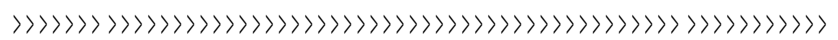


# Aerodynamics ~ STEAM Education from Queensland



**Let's join the session!**



The following questions are based on the contents of the session. Watch the session and answer each question.

[ 1 ] Explain why things fall.

- Things have weight. Gravity pulls the weight towards the Earth, so things fall.
- Things fall because they are pulled to the Earth by gravity.

[ 2 ] Complete these sentences by writing appropriate words or phrases in the underlined spaces.

1. Our helicopter had a slow fall because there were more air particles under the helicopter .
2. Our helicopter had a fast spin. Fast spin is good because it creates extra thrust that gives lift to our helicopter.

[ 3 ] Explain why the helicopter falls slowly.

- Gravity pulls the helicopter to the earth, but the blades of the helicopter catch many air particles and the spin of the blades gives the helicopter lift.
- As the blades of the helicopter catch more air particles, the spin becomes faster and creates extra thrust. As a result, the helicopter falls slowly.

[ 4 ] Complete these sentences by writing appropriate words or phrases in the underlined spaces.

1. When we walked fast the tumbling increased altitude because more air particles were under the tumbling .
2. When we walked slowly the tumbling decreased altitude because there were fewer air particles hitting the tumbling .

[ 5 ] Explain how to make something that falls as slow as possible.

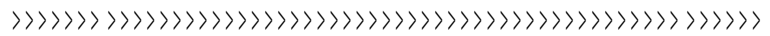
- Objects which have weight fall because of gravity, but we can make them fall slowly by using air particles. For example, when we fly a tumbling with a board, it catches many air particles and falls slowly. When we walked fast with a board, more air particles hit the tumbling and it falls more slowly.

[ 6 ] Looking at this session, what kind of attitude do you think is important for scientific research?

- I think it is important to understand a theory, but it is more important to confirm the theory by doing experiments.
- I think we should have many questions about natural phenomenon to learn physics. The questions move us to think further and give us the chance to discover new things.



## **Wrap up the session!**



[ 1 ] The following is a summary of the session. Write down the appropriate words in the blanks in the passage. You may use the same words for several blanks.

Everything on the ( **earth** ) which has ( **weight** ) falls because of ( **gravity** ). Gravity ( **pulls** ) things towards the earth. However, we can make things fall slowly by using ( **air** ) ( **particles** ). Paper helicopters with ( **blades** ) fall ( **slowly** ), because the ( **blades** ) catch many air particles. The air particles cause the blades to ( **spin** ) and ( **lift** ) the helicopter. In the experiment with the ( **tumblewing** ), the ( **tumblewing** ) can ( **stay** ) in the air for more than ten seconds. As we walk with a ( **board** ), the ( **tumblewing** ) is hit by air particles and can stay at a high ( **altitude** ) for a long time.