**Digestion of Starch**

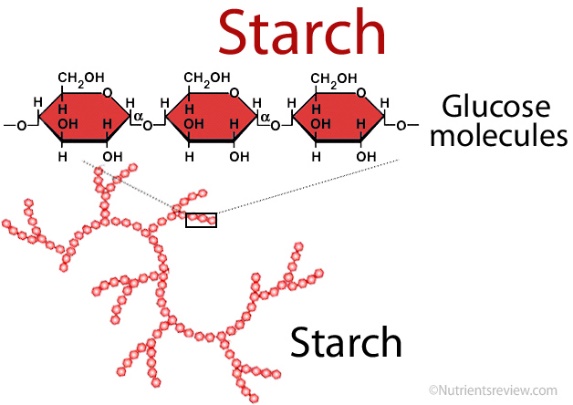
What exactly is starch? Produced in plants by the photosynthesis of carbon dioxide, starch granules are made out of glucose polymers and serve as energy stores. Towards the end of the growing season, starch accumulates in twigs of trees, close to the buds. It is also found in fruits, seeds, rhizomes and tubers.

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When required, starch is broken down into its constituent monomer glucose units. This happens with the help of certain enzymes and water. The glucose units can then diffuse from the cell to nourish the plant tissues.

**Material**: 3 beakers, 2 pipettes, glucose test strips (indicator)

**Chemicals**: starch solution, potassium iodide solution, diluted hydrogen chloride (HCl), saliva

**Conduction:**

* Fill 30 ml of starch solution into every beaker (1, 2, 3)
* Add to beaker 1: nothing

beaker 2: a few ml saliva

beaker 3: 1 ml HCl and a few ml saliva

* With potassium iodide solution, test all three samples for starch
* Test all three samples with a glucose test strip

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**Observation**: Note down your observations in the table.

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Beaker 1**  **(starch solution only)** | **Beaker 2**  **(starch solution + saliva)** | **Beaker 3**  **(starch solution +**  **saliva + HCl)** |
| Test for starch |  |  |  |
| Test for glucose |  |  |  |

starch – Stärke

(to) accumulate – sich ansammeln

twig – Zweig

rhizome – Wurzelstamm

tuber – Knolle

constituent – Bestandteil

glucose units – Zuckereinheit /-baustein

(to) nourish – versorgen, ernähren

beaker – Becherglas

potassium iodide solution – Kaliumiodid-Lösung

saliva - Speichel

**Results:** Try to explain your observations.

|  |  |
| --- | --- |
| **Beaker 1** |  |
| **Beaker 2** |  |
| **Beaker 3** |  |