

Source: [KBhBIO101Carbs](#)

1 | Structures of Carbohydrates

Each carbohydrate could be a monomer (6 carbons, simple structure). A carbohydrate monomer (simple sugar) is called a “monosacharide”

- Two monomers could be chained to build a more complicated structure named Disachoride
- Monomers could be chained to build “polymers”
- Complicated polymers is what forms the energy builds of life
- The same atoms, with different bonds and hence a different species, result in “isomers”

The mer-library

| Name | Note | Composition |
|-----------|---|----------------------------------|
| Sucrose | Common Sugar | Disachoride: Glucose + Fructose |
| Lactose | The thing that's in milk | Disachoride: Glucose + Galactose |
| Cellose | We can't digest this, but plants use it | Disachoride: Glucose + Glucose |
| Glucose | Bulding block of sugar | Monomer |
| Galactose | | Monomer |
| Fructose | Controvercial | Monomer |

Making and Breaking -mers

Creating a polymer (“dehydration”)

- Take monomers
- Remove water molecules
- Fill the now-gaping hole with the next monomers

Breaking a polymer (“rehydration”)

- Take polymers
- Add water
- Get Glucose
- Profit!

Hence, you get thirsty after around 45mins whenever you eat lots of sugar — ye gotta get that water to rehydrate and break down those polymers.

And now, a note on energy.

[KBhBIO101Enthalpy](#)

You could add even more monosachrides/disacharides up to get polysacharides (starch, fiber, glycogen)

- We get energy for lots of glucose (whose polysaccharide is starch), but we can't get any from cellulose (whose polysacratide is fiber)
- We eat fiber to maintain gut health + poop goodly. Cellulose is hydrophillic, meaning that fiber makes your guts lubricated.
- Polysaccharides linked together by **glycosidic bonds**.

NOTE! **Whichever carbohydrates you are using, you get energy from breaking its bonds.**