

Techtronics
Solar Car Project:



Goal: The goal of the project will be to create your own solar powered car using the materials in your “car-kit.” At the end of the project, you will have the opportunity to race your solar cars.

Procedure: Given the materials below, design and build a solar car. Make sure to read over the “Things to Consider” section before beginning.

Materials Provided in the “Car-Kit”:

- **JSS-KIT and JSS-ACC**
 - **Solar panel**
 - **2 axles**
 - **4 wheels (sized to fit axle)**
 - **Driving gear (sized to fit axle)**
 - **Electric, DC powered motor**
 - **Different gears for motor**

Chassis materials

- **Balsa wood**
- **Wood glue**
- **Hot glue**
- **Paints for customization**

Construct your cars in the following order:

- 1. setup the car body**
- 2. add the axle and wheels**
- 3. add the motor**
- 4. then mount the solar panels.**
- 5. Once the vehicle is completed, testing can begin (weather pending)**

Things to Consider:

- PV cells do not deliver nearly as much power to a motor as a battery does. Keep your solar cars light.
- You may wish to prevent your wheels and axles from sliding from side to side
- Don't forget that you need to drive your back axle.
- You should judge where your motor should go BEFORE you actually add it to the body. A good way to make this estimate is to wrap the rubber band around the motor pulley and driven pulley. Place your motor down so that when the rubber band is wrapped around the motor pulley and the driven pulley it is tight enough so when the motor rotates the wheels do too, but loose enough so it does not require too much force to rotate.
- Make sure your panels point towards the sun and that they are steady.