped the inner lining of the cheek with a washed spoon and collected.
2. Taken the scrapping that is collected and palced in a drop of water on a slide.
3. Covered the slide with cover slip and observed under microscope.

Observations: The irregular shaped cells are observed with a nucleus.



Details: The cheek cells are examples for animal cells. They are irregular in shape a covered with a membrane.

ACTIVITY – 5

OBSERVATION OF NUCLEUS IN ONION PEEL CELLS (CELL- THE BASIC UNIT OF LIFE)

Aim: To observe the nucleus in onion peel cells.

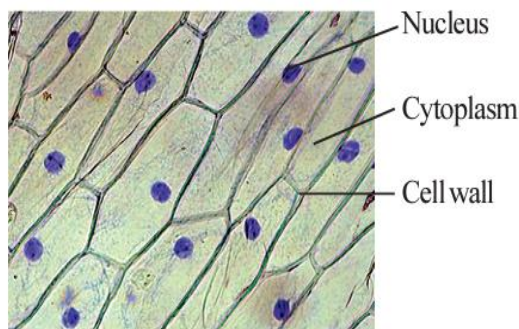
Materials required: Onion, slide, methylene blue, cover slip and microscope.

Precautions: Only 1 or 2 drops of stain should be added and extra stain should be removed.

Procedure:

1. Peeled a membrane from an onion and placed it on a slide.
2. Added 1-2 drops of methylene blue to stain the section.
3. Covered it with a cover slip and left it for 5 minutes.
4. Added drop wise from one side of the cover slip and soaked extra water with filter paper from the other side.
5. Observed under microscope.

Observations: The rectangular cells are observed with a dense blue colored nucleus near to the wall.



Details: Onion peel cell is a typical plant cell. It contains rectangular, tightly packed cells with prominent nucleus. The nucleus is pushed towards the cell wall due to the presence of a big vacuole.

ACTIVITY – 6

OBSERVATION OF NUCLEUS IN THE CHEEK CELL (CELL- THE BASIC UNIT OF LIFE)

Aim: To observe the nucleus in the human cheek cell.

Materials required: Spoon, slide, methylene blue, cover slip and microscope.

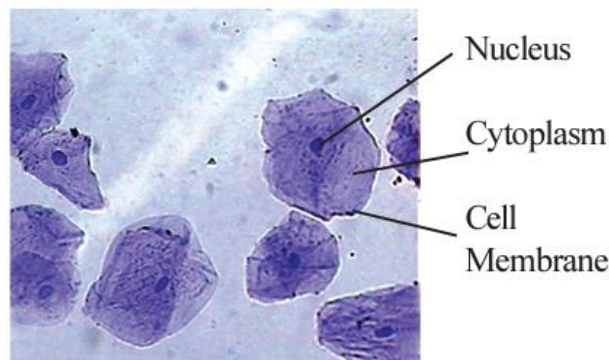
Precautions:

1. Wash the spoon thoroughly before using it.
2. Do not scrape too hard or else it hurts us.

Procedure:

1. Scraped the inner lining of the cheek with a washed spoon and collected.
2. Taken the scrapping that is collected and palced in a drop of water on a slide.
3. Added methylene blue, Placed cover slip and left it for a minute.
4. Observed under microscope.

Observations: Irregularly shaped cells are observed with a dense nucleus at the center of the cell.



Details: The cheek cells are examples for animal cells. they contain a dense nucleus at the center of the cell, since there is no any vacuole. The outer covering of cheek cells is more clear when compare to onion peel cells.

ACTIVITY – 7

OBSERVATION OF FLOATING SLIME (CELL- THE BASIC UNIT OF LIFE)

Aim: To collect and observation of cells in spirogyra.

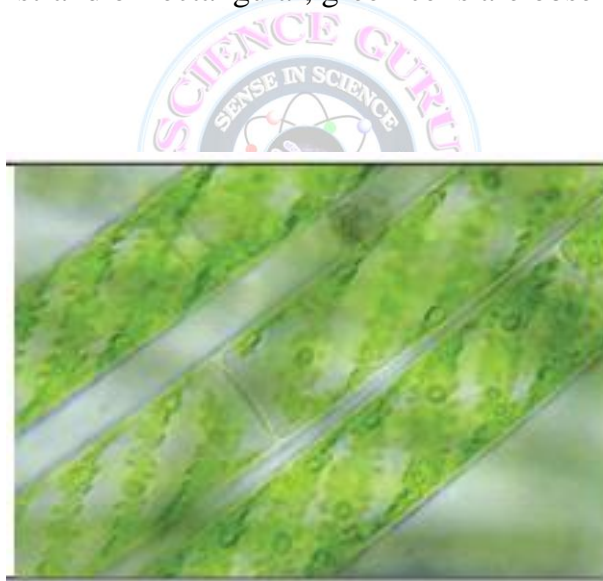
Materials required: Spirogyra strands, slide and microscope.

