

# Travelling

Different types of travelling can use up large amounts of energy. Energy is the power that allows things to work. The energy that enables vehicles to move comes from fossil fuels. Fossil fuels include coal, oil and gas. Petrol and diesel are created from oil. One day fossil fuels will run out.

<https://www.youtube.com/watch?v=2LsSPFICUu0>



# What is fuel?

Can you think of different types of fuel?

Can you re-use fuel?

Where do they come from?

Fuel

What fuels do you use?

Can you create fuel? How?

Is using fuel bad for the environment?

How were they formed?

# Investigate and Compare fuels with your partner

**Petrol**

Similarity

**Electricity**

How are they different?

How are they similar?

Differences considering:

Sustainability

Cost

Pollution

Cars are responsible for releasing harmful gases into the environment.

Alternative power sources for vehicles

How does it work?

Investigate what is meant by an Internal Combustion Engine.

Make sure you consider:

How the internal combustion engine was developed

Gases released

Fuels needed

The positive or negative impact on the environment

Its future



**Organise your information into a Powerpoint presentation and share it with your class.**

Discuss the advantages and disadvantages of electric cars and petrol cars.

**Electric Cars    AGAINST    Petrol Cars**

**Electric / Solar cars**

**Advantages:**

**Disadvantages:**

**Petrol cars**

**Advantages:**

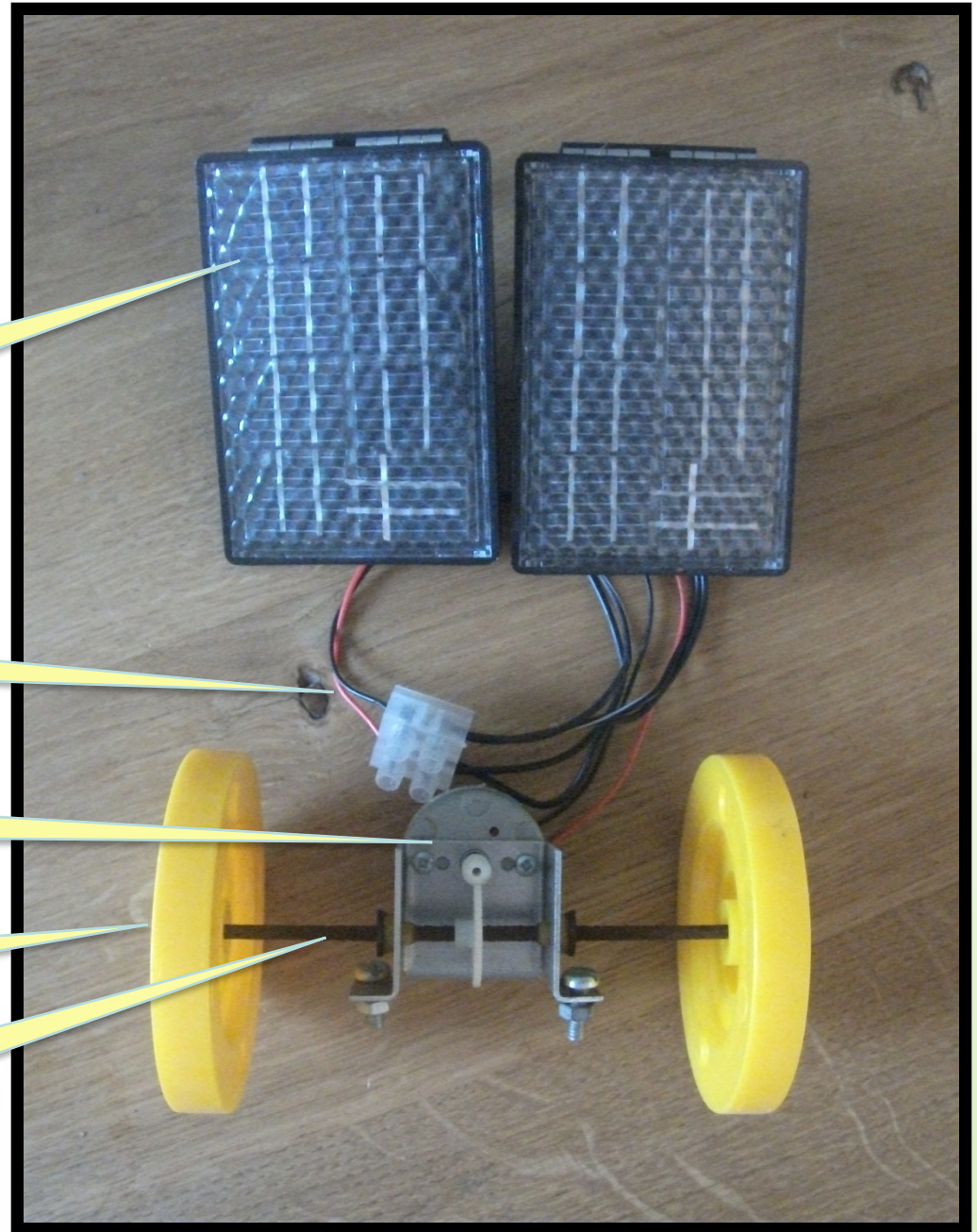
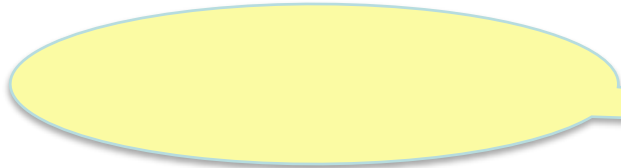
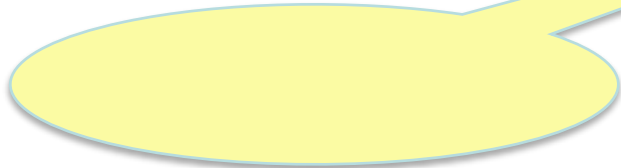
**Disadvantages:**



