

Science in the Kitchen

Fearless Science At Home For All Ages

Sample Lab

SAMPLE BIOLOGY LAB

ONION SKIN

Purpose: To observe the various parts of a cell

Materials: onion, red food dye, microscope, glass slide, knife

Procedure:

Peel the onion and remove the first layer of the onion. On the inside of the onion layer, peel off the very thin skin. It is paper thin and you can see through it.

Put a portion of the onion skin on the glass slide.

Color with a small drop of red food dye.

Cover the skin with a slide cover.

Observe under various magnifications. The student should be able to find the cell wall, the inside of the cell and the nucleus.

Have student draw observation and label the various portions of the cell.

LEAF CELL OBSERVATION

Purpose: To observe changes in cells under various conditions

Materials: Leaf, carrot, sharp knife, razor blade, rubbing alcohol, paraffin, salt water, water

Procedure:

To prepare the leaf for observations, it needs to be sliced thinly. Cut the carrot in half length wise. Place leaf between the two halves. Cut the carrot and the leaf in the opposite direction with a razor blade.

Cut several sections.

Place the leaf sections in a small amount of water to prevent drying out during the experiment.

Put one leaf section in a bath of salt water.

Put another section in rubbing alcohol.

Allow another to lie out in the air. Leave these sections overnight.

For control, observe a fresh cut slice of leaf section. Draw what a single cell looks like. Draw a group of cells.

The next day observe the other leaves. Draw a single cell as well as a group of cells.

Compare the differences and similarities.

Cells can be preserved for later observation by sealing in paraffin. Soak the leaf section in molten paraffin. When the paraffin has cooled, separate the sections for storage.

Use leaves from different types of plants, several different of same type, and all from same plant.

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Practical Inspirations from

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