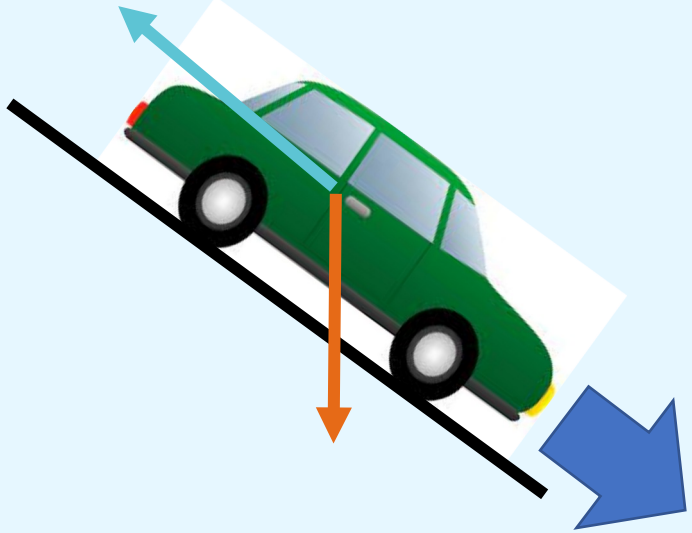
Toy cars: How do they work?

Air resistance

Air resistance is a frictional force, the air pushes against a moving object.

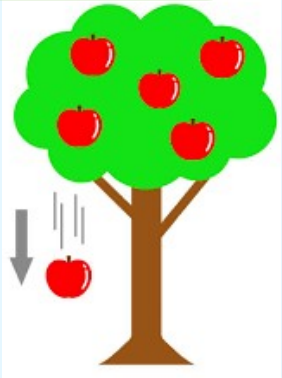
Air resistance always tries to slows a moving object down.

The faster you move, the greater the resistance.



Gravity

Gravity is pulling the car down the ramp while the **air resistance** is pushing against the car. However, the car still gains speed as it goes towards the bottom of the ramp.



Gravity is an invisible force that pulls objects toward each other.

Earth's gravity is what keeps you on the ground and what makes things fall.

It's what makes toy cars speed up when they go down ramps.

Pinewood Derby

When the car is heavier it moves faster down the ramp.

The smoother the car is, the less air will push back against the car.

The more the wheels touch the track, the more **friction** there is.

When the wheels rub against the side of the car, the car slows down due to **friction**.

If there is less **friction**, the car moves faster.

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