**Electric Cars:** <https://www.youtube.com/watch?v=D46GkpIGLFk>

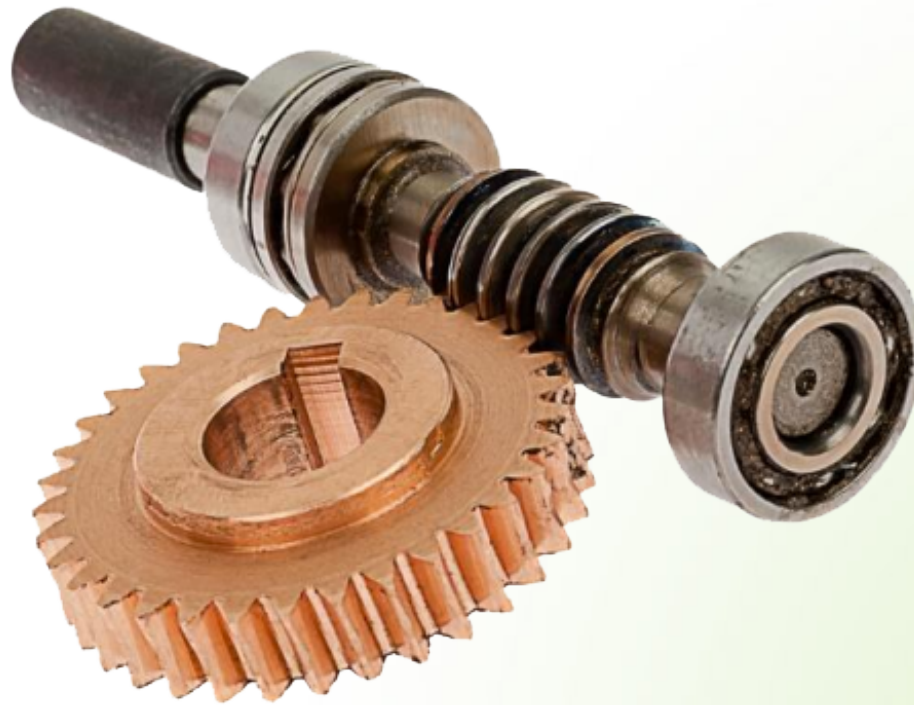


Design and create a model car that uses electricity produced by photovoltaic solar panels. The photo shows some of the components you will need to build the car. Do you recognise these components? Can you name them?



