

## GSK-1001: Solar Fan Kit

This circuit converts sunlight into electrical energy. The fan speed is controlled by the intensity of the sun collected by the solar panel. This kit provides a rudimentary demonstration for how solar energy works.

### Technical Specifications

- Power Source: Solar panel
- Power of solar panel: 4 VDC @ 60 mA
- Solar panel dimensions: 6 x 6 cm

### Operating Principles

When the solar panel faces sunlight it converts the sun's energy into DC voltage. The DC voltage is utilized by the DC motor to turn the fan. Fan speed will be determined by the intensity of the sun's energy collected by the solar panel.

### Circuit Assembly

Please refer to Figure 2 for aid in circuit assembly.

### Note

This solar panel will not convert fluorescent light to DC voltage.

### Special Handling Instruction

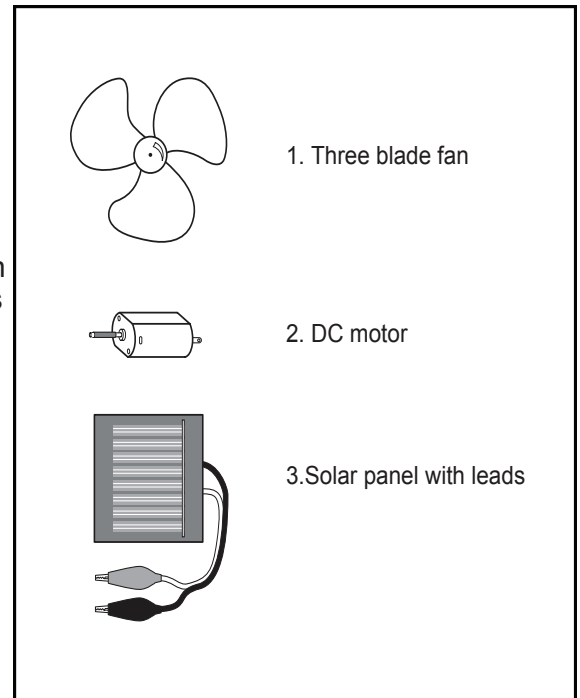
Extra care must be taken to ensure the solar panel's positive and negative connections do not touch causing a short circuit. Damage to the solar panel may occur if the connections are short circuited.

### Testing

Connect all components as shown in Figure 2. Make sure the red clip is connected to the positive pole and the black clip to the negative pole. If the connections are reversed the fan will turn in reverse direction. The brighter the sunlight, the faster the motor (fan) will turn. The fan will slow or stop moving with decreasing light.

### Troubleshooting

The solar panel may be tested by connecting the positive pole and negative pole to a voltmeter. Turn the solar panel towards the sun and any movement displayed by the voltmeter indicates the solar panel is functional. To test the DC motor connect a 4.5-6.0 VDC power source to the motor. If the motor turns it is working.



**Figure 1 Kit Components**

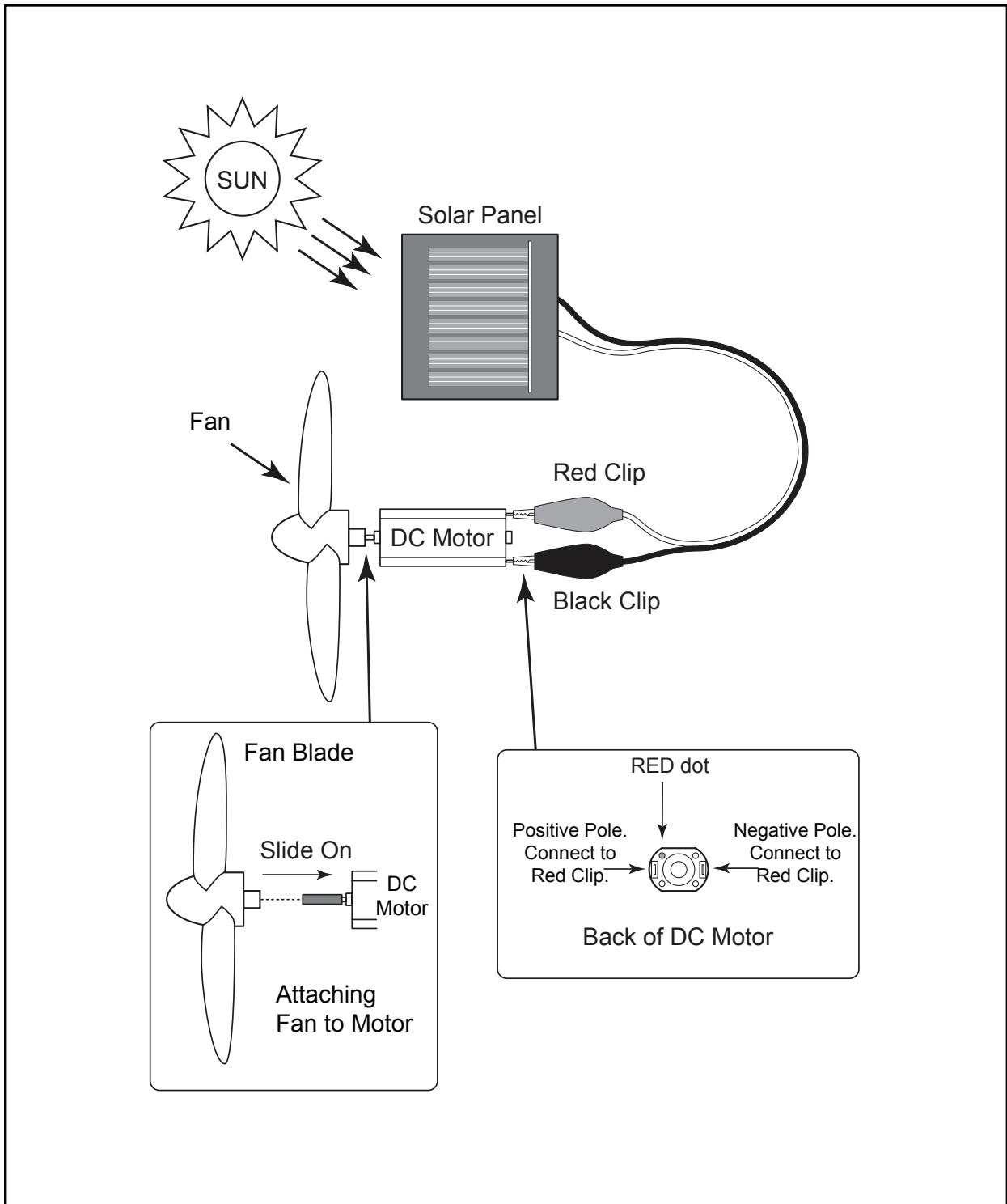


Figure 2 *Circuit Assembly*