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The World of Polymers and Plastics

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| **Across**  **1.** A type of polymer that is thermoplastic, meaning that it can be melted to a liquid and remolded as it returns to a solid state  **2.** Compounds that are added in small amounts to polymers to make them softer and more pliable.  **5.** An insoluble substance that is the main constituent of plant cell walls and of vegetable fibers such as cotton  **7.** A naturally abundant nutrient carbohydrate, found chiefly in the seeds, fruits, tubers, roots, and stem of plants  **9.** Is either a gas or a substance capable of producing a gas to manufacture a foamed plastic.  **10.** A polymer formed by the combination of two or more different monomers.  **12.** Nylon is another common example of what  **13.** Condensation polymers that contain the amide functional group  **14.** Are attractions between molecules in the polymer that hold the material together  **15.** Involve thousands of atoms and their molecular masses can reach over a million | **Down**  **3.** Distinctive arrangements of atoms that impart characteristic chemical properties to the molecules that contain them  **4.** Covalent bond that forms between –COOH group of one amino acid and the -NH2 group of the next  **6.** A material consisting of any of a wide range of synthetic or semi-synthetic organics that are malleable and can be molded into solid objects of diverse shapes.  **8.** Monomers from which our body builds protiens.  **11.** Small molecules used to synthesize the polynmeric chain |