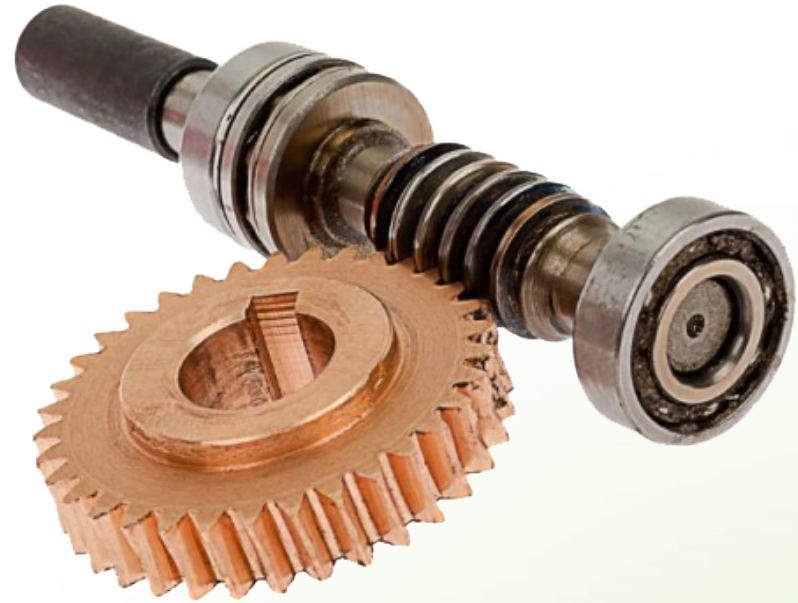
# This is how a worm gear works...

[https://www.youtube.com/watch?feature=player\\_detailpage&v=S3XAeMCeZr0](https://www.youtube.com/watch?feature=player_detailpage&v=S3XAeMCeZr0)





