

# Forces Summer Week

## 2 Year 5



# To get you thinking watch these videos before you start.

## Activity Notes

Use the presentation to introduce and summarise the forces acting on an aircraft during flight.

Use two video clips of the RAF Red Arrows to illustrate the extreme forces due to high-speed changes in direction. Each clip is just over two minutes in duration.

Ask the children to imagine what it must be like to be the pilot of one of the aircraft. What forces would they feel? Why do pilots need to be strapped in? What forces have they felt on things like playground swings or fairground rides?

Clips are at:

Introduction to the Red Arrows:

<http://news.bbc.co.uk/1/hi/uk/8355531.stm>

Plymouth air display:

<http://news.bbc.co.uk/1/hi/england/8236895.stm>

# Task

Think about the forces acting in the following pictures. If you can, print off slides 4-8 so you can draw the forces on. If you don't have a printer you could just make a quick sketch of your own. The answers are at the end of the PowerPoint.

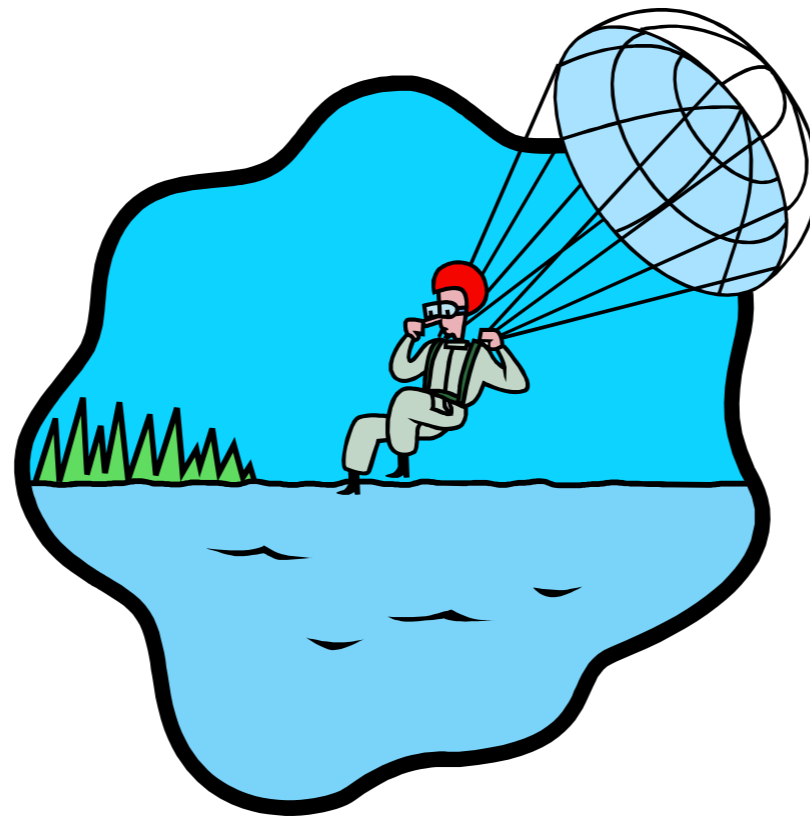
Which forces are acting here?