Precautions: While collecting Spirogyra we should be careful.

Procedure:

1. Collected some floating slime from a puddle.
2. Picked a very small amounts of slime and put it on a slide.
3. Separated out one fiber, observed under microscope and drawn the diagram.

Observations: A thin strand of rectangular, green cells are observed with spiral structures inside.



Details: Spirogyra is a type of algae with the rectangular cells. this shows the spiral arrangement of chloroplasts. The cells in this strand are also examples of plant cells.

ACTIVITY – 8

OBSERVATION OF FUNGI (STORY OF MICRO ORGANISMS)

Aim: To observe Rhizopus or bread mould on spoiled coconut.

Materials required: Spoiled cocnut, needle, slide, coverslip and microscope.

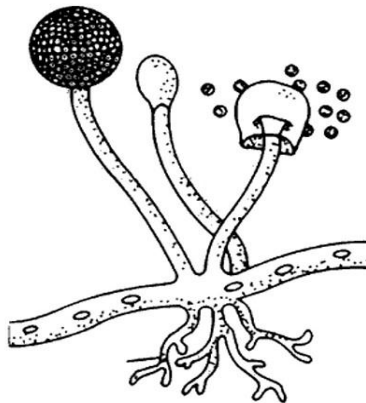
Precautions: Properly spoiled coconut should be taken.

Procedure:

1. Taken some black spoiled part of coconut with the help of a needle and placed on a slide.
2. Covered with cover slip and observed under microscope.

Observations:

1. A fine thread like structures and knob like structures are observed.
2. The threads are called hyphae and knob like structures are called sporangia.



Details: Rhyzopus is also known as bread mould. It is a micro organism that grows on the fruits, vegetables, bread, etc and spoils the same. It is a fungi.

ACTIVITY – 9

OBSERVATION OF BACTERIA (STORY OF MICRO ORGANISMS)

Aim: To observe the bacteria in butter milk.

Materials required: Butter milk, slide, lamp, crystal violet, water and microscope.

Procedure:

1. Taken two drops of butter milk on a slide and spread it.
2. Heated the slide slightly on a lamp for 3-4 seconds.
3. Added a few drops of crystal violet, left it for 30-60 seconds and wash the slide gently with water.
4. Observed the slide under the compound microscope and draw the diagrams.

Observation: A number of small rod shaped, minute bacteria are observed.



Details: The butter milk contains lactic acid bacteria. It is one of the useful microorganisms. When a small amounts of butter milk is added to warm milk, the bacteria in butter milk converts the milk in to curd.

ACTIVITY – 10

CURDLING OF MILK (STORY OF MICRO ORGANISMS)

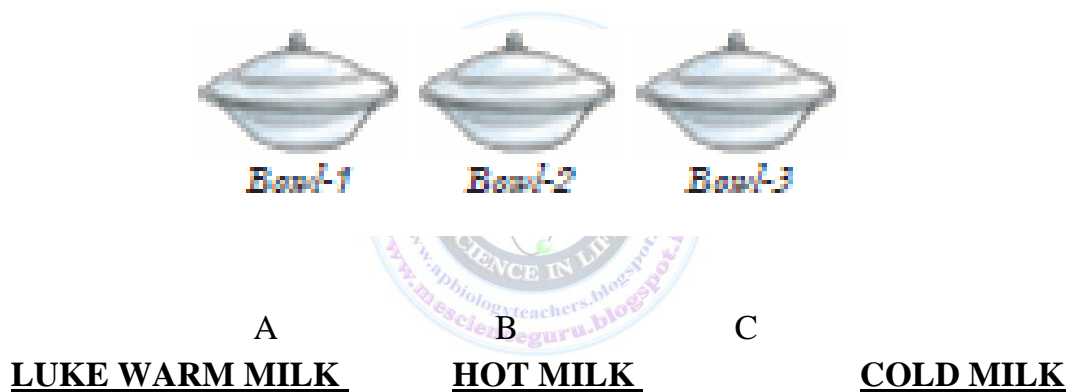
Aim: To find out the factors that results in curdling.

Materials required: Three bowls, lukewarm milk, hot milk, cold milk, curd and lids.

Precautions: The bowls should be kept undisturbed.