**This a worm gear. It's possible that you will use one of these. What do you think its purpose is?**

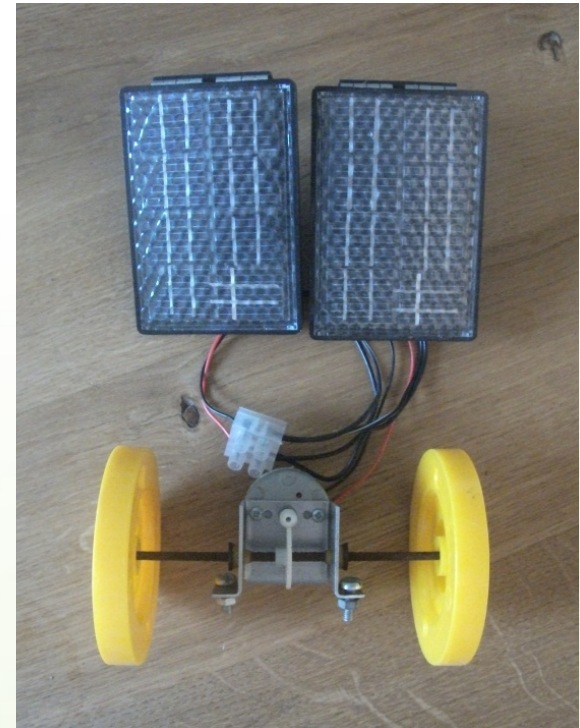


# Design

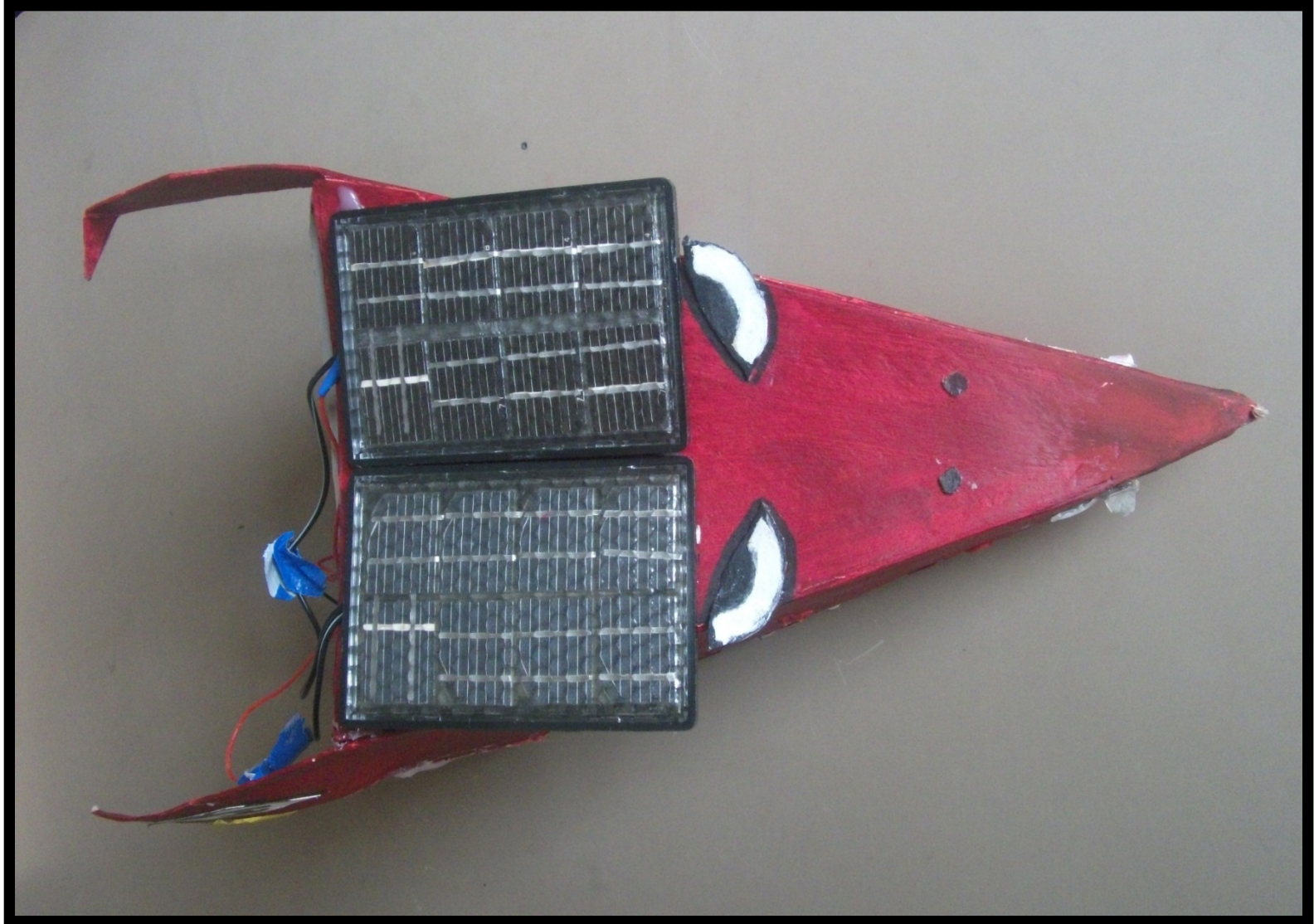
Before you start your design work, think about the features that could impact on the car's performance. These could be used to evaluate the success of the car, e.g.

