General chemistry review sheet pdf

Chemistry is the science of matter and the changes it undergoes during chemical reactions. In this section learn about everyday chemistry, from chlorine beach to helium, and even why chocolate turns gray. All plastics are polymers, but not all polymers are plastics. Some familiar non-plastic polymers include starches (sugar polymers), proteins (amino acid polymers) and DNA (nucleotide polymers - see how DNA works). The simplified chart below shows the relationship between monomers and polymers. Identical monomers can be combined with each other to form homopolimers that can be straight or branched chains. Different monomers can be combined into co-smokers, which can also be branched or straight. The chemical properties of the polymer depend on: Advertising the type of monomers or monomers that make up the polymer. The chemical properties of homopolimer 1 differ from homopolimer 2 or copilimer. The location of monomers inside the polymer. The chemical properties of direct polymers differ from those of branched polymers. Monomers that are found in many plastics include organic compounds such as ethylene, propylene, stene, phenol, formaldehyde, ethylene glycol, vinyl chloride and acetonitril (we will consider many of them as we discuss various plastics). Because there are so many different monomers that can combine in different ways, we can make many kinds of plastics. 1. Trailing 103 - 102 with 30 sec-on to go against Oklahoma City on January 30, Wade, who had a hot hand all game, misses a short jumper. Mike Miller grabs the ball and shoots behind James' three-point arc. James rises as if preparing to launch the ball. The Heat needed a win, and the team struggled with that very scenario: deciding who shoots in times of crisis. Four of his recent losses have been five points or less.3. Tightening the defender, James passes to his right, where he is waiting for Eddie House. Critics later questioned James' reluctance to take a critical shot. But that's House's role: get off the bench and fire three-pointers.4 House runs the ball without hesitation. Nothing but clean. Heat wins 108 - 103. It's the kind of game you love as a coach, Kerr said. Selflessness, trust, teamwork - it's all... I'll be shocked if they don't win a few titles in the next six to eight years. Chemistry can only be thought of in the context of laboratory tests, dietary supplements or hazardous substances, but in the field of chemistry there is everything around us. Everything you hear, see, smell, taste and touch includes chemistry and chemicals (matter), according to the American Chemical Society (ACS), a nonprofit scientific organization for the development of chemistry, chartered by the U.S. Congress. And hearing, seeing tasting, and touching all a complex series of chemical reactions and interactions in your body. So even if you don't work as a chemist, you do chemistry, or something that involves chemistry, with almost everything you do. In everyday life, you chemistry when you cook, when you use cleaning detergents to erase the counter when you take medication or when you dilute concentrated juice, so the taste is not so intense. Related: Wow! A huge cotton candy explosion in the children's chemistry lab According to ACS, chemistry is the study of matter, defined as anything that has mass and takes place, and changes that matter can undergo when it is exposed to different environments and conditions. Chemistry seeks to understand not only the properties of matter as the mass or composition of a chemical element, but also how and why matter undergoes certain changes - whether something turns, because it is combined with another substance, frozen because it was left for two weeks in the freezer, or altered colors because it was exposed to too much sunlight. The basics of chemistrySwork why chemistry affects everything we do, because almost everything that exists can be broken down into chemical building blocks. The main building blocks in chemistry are chemical elements that are substances made from a single atom. Each chemical is unique, consists of a set number of protons, neutrons and electrons, and is identified by name and chemical symbol, such as C for carbon. The elements that scientists have discovered are still listed in the periodic table of elements, and include both elements that are in nature, like carbon, hydrogen and oxygen, as well as those that are as artificial as Lawrencium.Related: How are the elements grouped in the periodic table? Chemical elements can combine to form chemical compounds that are substances, composed of several elements, such as carbon dioxide (which consists of a single carbon atom associated with two oxygen atoms), or several atoms of a single element, like oxygen gas (which consists of two oxygen atoms connected together). These chemical compounds can then communicate with other compounds or elements to form countless other substances and materials. Chemistry is a physical scienceChemia, usually considered a physical science, as defined in the encyclopedia Britannica, because the study of chemistry is not related to living things. Much of the chemistry involved in research and development, such as creating new products and materials for customers, falls under this competence. But the difference in how physical science becomes a little blurred in the case of biochemistry, which explores the chemistry of living things, according to the Biochemical Society. Chemicals chemical processes studied by biochemists are not technically considered living, but understanding them is important for understanding how life lives it's physical science, which means it doesn't include living things. One way many people practice chemistry regularly, perhaps without realizing it, is in cooking and baking. (Image credit: Shutterstock) Five major chemistry industries, chemistry is broken down into five major industries, according to an online chemistry textbook published by