**ACTIVITY: What flies?**

**Activity idea**

In this activity, students discuss what things can fly and how this happens. They work towards identifying some key characteristics of flight.

By the end of this activity, students should be able to:

* identify what can fly and what these things have in common
* suggest some possible definitions of flight and what things might fit into these definitions
* appreciate that a wing structure is needed for many things to fly
* understand that, to sustain flight, the wings must be moving through air.

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**Introduction/background**

Even though birds fly and people have always been able to observe them, it still took thousands of years to work out how to fly. Many things can become airborne, but how do they? What flies? What does it mean to fly?

* Some people have very definite ideas about what it is to fly. They say that, to be actually flying, objects need to be sustained in the air, have controlled movement and have their own power source to provide thrust.
* Others, including some scientists, don’t agree. Some say you don’t need a power source to provide thrust – like hang-gliders that gain forward motion through gravity by angling the hang-glider down slightly.
* Others have a more inclusive view – if it’s moving through the air, it is flying.

In this activity, students consider things that fly and what makes it possible. They look at what flying things have in common. Students will realise that wings are necessary for many things that fly and that flight occurs when they are moving through the air.

**What you need**

* Copies of [flight pictures](#pictures)
* Copies of the article [Flight](https://www.sciencelearn.org.nz/resources/295-investigating-flight-introduction)
* Balloons, feathers, thistledown and other light objects

**What to do**

1. In pairs or groups, ask students to brainstorm a list of everything that flies.
2. Discuss what constitutes flight. What does it mean to ‘fly’? Write down student ideas.
3. Divide the class into small groups, and give each group a set of [flight pictures](#pictures) face down. Explain the activity:

* On the command ‘go’, turn over the cards and sort the pictures into groups.
* You will need to discuss with each other how you will group your flight cards.

1. Give students a time limit, and once the time is up, ask a spokesperson for each group to share with the class how they categorised their flight cards and why. (Categories might be animals/manmade, wings/without wings, doesn’t fly/flies, brief/sustained flight, moves forward in the air/floats/falls and so on. There are no right or wrong ways to group the cards – this activity is to get students thinking about what flies and how this might happen. It will also help focus students on commonalities among things that fly.)
2. Have students look at their original list of things that fly and/or what they consider flies from the flight pictures. List what they have in common. (Possible answers may include wings, a power source or the ability to keep them going, movement, wind or air around them.)
3. Blow up a balloon. How can you make it move through the air? How do dandelion seeds move through the air? What keeps them moving?
4. Ask students to experiment with light objects (balloons, feathers, thistledown, dandelion seeds, tissue paper). Bring out through discussion that these objects need moving air or wind to be airborne and have movement and that the moving air needs to be continuous to keep the object in the air.

**Flight pictures**