Procedure:

1. Taken three bowls and marked as A, B, C.
2. Poured lukewarm milk in bowl A, hot milk in bowl B and cold milk in bowl C.
3. Added one spoon of curd or butter milk in three bowls and stirred them slightly.
4. Covered the bowls with lids and kept them undisturbed for five to six hours.



Observation: The milk in bowl A is converted into curd whereas the milk in B and C remain as such.

Inference: The lukewarm milk contains the optimum temperature for the growth of bacteria. So it turned into curd. In cold milk the bacteria is inactive and in hot milk the bacteria are denatured.

ACTIVITY – 11**OBSERVATION OF TADPOLE (REPRODUCTION IN ANIMALS)**

Aim: To collect and observe tadpole larvae.

Materials required: Eggs of frog, beaker and water, wide mouthed bottle, tub

Precautions: While collecting the eggs we should take care not to disturb the cluster of eggs.

Procedure:

1. Collected a few eggs of a frog with the help of a wide mouthed bottle along with weeds and algae.
2. Transferred these eggs into a tub of 15 cm depth and a radius of 8-10 cm.
3. Observe the tub daily and noted down the changes in the table.
4. After some days taken some of the larvae came out of eggs into a beaker/ watch glass and observed.

**Observations:**

SN	DAYS	CHANGES OBSERVED

The tadpole larva which is in the form of fish is observed after 10-15 days.

Details: The larva of frog is known as tadpole larva. It is in the form of a fish. It swims like fish with the help of the tail. It resembles fish in many features. But later it develops limbs and forms into an adult frog. Such development process is known as metamorphosis.

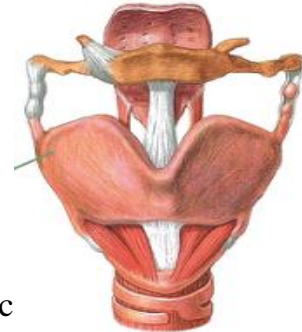
ACTIVITY – 12**TESTING OF VOICE FREQUENCY (REACHING THE AGE OF ADOLENCE)**

Aim: To test voice frequency in different ages.

Materials required: Auditory meter.

Procedure:

1. We could find an auditory meter in a mobile phone.
2. We selected each student from vi class to x class.
3. With the help of auditory meter we tested the frequency of each student and listed the in the table.

**Observations:**

SN	NAME OF THE STUDENT	CLASS	VOICE FREQUENCY

Details: The voice frequency changes from age to age, especially during the adolescence age. It is because of some hormones released during this period. As a result muscles attached to the cartilage get loosened and thickened. When the air passes through these loosened and thickened chords a hoarse sound is produced. It is more in adolescent boys. It has to be tested for boys and girls separately.

ACTIVITY – 13**SEED TESTING (FOOD PRODUCTION FROM PLANTS)**

Aim: To test the seeds for quality before using for crops.

Materials required: Seeds, water and a glass.

Procedure:

1. Taken some water in a glass and dropped a fist of seeds in it.
2. Some seeds floated in the water and some sunk in water.
3. Separated floating and sunk seeds and observed with hand lens.
4. Selected each seed from two groups and sown them in two pots.
5. Both of them are provided with same amount of water and light.

Observations: The following characters are observed in the sunken and floated seeds.

SN	SEED CHARACTER	SUNKEN	FLOATED
1	GOOD COLOR	YES	NO
2	WRINKLED OR ROUGH	NO	YES
3	SMOOTH AND ROUND	YES	NO
4	MORE WEIGHT	YES	NO
5	LESS WEIGHT	NO	YES

The seeds which are sunken germinated well when compare to floated seeds.

Inference: The sunken seeds are filled with high nutrient content and hormones. So the germinated well. But the floated seeds might have lost the nutrient values and could not germinate. So before sowing the seeds we have to separate the seeds with less quality.

ACTIVITY – 14

OIL PAPER EXPERIMENT (NOT FOR DRINKING NOT FOR BREATHING)

Aim: To find out the pollutants by using oil paper.

Materials required: Three square pieces of oil papers.

Procedure:

1. Taken three square pieces of oil papers of 5 x 5 cm size dipped in oil.
2. Hanged these oil dipped papers at three different locations such as house, road side, park and school.
3. Let it be there for 30 min and compared all the three papers.

Observations: It is observed that the paper hanged near the road side is stucked with lot of dust and smoke. The paper hanged in the park has some dry leaves and pollen stucked on it. The paper hanged in the school and house are stucked with some dust particles.

SN	PLACE	POLLUTANTS FOUND
1	HOUSE	
2	ROAD SIDE	
3	PARK	
4	SCHOOL	

Inference: This experiment shows that the air contains a lot of pollutants. The concentration of pollutants is high at the road side.