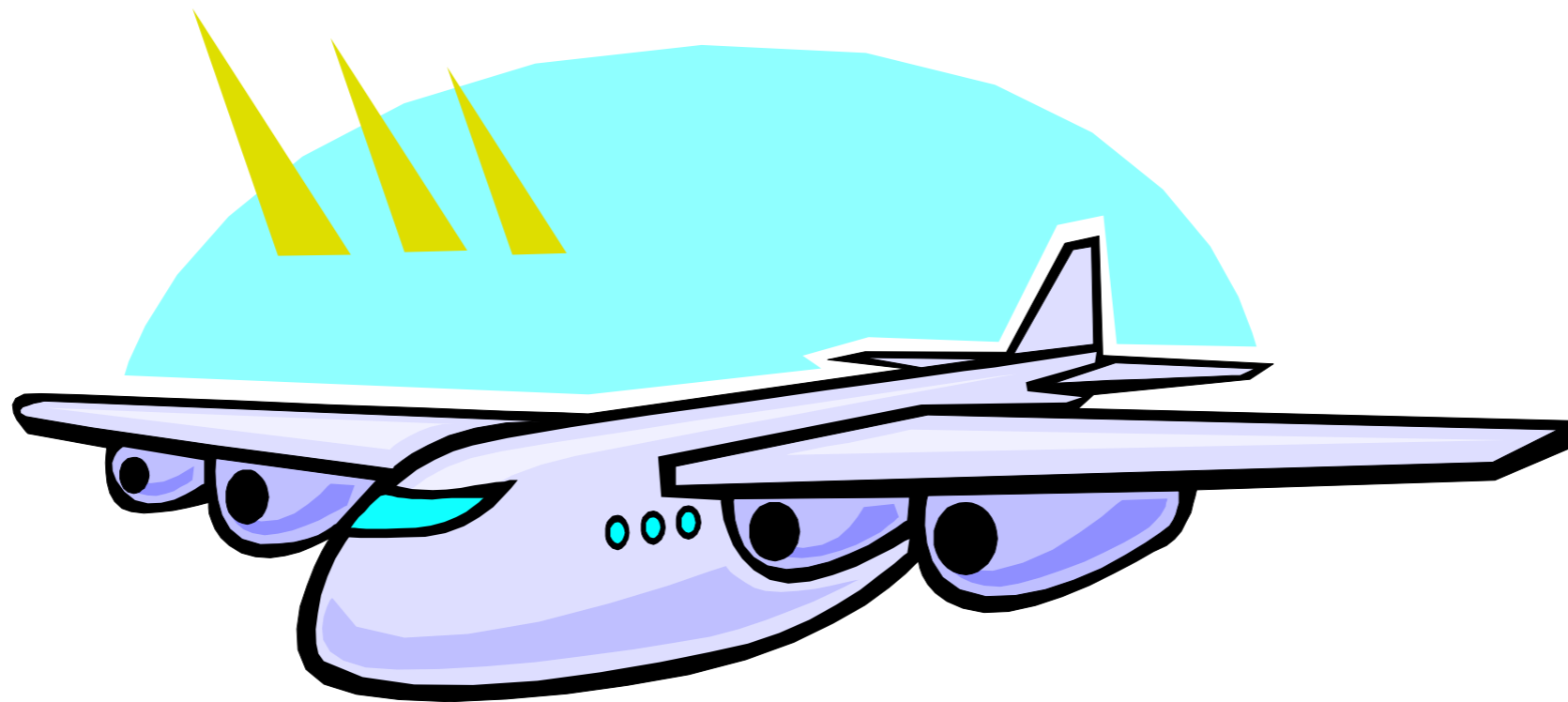
Which forces are acting here?



Which forces are acting here?



Which forces are acting here?



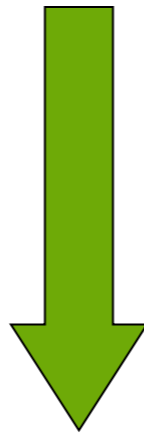
Which forces are acting?





**Now to check your  
answers.**

# What forces are acting?



Weight pushes down

Forces are balanced.  
The person and chair are stable.

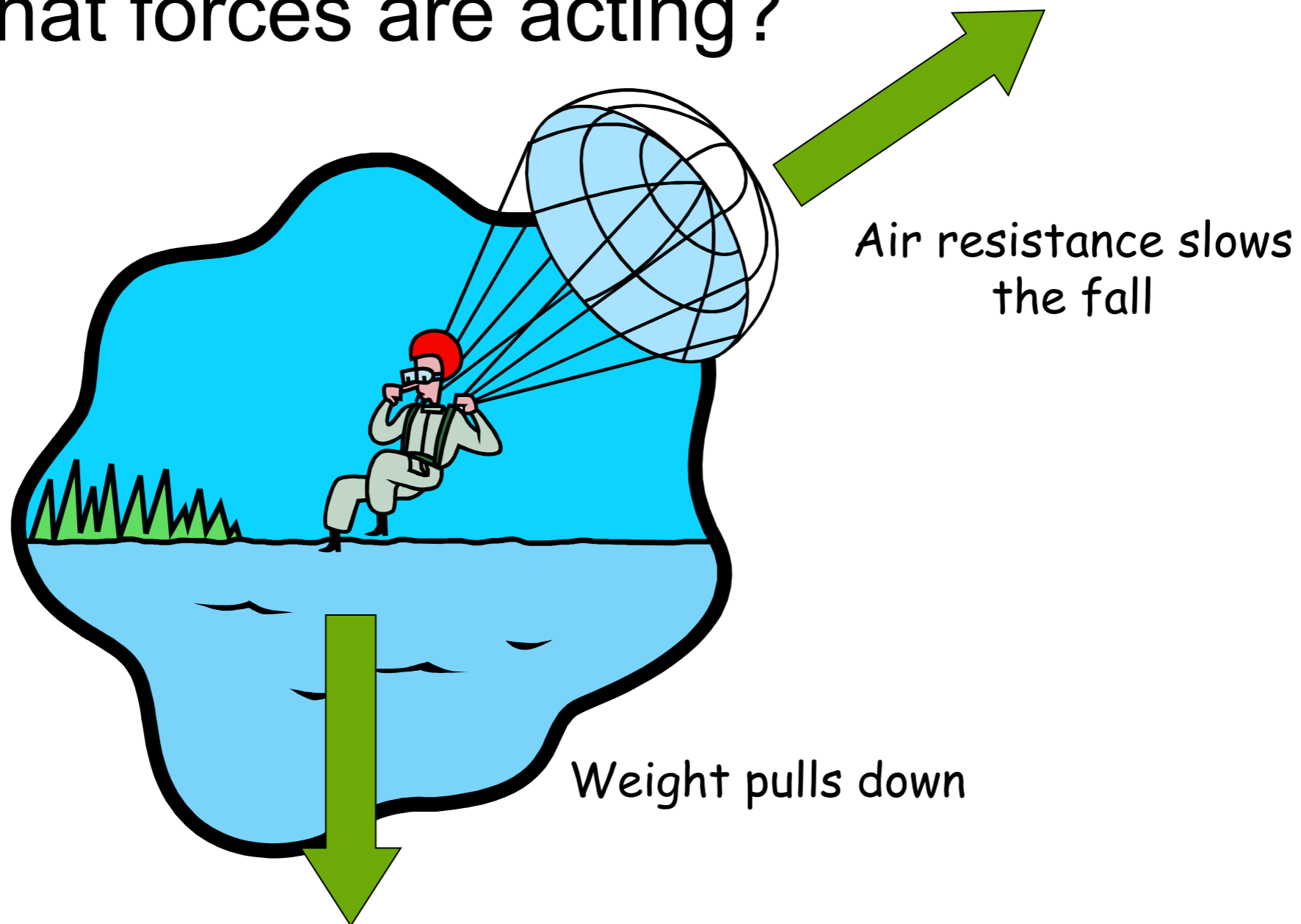


Chair pushes up

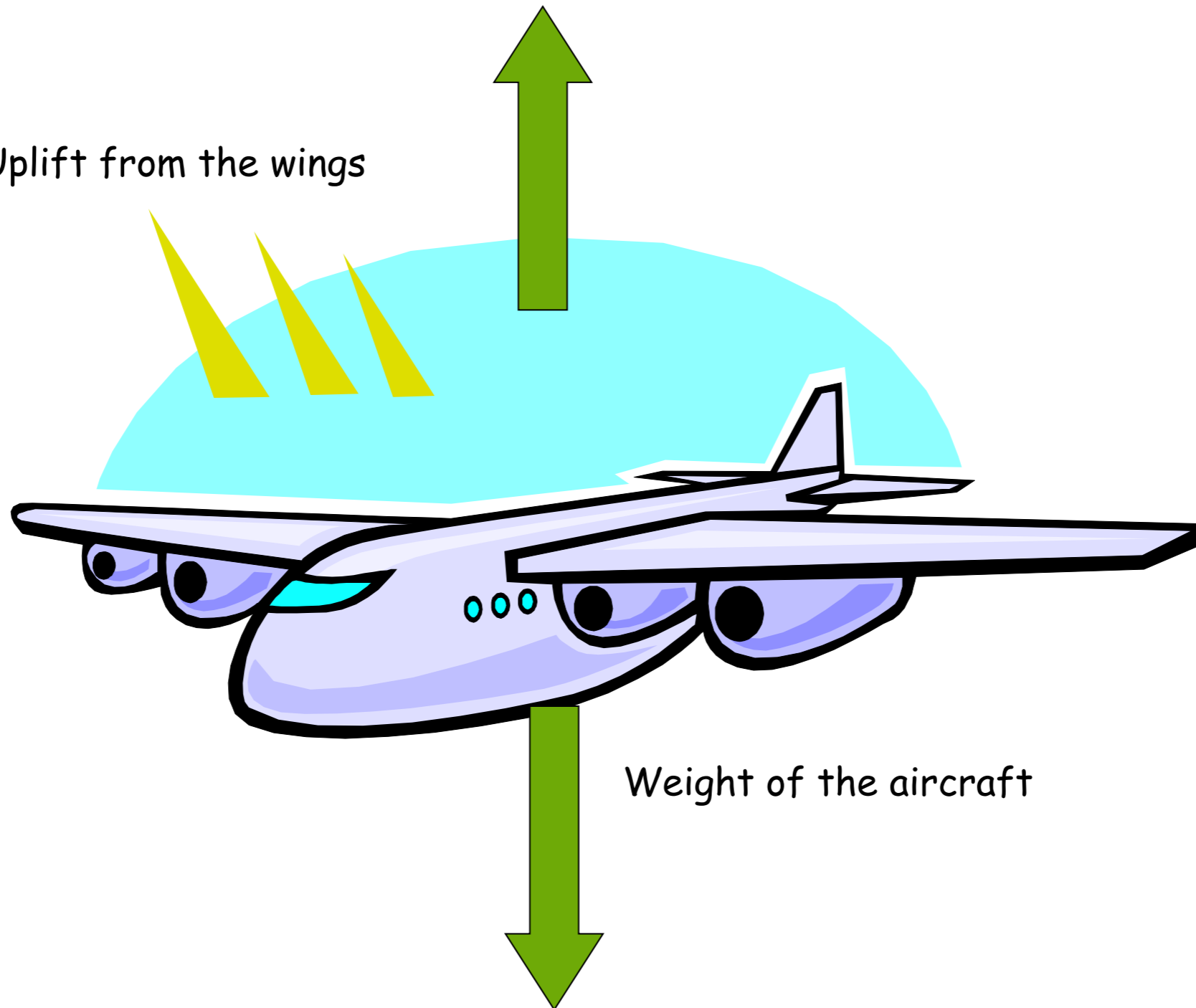
# What forces are acting?



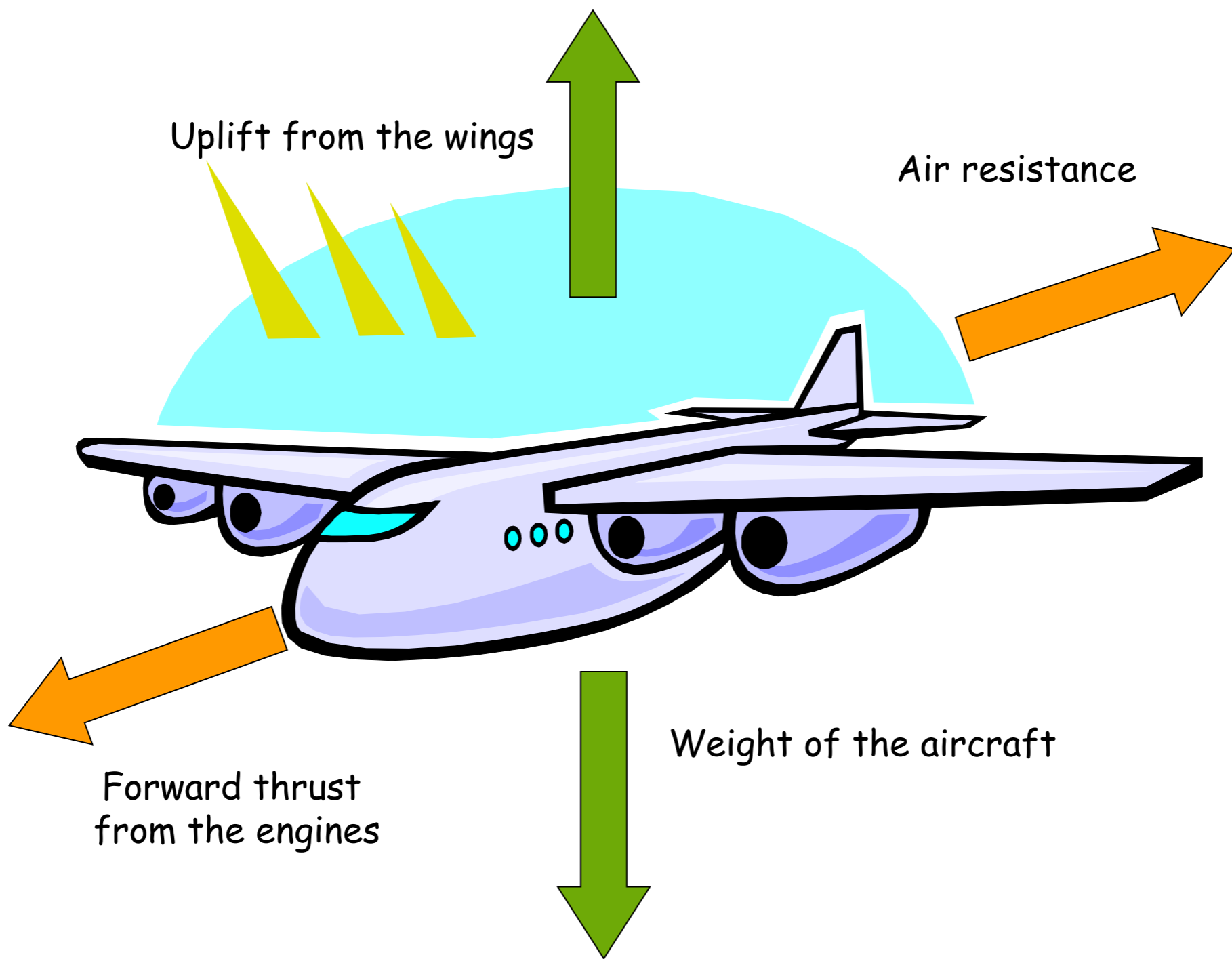
# What forces are acting?



Uplift from the wings



Weight of the aircraft



Uplift from the wings

Air resistance

Forward thrust  
from the engines

Weight of the aircraft