

# Making Fire Engines

**Today we will be...**

Investigating wheels, axles and chassis.

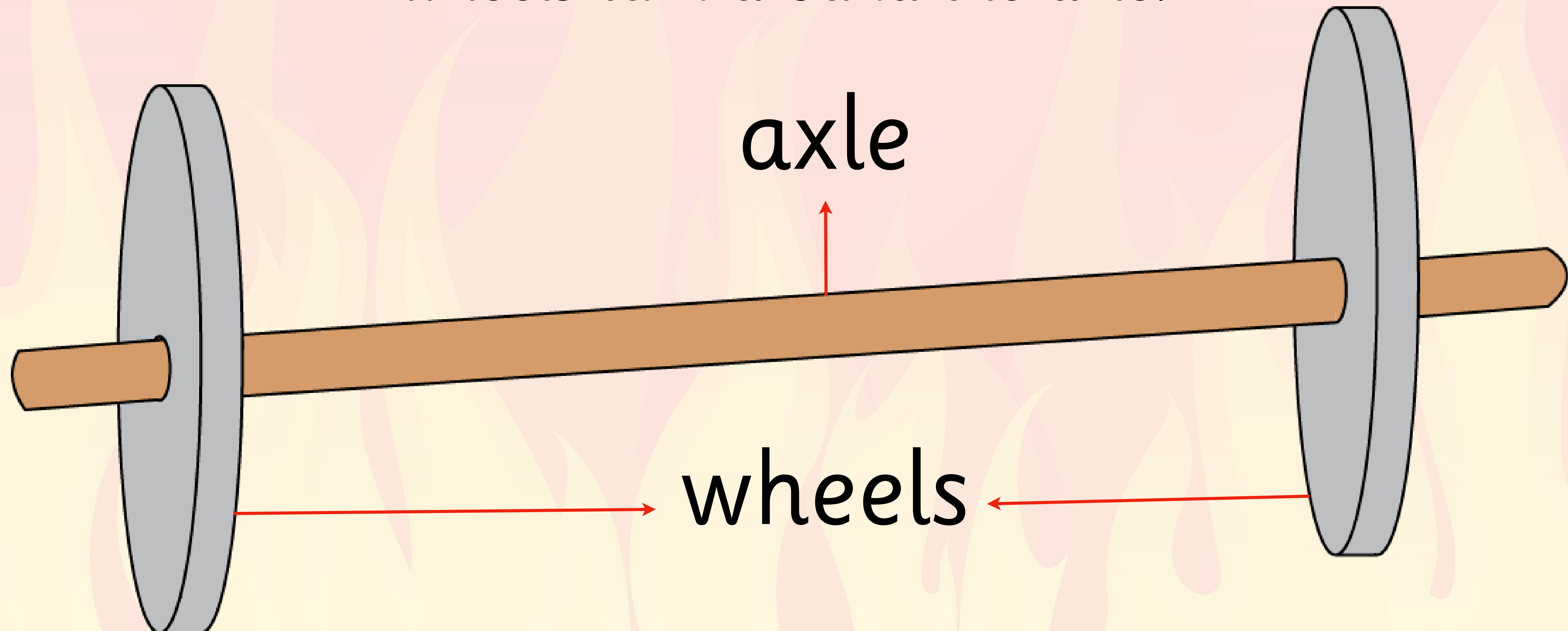




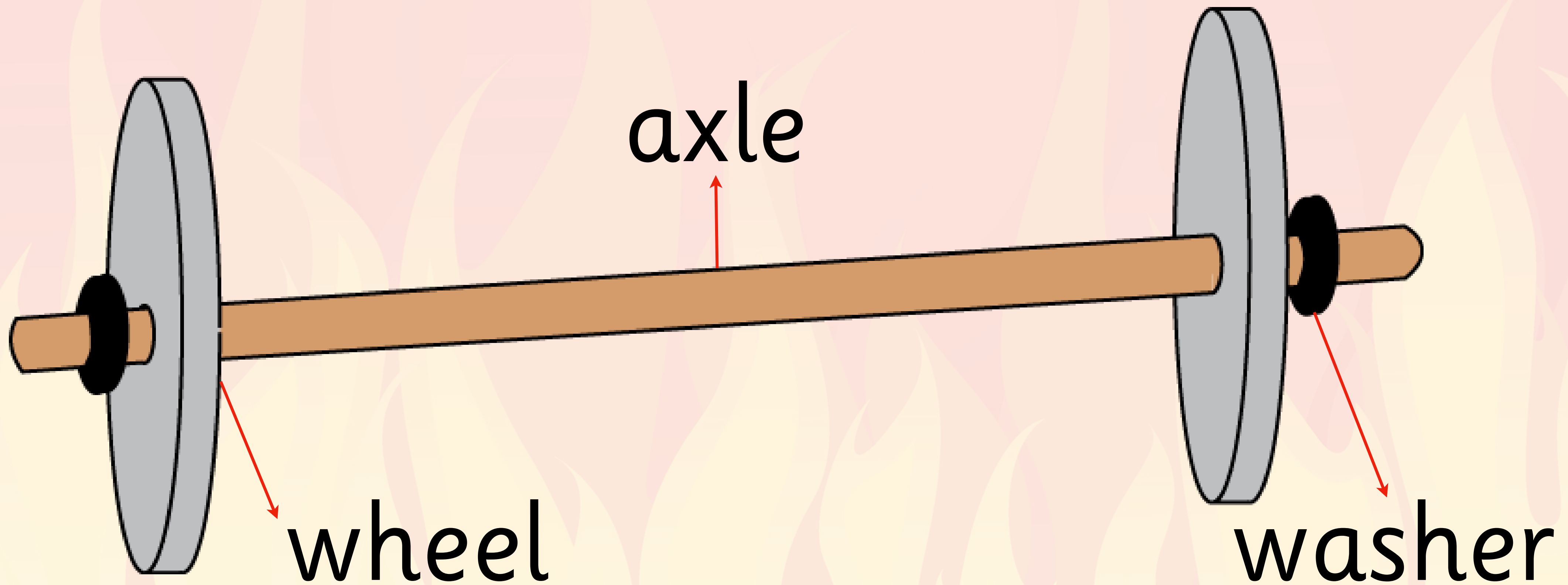
**How does a  
fire engine  
