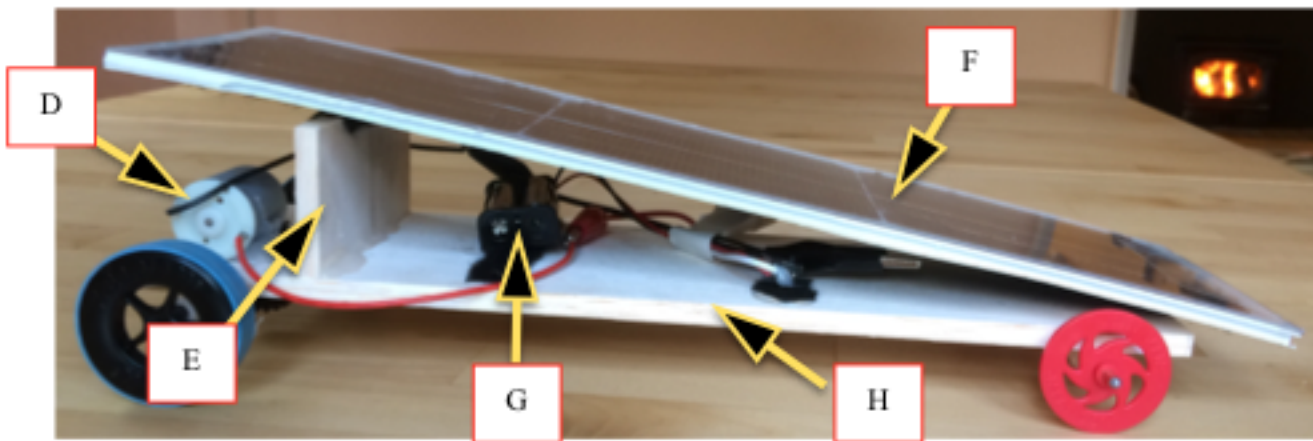
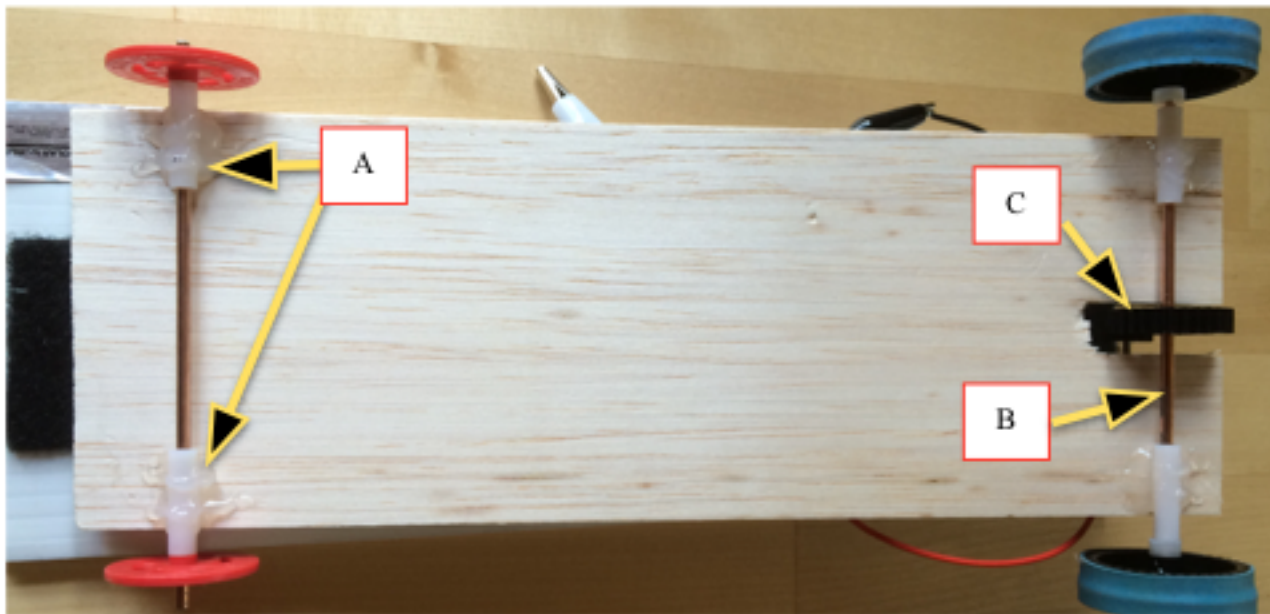


Solar Car Pre-Build Worksheet

Name: _____ Period: _____

Part 1: Parts of the Solar Car

The most important hurdle you will face when building your solar car is reducing _____. The second most important thing is that your car goes _____. Third, the less _____ you have the faster your car will go. Keeping your car _____ will help your car go straight and if you don't have enough _____ between the wheels and the ground, your car won't go anywhere!



Solar Car Pre-Build Worksheet

Part 1: Parts of the Solar Car

A. _____ Description: _____

B. _____ Description: _____

C. _____ Description: _____

D. _____ Description: _____

E. _____ Description: _____

F. _____ Description: _____

G. _____ Description: _____

H. _____ Description: _____

Name: _____ Period: _____

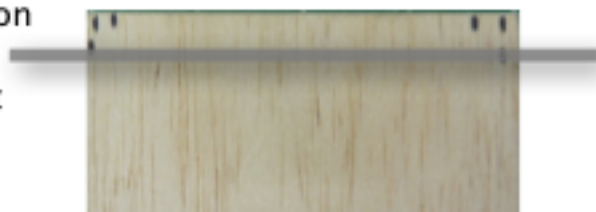
Part 2: Chassis, Bearings and Axles

CHASSIS

1. What is the chassis and what is it for?
2. What are the advantages and disadvantages of a longer and wider chassis?
3. What chassis design do you think is the best. Give at least one advantage and one disadvantage of your choice.
4. List four things you need to attach to your chassis?

BEARINGS

5. What are the bearings and what are they for?
6. Why do you need to glue the bearings on so they stick out about 1/8 inch from the side of the chassis?
7. On the chassis below, draw two bearings on the axle to show how you need to position the bearings for the least amount of friction.



Solar Car Pre-Build Worksheet

Name: _____ Period: _____

Part 2: Chassis, Bearings and Axles

8. What tool do you need to use to attach your bearings to the chassis? (hint: something other than the glue gun and glue)

AXLES

9. What are axles and what are they for?
10. Why does everyone start with steel axles?
11. How do you test an axle to see if it is straight?

WHEELS

12. How does wheel size change the performance of the car?

FRICTION

13. How can bearings create friction? (2 different things)
14. How can axles create friction?
15. How do paint and glue create friction?
16. When do you WANT friction in your car?
-

Name: _____ Period: _____

Part 3: Gears, Motor, Battery and Solar Panel

GEARS

1. What are gears and what are they for?
2. What is the difference between the pinion gear and the drive gear?
3. How do you calculate the gear ratio?
4. What gear ratio is better for speed cars?
5. What gear ratio is better for hill climb cars?
6. If the gear is too hard to put on the axle, should you drill out the hole?

MOTOR

7. What is the motor and what is it for?
8. How do you glue on your motor so you can have some adjustment at first?

Solar Car Pre-Build Worksheet

Name: _____ Period: _____

BATTERY

9. Why do we have batteries if it is a solar car?

SOLAR PANEL SUPPORTS

10. What is the trade off for a steep solar panel angle vs a low angle solar panel?

11. How do you attach your solar panel to the car?

FRICTION

12. Where is there friction in the gears? Is this good or bad? Explain.

13. Why do you need to keep glue and paint off the gears?

14. Where is there friction with the solar panel?

