



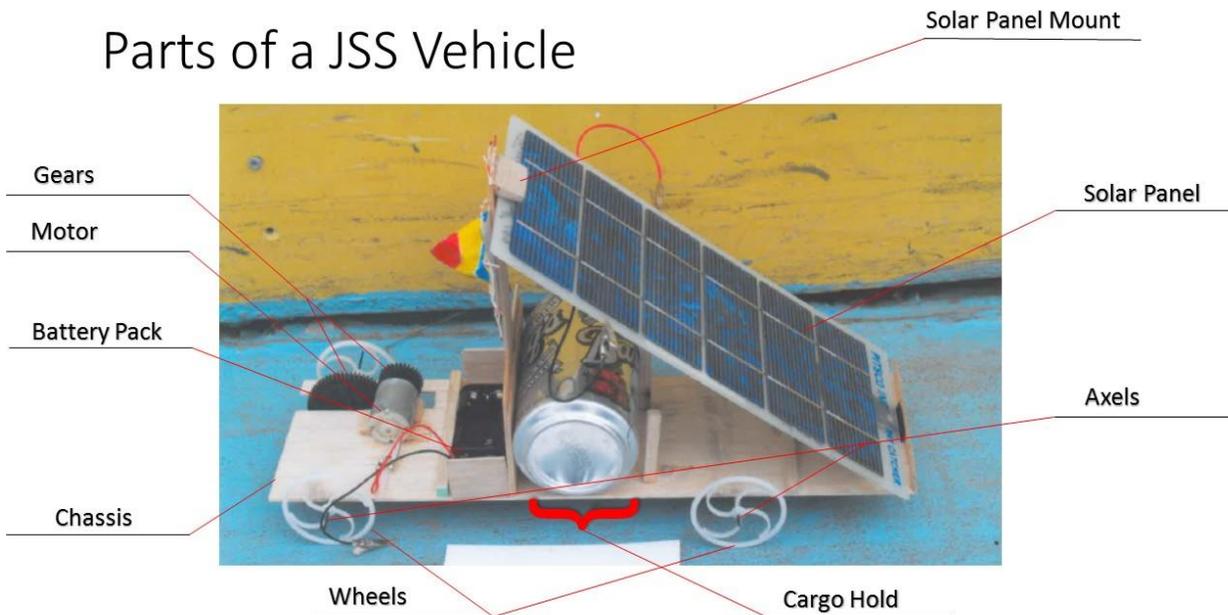
# Building your JSS Car



In this document you will learn about the different parts of a JSS vehicle, the materials that you will be receiving from us, and how to begin the process of building a model solar car.

### How to Get Started

The first step in building anything is having a design. But how do we design something if we don't know what parts we will be utilizing to build?



As you can see from the picture above you will need to consider the following parts for your car:

- Chassis – the frame of the car, or what everything else is built on or is connected to
- Wheels and axels – how do we make the wheels turn?
- Power source – Where does the solar panel go? How is it mounted?
- Transmission – transferring rotational energy from the motor to the wheels to make the car move
- Body/shell – the structure of your car
- Payload – Somewhere to put your soda can cargo

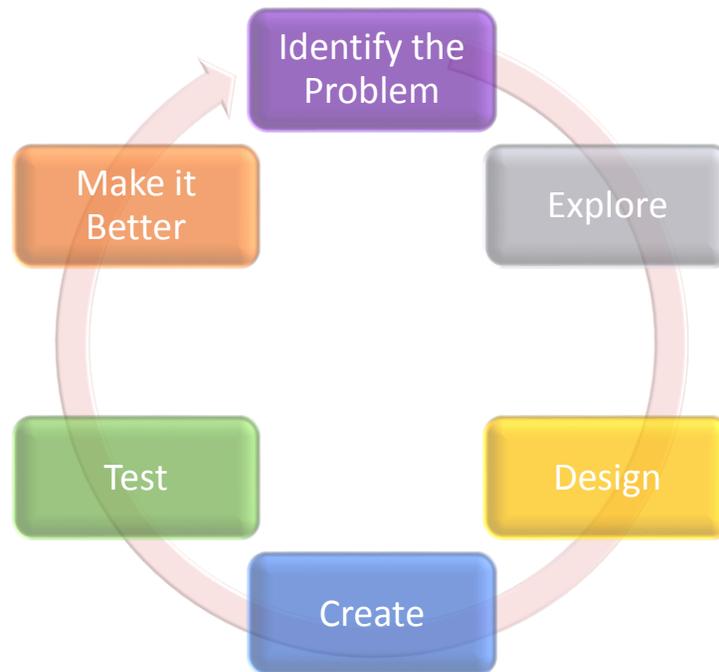
If you can successfully navigate your way through the design and execution of each of these parts of your racer you will be ready to race.

The parts that you will be receiving to build your racer will include:

- |                   |                |                |
|-------------------|----------------|----------------|
| • Motor           | • Battery Pack | • Gears        |
| • Alligator clips | • Axels        | • Front wheels |
| • Screw eyes      | • Rubber bands | • Rear wheels  |

## Design

The first step in building anything is to have a design. This is a six (6) part process that begins by asking yourself one question: What is the goal? In this case your goal is to build a working solar car. Below is a flow chart of the design process that, if followed, will help you succeed in this program.



## Design Process

1. **Identify the Problem** – What is your goal? How can you solve it?
2. **Explore** – Research what others have done. Gather materials and play with them.
3. **Design** – Think up many different ideas, pick one and create a drawing.
4. **Create** – Use your plan to build your idea
5. **Test** – Try out your idea. Did it work? Did it work the way you thought it would?
6. **Make it better** – Think about what you could do to improve your design. Modify your design and try again.

As you can see from the diagram, design is a continuous loop. Nothing is ever perfect and can always be improved. The most important steps in this process are the designing and testing of your creation. We design to make sure we have a direction to go in. We test to ensure that our finished product works the way we expect it to.