The car's weight

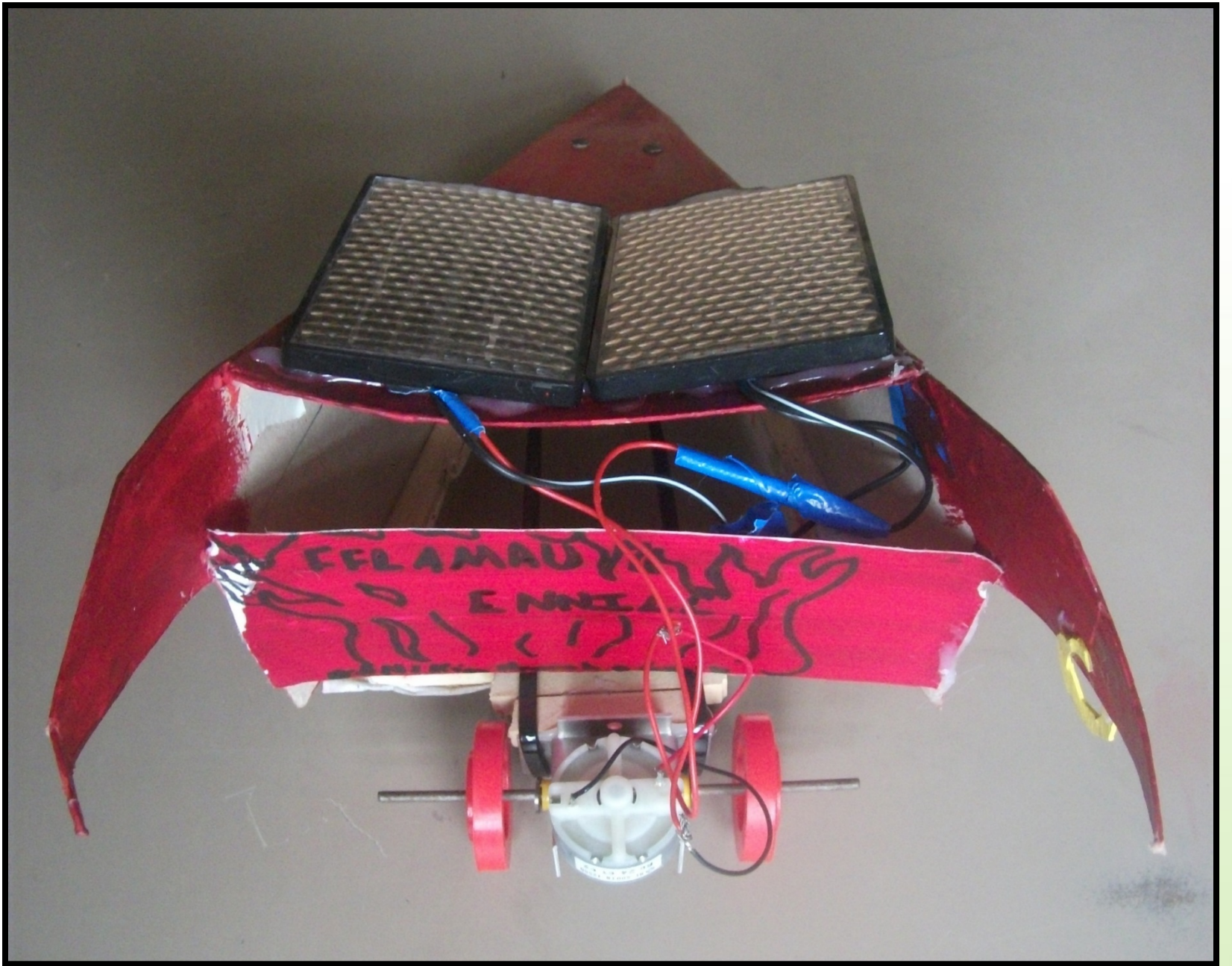
Location of solar panels on the car.

