

WHERE MATH AND SCIENCE

# TAKE FLIGHT

iFLY MAKES LEARNING  
FUN WITH STEM

The Science & Engineering of iFLY



WELCOME TO YEAR 5s & 6s from  
**SCHOOL NAME**





STEM is fun!



# A problem to solve

The engineers who worked on the first iFly tunnel had a big problem to solve:

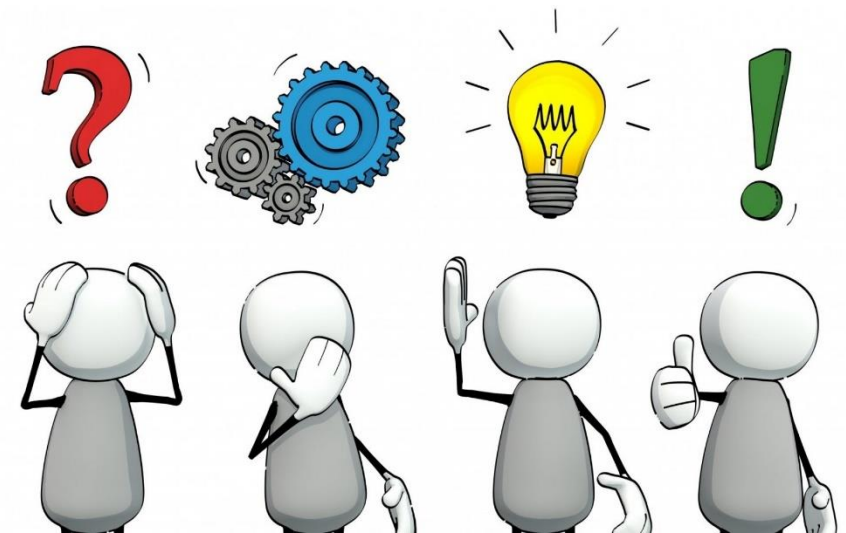
How could they let people experience the thrill of skydiving, without ever going up in an airplane?

To begin with, how could they create enough air flow to get someone off the ground and into the air?

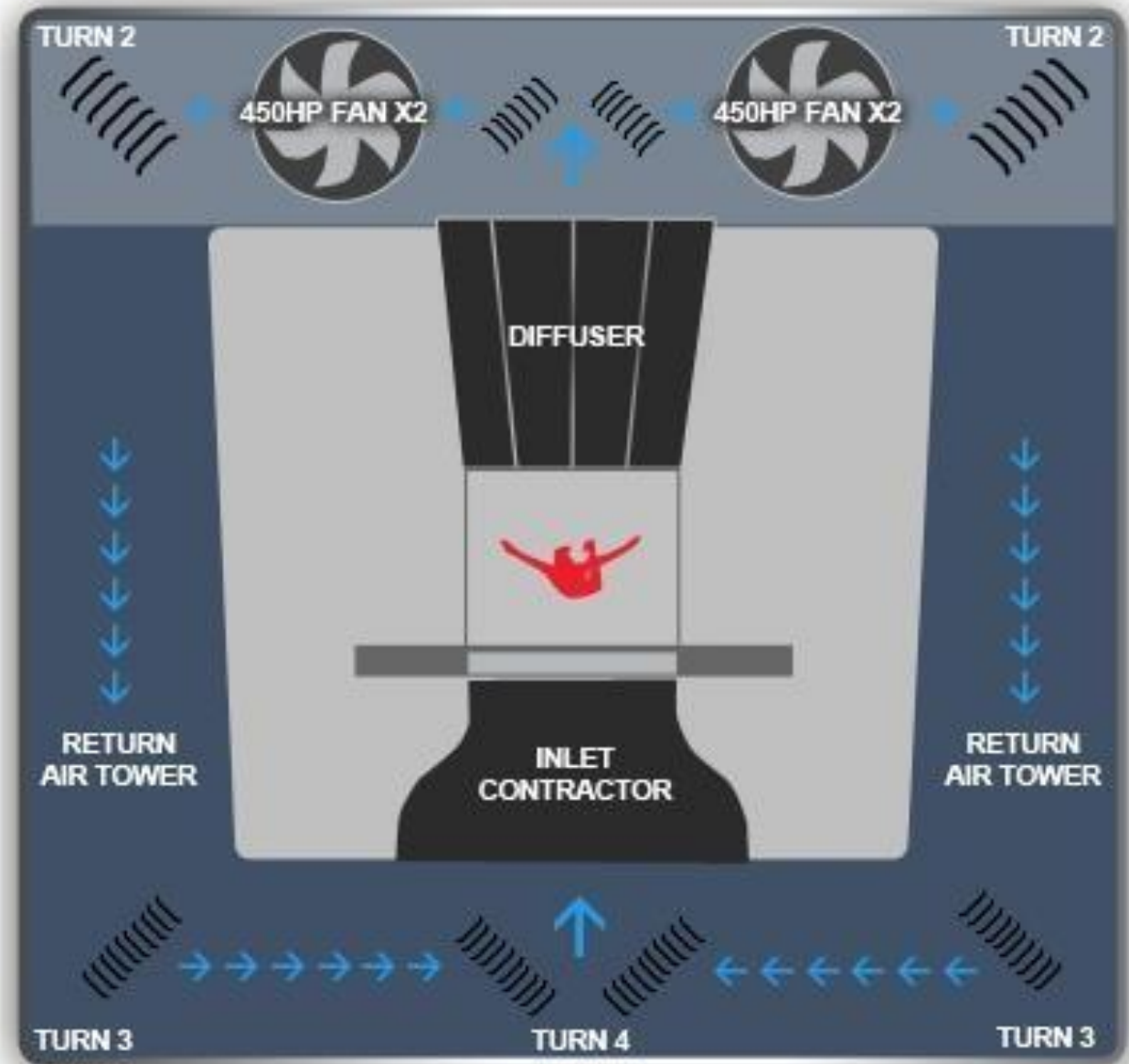
**How do you think the tunnel generates all that air flow?**

**Where do you think the fans are located?**

**How many fans power our tunnel?**



# This is a Closed Loop Vertical Wind Tunnel.





# Another problem to solve

What features would engineers need to think of when designing the tunnel?

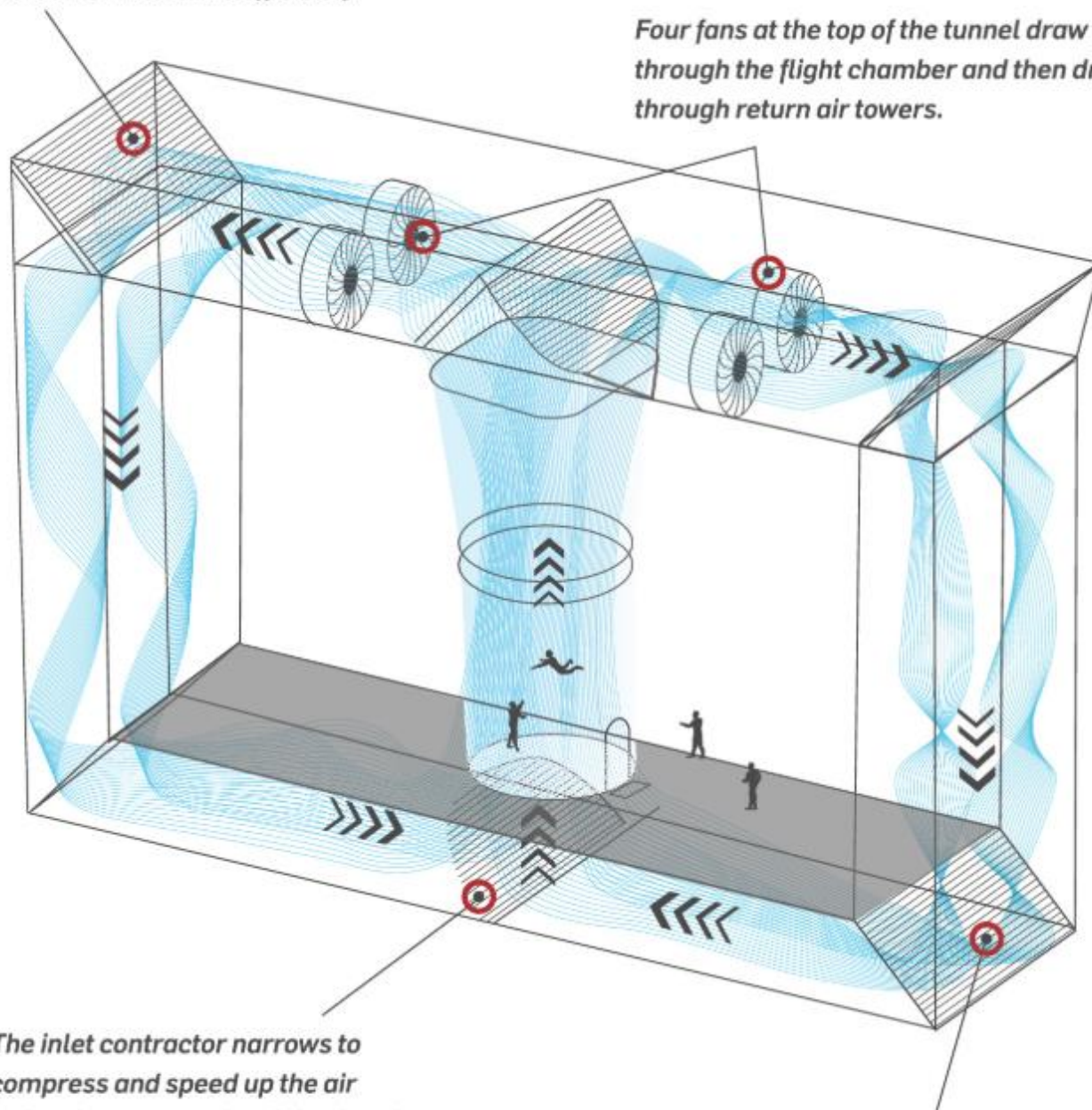
**Safety**

**Heat**

**Energy**

*Airfoil shaped turning vanes  
in each corner maximize efficiency*

*Four fans at the top of the tunnel draw air  
through the flight chamber and then drive it  
through return air towers.*



*The inlet contractor narrows to  
compress and speed up the air  
before it re-enters the flight chamber.*

*Patented water cooled assemblies  
provide consistent air conditioning*

## **How Does All This Work?**

We invented the recirculating wind tunnel for bodyflight and continue to lead its innovation to allow us to deliver the dream of flight to everyone.

Four fans located in the optimal position for flow quality drive the air around a simple and efficient loop.

The airflow is narrowed below the flying chamber to speed and smooth the flow for maximum enjoyment.



# Moving air can cause a force.



**force of air  
pushing you up**



**weight  
pulling you down**

**force of air  
pushing you up**

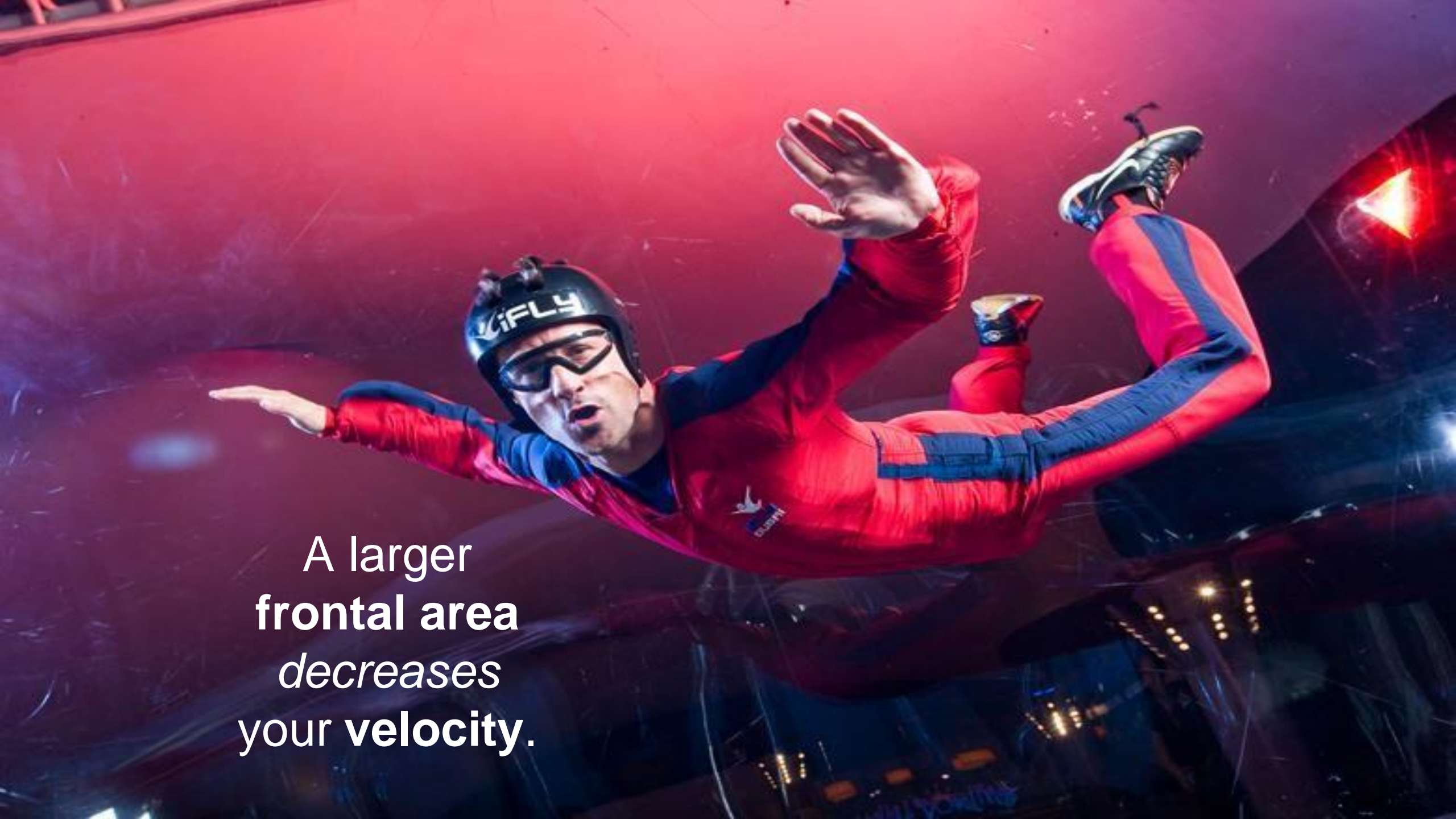


**weight  
pulling you down**



A smaller  
**frontal area**  
*increases*  
your **velocity**.





A larger  
frontal area  
*decreases*  
your **velocity**.





**How does a parachute affect a skydiver?**

By User Alers onsv.wikipedia - Originally from sv.wikipedia

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