move?**



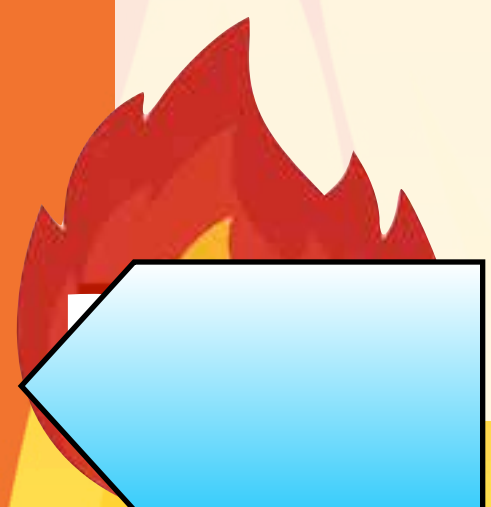
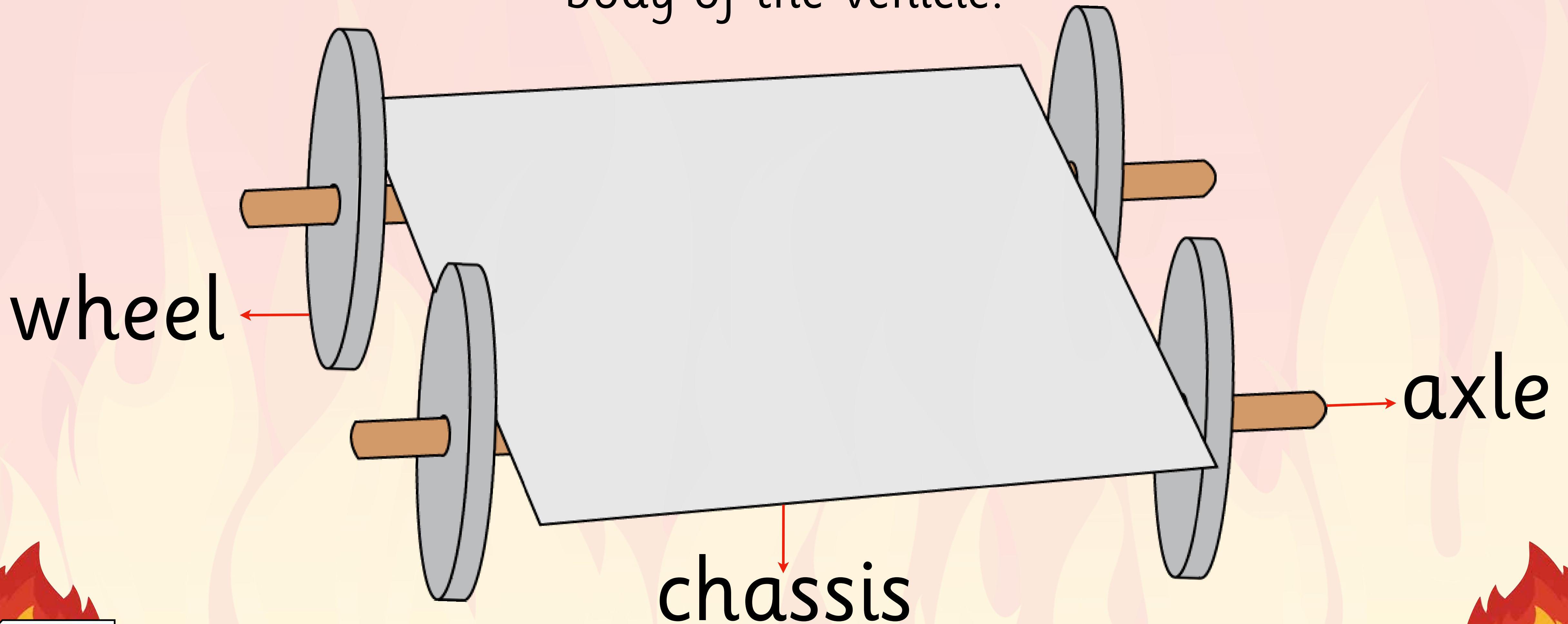
Vehicles all have **wheels** to make them move. The wheels are attached by **axles**. Axles can work in two ways: they are either attached firmly to the wheel so the axle rotates and the wheels turn with it, or the wheels are placed loosely on the axle so that the wheels turn around the axle.