LibreText. There are also more specialized areas such as food chemistry, environmental chemistry and nuclear chemistry, but this section focuses on the five main subdisciplines of chemistry. Analytical chemistry involves the analysis of chemicals, and includes qualitative methods such as looking at color changes, as well as quantitative methods such as studying the exact wavelength (s) of light that the chemical is absorbed to cause color changes. These methods allow scientists to characterize the different properties of chemicals and can benefit society in a variety of ways. For example, analytical chemistry helps food companies make delicious frozen lunches by discovering how chemicals in food change when they are frozen over time. Analytical chemistry is also used to monitor the environment by measuring chemicals such as water or soil. Biochemistry, as mentioned above, uses chemistry techniques to understand how biological systems work at the chemical level. Through biochemistry, researchers were able to map out the human genome, understand what different proteins do in the body and develop treatments for many diseases. Related: Untangling the human genome: 6 molecular eternal chemistry studies chemical compounds in inorganic, or non-living things such as minerals and metals. Traditionally, inorganic chemistry treats compounds that do not contain carbon (which are covered by organic chemistry), but this definition is not entirely accurate, according to ACS. Some compounds studied in inorganic chemistry, such as organetalal compounds, contain metals that are metals that are attached to carbon - the main element that is studied in organic chemistry. Thus, these compounds are considered part of both fields. Inorganic chemistry is used to create a variety of products including

paints, fertilizers and sunscreens. Organic chemistry deals with chemical compounds that contain carbon, an element considered essential for life. Organic chemists study the composition, structure, properties and reactions of compounds that, along with carbon, contain other non-carbon elements such as hydrogen, sulfur and silicon. Organic chemistry is used in many applications as described by ACS, such as biotechnology, oil industry, pharmaceuticals and plastics. Physical chemistry concept of physics to understand how chemistry works. For example, find out how atoms move and interact with each other, or why some fluids, including pair at high temperatures. Physical chemists try to understand these phenomena on a very small scale - at the level of atoms and molecules - to draw conclusions about how chemical reactions work and what gives specific materials their unique properties. This type of research helps inform other chemistry industries and is essential for product development, according to ACS. For example, physical chemists may study how certain materials, such as plastic, may react to chemicals using materials designed to contact them. What do chemists do? Chemists work in a variety of fields including research and development, quality control, manufacturing, environmental protection, consulting and law. They can work in universities, for government or in private industry, according to the ACS. Here are some examples of what chemists do: research and developmentIn the scientific community, chemists doing research tend to further knowledge of a particular topic, and do not necessarily have to keep in mind a specific application. However, their results can still be applied to relevant products and applications. In industry, research and development chemists use scientific knowledge to develop or improve a particular product or process. For example, food chemists improve the quality, safety, storage and taste of food; Pharmaceutical chemists develop and analyze the quality of medicines and other medicines; and agricultural chemists are developing fertilizers, insecticides and herbicides needed for large-scale crop production. Sometimes research and development may include not improving the product itself, but with the manufacturing process involved in the manufacture of the product. Chemical engineers and process engineers are developing new ways to simplify and more cost-effective production of their products, such as increasing the speed and/or yield of a product over a given budget. Environmentalists study how chemicals interact with the natural environment, characteristic chemical and chemical reactions present in natural processes in soil, water and air. For example, scientists can collect soil, water or air from a place of interest and analyze it in a laboratory to determine if human activity is contaminated, or will pollute the environment or affect it in other ways. Some environmental chemists may also help fix, or remove pollutants from the soil, according to the U.S. Bureau of Labor Statistics.Related: Why Fertilizer Is Dangerous (Infographic) Scientists with experience in environmental chemistry can also work as consultants for various organizations such as chemical companies or consulting firms, providing guidance on how to and procedures can be completed in accordance with environmental regulations. LawChemists can use their academic education to provide advice or scientific questions. For example, chemists may work in the field of intellectual property, where they can apply their scientific training to copyright issues in the natural sciences, or in environmental law, where they can represent groups with special interests and apply for regulatory approval before starting certain activities. Chemists can also perform tests that help law enforcement. Forensic chemists capture and analyse the physical evidence left at the crime scene to help identify those involved, as well as to answer other vital questions about how and why the crime was committed. Forensic chemists use a wide variety of analysis techniques, such as chromatography and spectrometry, to help identify and quantify chemicals. Additional resources: resources: