Observation After conducting the experiment of rubbing a balloon against a shirt, the following observations can typically be made: Static Charge Accumulation: Before Rubbing: The balloon may have little to no noticeable attraction to lightweight objects. After Rubbing: The balloon, when brought near the lightweight object (e.g., paper scraps), shows a strong attraction, causing the object to be drawn toward the balloon. Distance of Attraction: The distance at which the balloon can attract the lightweight object increases after rubbing. Initially, it may require direct contact, but after rubbing, it can attract the object from a few inches away. Duration of Charge: The balloon retains its charge for a limited time. Over time, the attraction may diminish due to the discharge of static electricity into the environment, especially if humidity increases. Effect of Different Fabrics: If different fabrics are tested (e.g., cotton vs. wool), variations in the strength of the charge and the distance of attraction can be observed. Some fabrics may create a stronger static charge than others. Conclusion Friction and Charge Transfer: The experiment demonstrates the principles of friction and charge transfer. When the balloon is rubbed against the shirt, electrons transfer from the shirt to the balloon, resulting in the balloon becoming negatively charged. Static Electricity: The ability of the balloon to attract lightweight objects after being rubbed indicates the presence of static electricity. This phenomenon occurs due to the imbalance of charges (more electrons on the balloon) created by friction. Material Properties: The experiment highlights how different materials interact through friction. Materials with greater electron affinity can transfer charge more effectively, affecting the level of static electricity generated. Practical Applications: Understanding static electricity has practical implications, such as in the fields of electronics, material science, and everyday phenomena like clothes sticking together in the dryer. In summary, this simple experiment effectively illustrates the principles of static electricity and the role of friction in charge generation, making it a valuable learning tool in understanding basic physical science concepts.