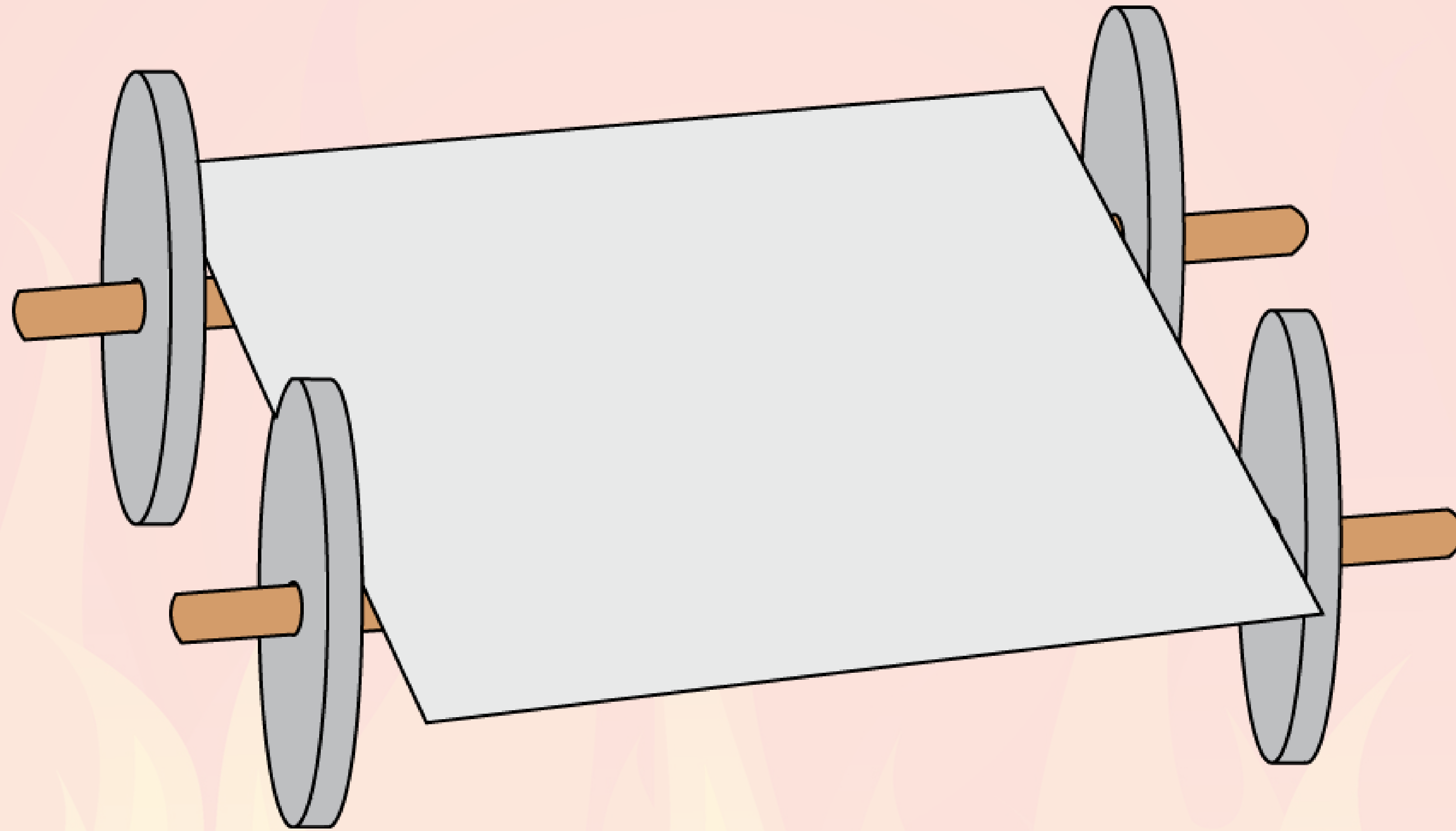


If the wheels are not attached to the axle, you need to use something to stop the wheels from falling off. This can be a **bolt** or **washer**, or anything that will prevent the wheel from coming off the axle as they are turning.



Axles then need to be attached to a **chassis**. The chassis is the framework of the vehicle and attaches the axles and wheels to the body of the vehicle.





With this chassis, the axles are attached to the chassis from underneath. This means the axles cannot turn around. The wheels are placed over the axles but not attached so that the wheels can rotate around the axle.

**BACK**

**NEXT**



The axles are not fixed to the chassis in this example. Instead, the axles are put through holes in the chassis so that the axle can turn around. The wheels are firmly attached to the axle so they turn when the axle turns.

**BACK**

**NEXT**

Today we will be practising attaching wheels to axles and chassis for when you design and make your own fire engines.



**What different materials do you think we could use for the axles?**

**What different materials do you think we could use for the wheels?**



**What different materials do you think we could use for the chassis?**



**BACK**

**NEXT**



# PLENARY

**Which type of axle do you think you will use when you design your fire engine? Why?**

Think, pair, share your ideas.



**BACK**

**NEXT**