Patterns In Nature

Substances in Tissues

Aim: To identify substances in tissues by using chemical tests.

Method:

Complete the following tests:

1. Testing for protein

Place a small amount of substance (4 rice grains) and add a few drops of Biuret solution. Record any colour change.

1. Test for Glucose

Place a small amount of substance in a small test tube. Add a few drops of Benedict’s solution and warm gently. Record any colour change.

1. Test for starch.

Place a small amount of the sample on a watch glass and add a few drops of iodine solution. Record any colour change.

1. Test for Lipids

Obtain a small amount of the sample and rub it onto the brown paper. Allow the paper to dry and record your observations.

1. Chloride ions

Place a small amount of sample on a watch glass and add a few drops of silver nitrate solution. **Caution – silver nitrate stains both skin and clothing.**

1. Test for Lignin – see discussion table

Risk Assessment

|  |  |
| --- | --- |
| Risk | Mitigation |
|  |  |

Results

|  |  |
| --- | --- |
| Substance | Positive Result (Y/N) |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

Discussion



The Biuret solution did not give any positive results, however, when the sodium hydroxide and copper sulfatw were use a purple colour developed and proteins were found in: (list foods that gave a positive result)

Glucose was found in

Starch was found in

Lipids were found in

Chloride ions were found in

The experiment demonstrated that starch was prominently found in plant material. This is because in plants, glucose is converted to starch.

Protein is found in both plant and animal tissue and this was/was not demonstrated by the experiment.