

*The Relationship
between Quantities of
Bumps of Wings and
Lifting Power*

[Introduction]



how does it fly?

[Research Question]

**What quantities of bumps
of wings can make
greater lifting power?**

【How to make lifting power with dragonfly's wing】



small

Large

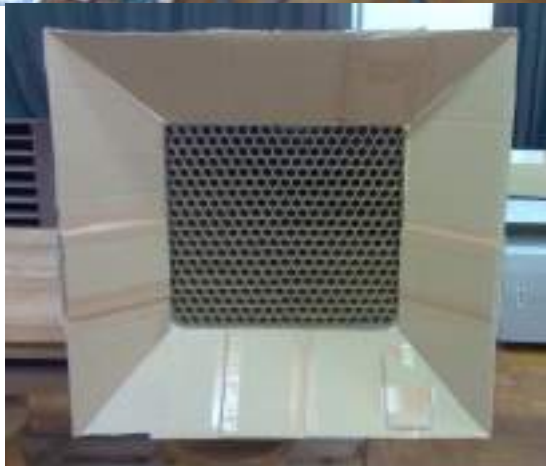
[Experimental Preparation]



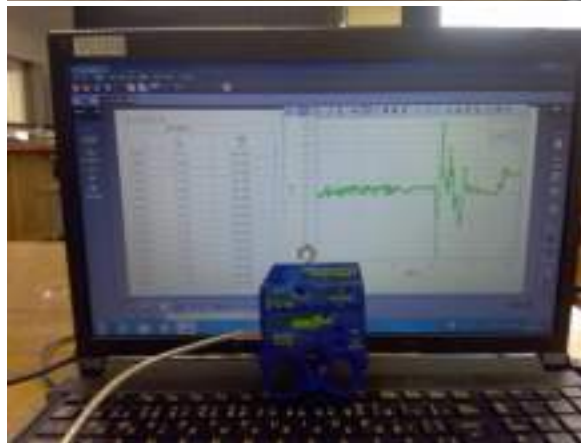
Fan



Wing



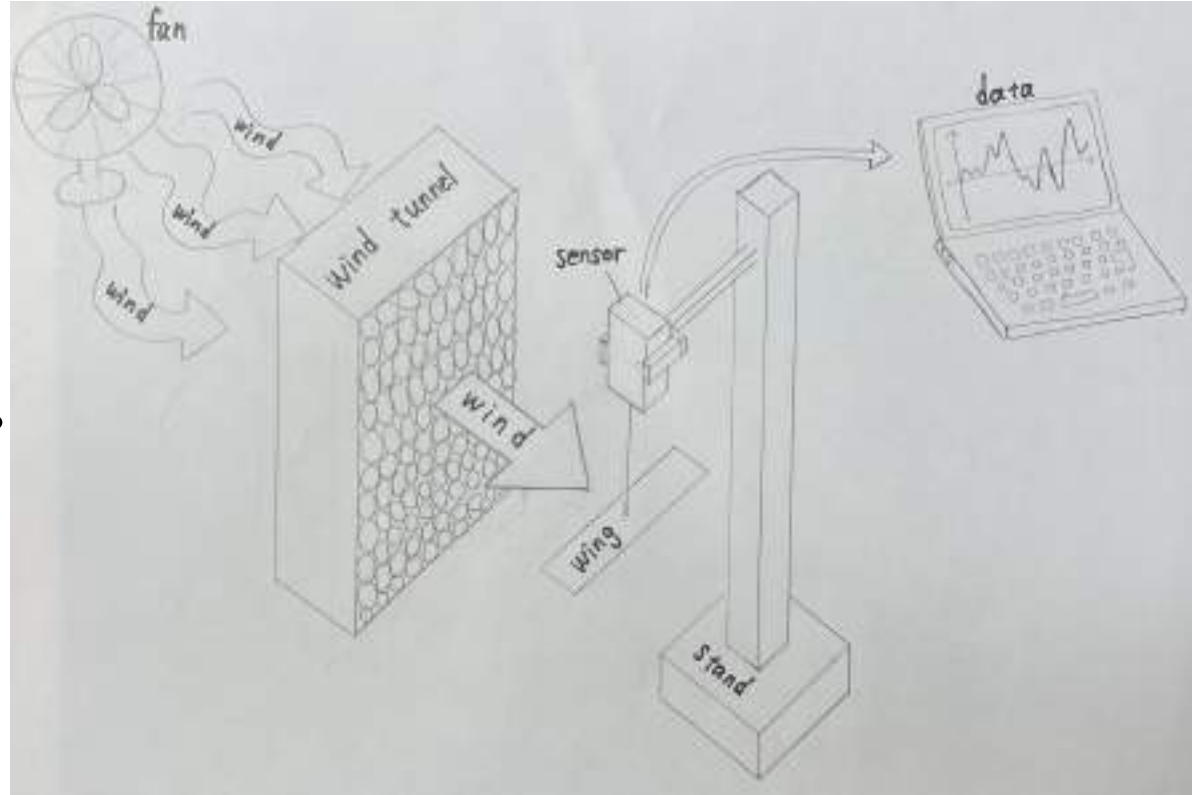
Wind
Tunnel



High
resolution
force sensor

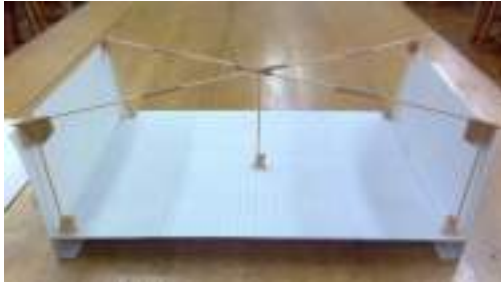
[Methods]

1. Hang the wing from the sensor.
2. Hit the wind against the wing.