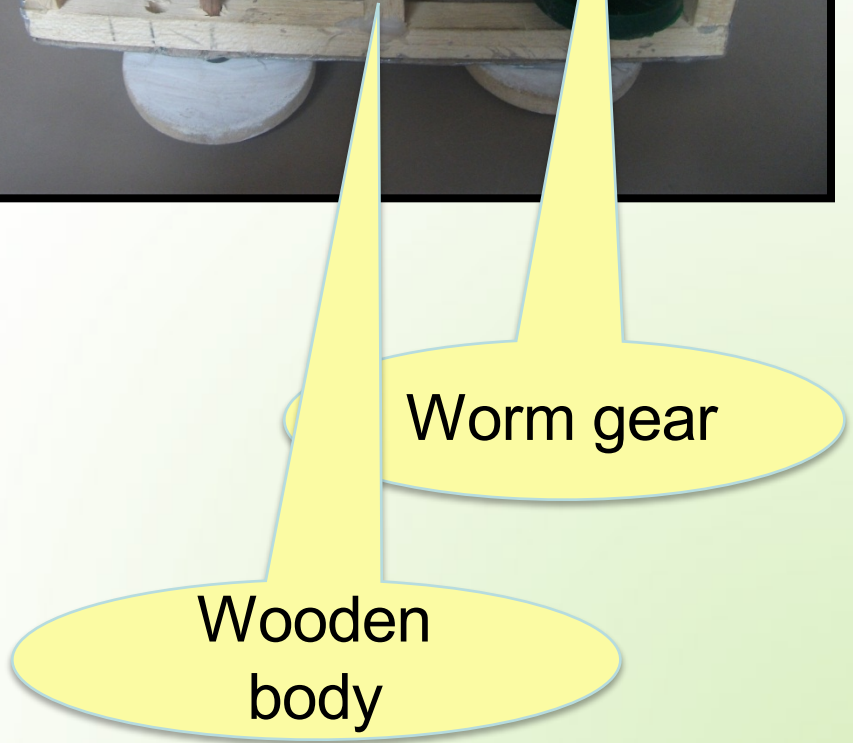
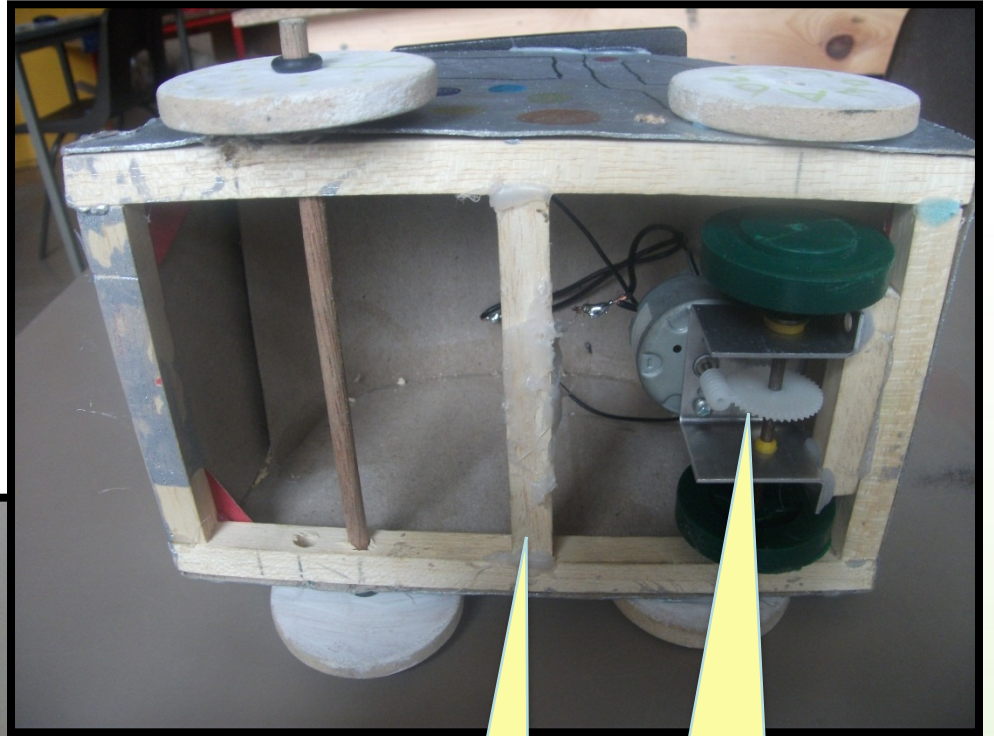
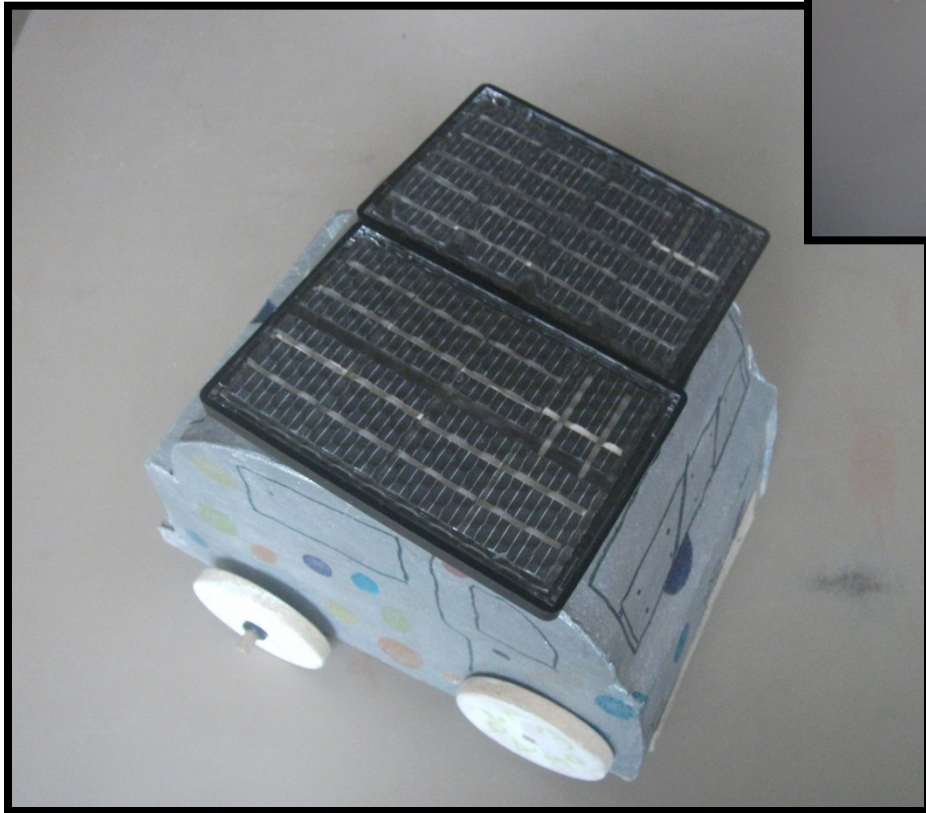


