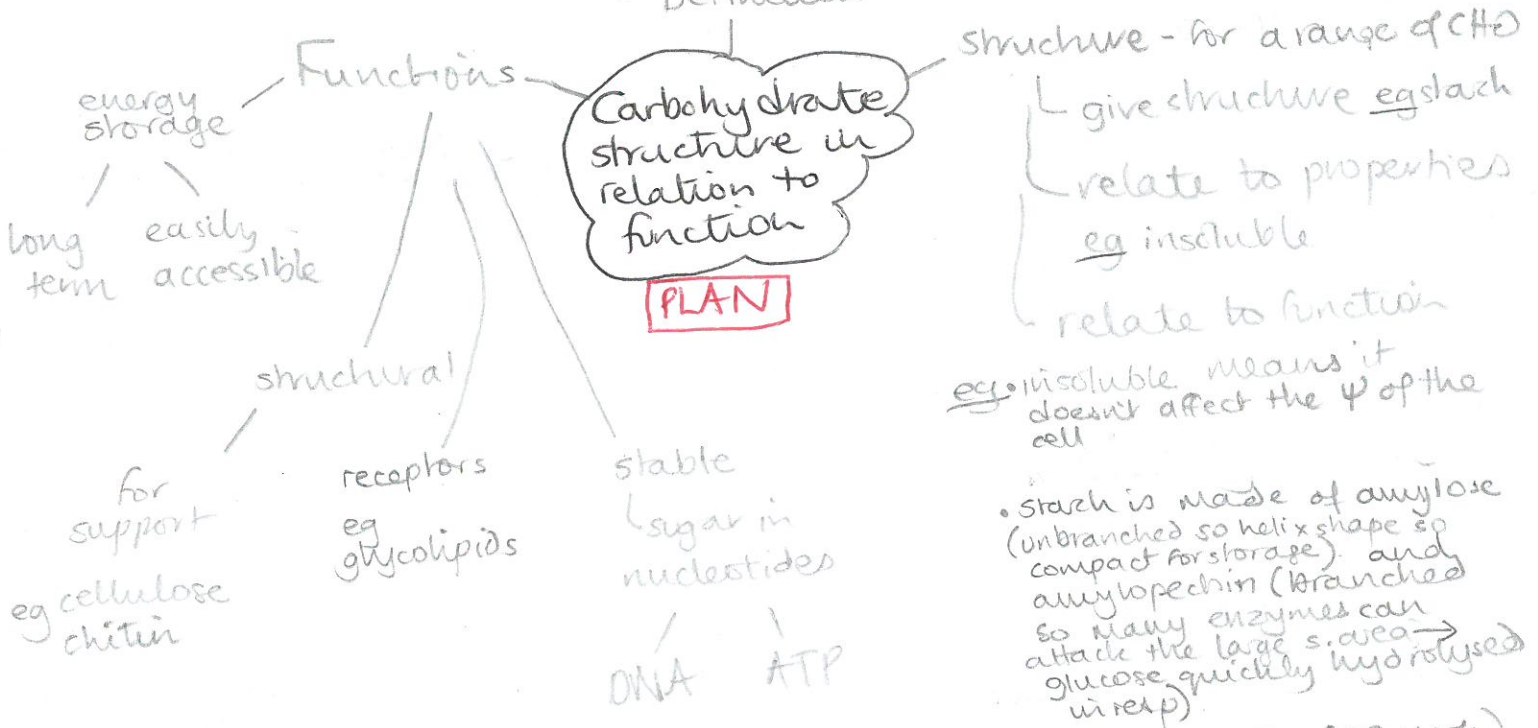


contain CHO monosaccharide \rightarrow polymer
 $(C_nH_{2n}O_n)$ 4 bonds make C versatile + stable
 Definition



A02 Examples of structure related to function (necessary for A02 mark)

- ① Starch see above
- ② Glucose — energy rich bonds for energy release. Easily broken in glycolysis.
 - OH groups are polar \rightarrow forms H bonds with $H_2O \rightarrow$ soluble \rightarrow easily transported within + between cells
 - size: small so diffuses easily through Na/glucose channels.
- ③ Glycogen: similar to amylopectin structure: storage in animals which have a high metabolic rate so need fast breakdown.
- ④ Cellulose: made of β glucose. Inversion results in OH molecules on both sides of the polymer which gives straight unbranched chains rich in H bonds which collectively give much strength. This strength gives cellulose cell wall strength + layers of them add rigidity allowing plant cell vacuoles to press against them when turgid holding the leaves up in max. light. Also permeable.
- ⑤ Glycoproteins + glycolipids
 - OH groups make the molecule polar, allowing them to form H bonds with water surrounding the membrane, stabilising it. Their specific shape mean they are specific and act as receptors, controlling some transport across the membrane.
- ⑥ Deoxyribose
 - stable sugar forms part of the backbone and pentose nature allows for other molecules to bond with it.

A03 ⑦ Chitin (beyond spec.) — Insects exoskeletons. glucose molecules in chitin have an amyl group which provides a dipole, increasing the number of H bonds \rightarrow stronger.