3. Analyze the obtained data with PC.



【Conditions of the Experiment to be Changed】

The quantity of bumps of the wing



0



2



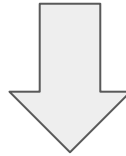
4



6

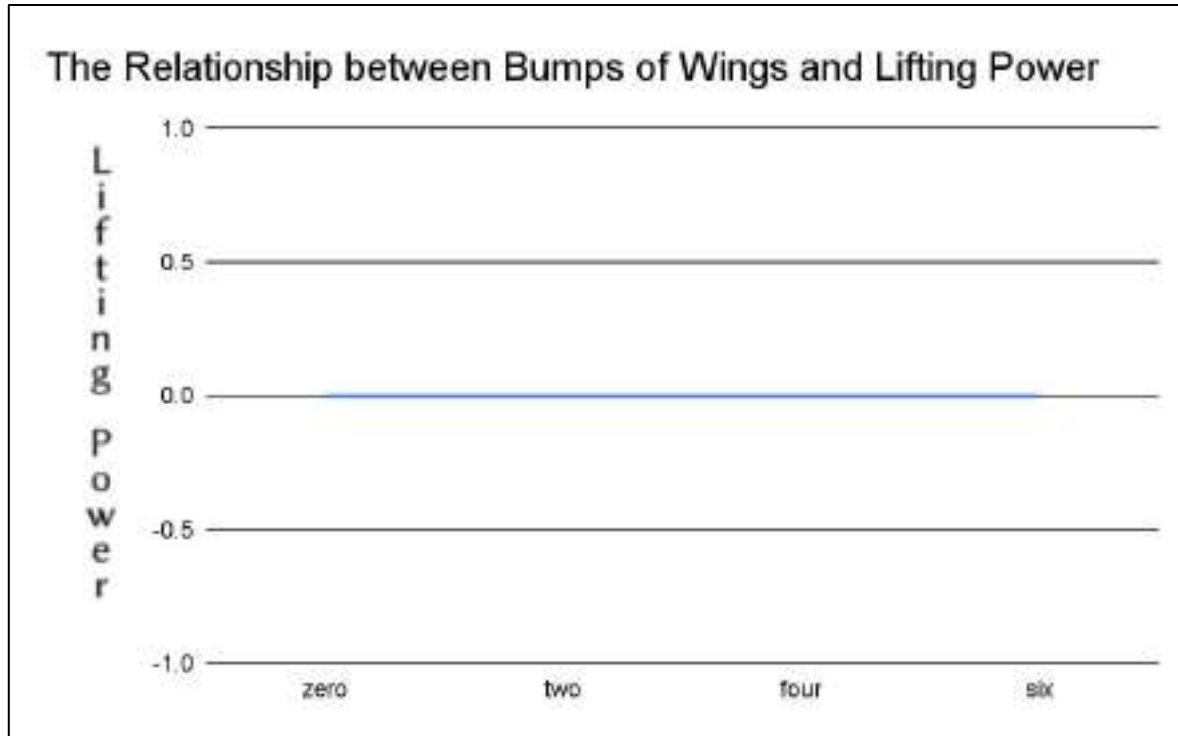
[Hypothesis]

The quantities of bumps



larger is
better

[Result]



No differences

【Consideration】

- 1 the lifting power was too small
- 2 the quantities of bumps were not enough
- 3 the angle of the wings was not suitable
- 4 the wings were too heavy

【Future outlook】

1 increase the quantities of bumps

2 make the wings more lighter

*Thank you
for listening!!*