Look at these examples









Wooden  
body

Worm gear





Bottles are discarded all over the place. Instead of putting plastic bottles straight into the recycling bin, why don't we try and use them to make something else? Why not use a bottle to create the body of your car? Bring a selection of bottles to school. Choose the ones that are best suited to being the body of your car.





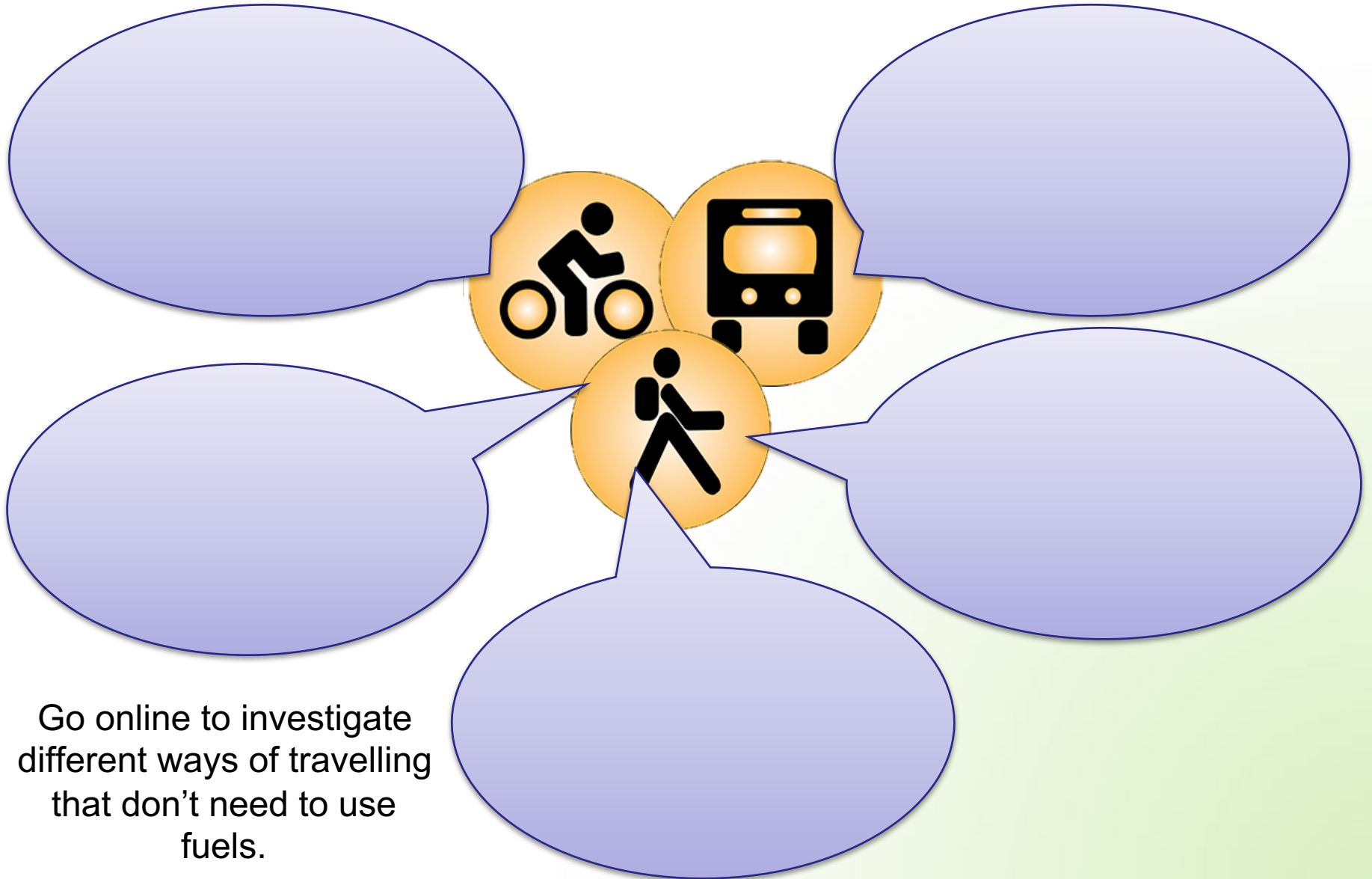


Here is an example of a simple car made from a plastic bottle. The bottle has holes in it to hold the axle. You could place your panels on this vehicle and decorate it as you wish.



Placing the axle. The two axles must run parallel to each other. What would happen if they were not parallel?

# What about alternatives modes of transport?



Go online to investigate different ways of travelling that don't need to use fuels.





**Cycling:** <https://www.youtube.com/watch?v=HptJMpLqyYY>