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| Parachute |
| We all know that **whatever is thrown up always comes down**. This is due to a force called **gravity** - which comes from the centre of the earth and **attracts everything** (physical things, living beings) to the surface of the earth. This is why we are able to walk on earth otherwise we would be flying around. Little children have great fun experimenting with this idea - especially when it comes to throwing things on the floor and expecting other people to pick them up!  One of the objects that obey this law of gravity is the **parachute**. In real life, parachutes are very valuable since they used in emergency situations when people need to exit off a plane that is not functioning correctly. The parachute allows a person to land on the ground safely, but requires lot of training. The time taken to reach the ground depends on the **weight of the person, the wind speed, parachute size** etc. You too can create a parachute at home and experiment with it.   |  |  | | --- | --- | | **Materials Needed** : A plastic carrier bag                                Long piece of thread or string                                Scissors                                Ruler                                Cellotape                                A small toy or object | http://www.all-science-fair-projects.com/webroot/resource_cache/652b52e58a7fc77ec75c32c78e544a6a/2b431bfa398b08efcaaa3d2dc3e0dc02/608564fb4a1637bb79cf69cab7e99418 |   **Procedure :**   * Choose a strong carrier bag and cut out a **large circle** from it. * Divide the circle into 6 equal parts, as shown in the diagram and make 6 small holes. * Cut the thread or string into six equal pieces (make them about **one and a half times the size of the circle diameter**. For e.g. if the diameter is 5, then the length of the string will be 5 x 1.5 = 7.5) Using cellotape, attach each of the strings to the holes. * Lastly, tie the **open ends of the strings to your toy** (MAKE SURE your toy is not heavy). * Now the parachute is ready to be launched. **Throw it up in the air or climb up to a high level and release it**. You will see the plastic sheet fill up and the parachute will gently float to the ground.  |  |  | | --- | --- | | **HOW  DOES  IT   WORK?** Why doesn't the toy fall to the ground immediately as normal? Since the toy is attached to the plastic sheet, when it begins to fall **air fills up in the canopy and resists or prevents free fall**. This force is acting **upwards** and we still have the force of gravity acting **downwards**. If the forces were equal in strength, the parachute would not move; it would be stuck in the air, but since **gravity is stronger**, the parachute is attracted downwards and so it floats down slowly. | http://www.all-science-fair-projects.com/webroot/resource_cache/652b52e58a7fc77ec75c32c78e544a6a/2b431bfa398b08efcaaa3d2dc3e0dc02/023a77aa222bb129999745378859a69d | |  | | |  | **Working of a parachute** | |