



# Worksheet No.5 – Physics and seed dispersal

The rules of physics apply everywhere - to you now, to astronauts in space, and even to plants. To solve the challenges they face, plants use the laws of physics in clever ways. In this worksheet you'll explore some of the fascinating things plants do to solve one of their biggest challenges - getting their seeds to the right places.

This worksheet should be used with reference to “**Challenge No. 5: Build your own wind-dispersed seeds**”, part of the “Physics & Astronomy at Home” series on the UBC Physics & Astronomy Outreach website at <https://bit.ly/PHASWind>.

## Plants

Why is it important that plant seeds travel far away from their parent plant?

What is a “**botanist**”?



## Weight and Air resistance

If you stand outside and drop something very light (like a feather) and something heavy (like a bowling ball) which will hit the ground first? Why?

If you drop a feather and a bowling ball on the moon, they will hit the ground at the same time. Why is this different than when you drop them outside on Earth?

Why do some plants (like cottonwood) have very light seeds?



## Pressure and Bernoulli's principle

What is pressure? Give an example where you can feel the pressure of air on your body.

Why do many exploding seed pods mostly explode on hot days? (Hint: air tries to expand when it gets hotter)

Take a sheet of paper and hold it just under your bottom lip. Then, blow air out quickly. What does the paper do? Explain why it does this using the ideas of pressure and Bernoulli's principle.



## Your wind-dispersed seed

Draw your wind-dispersed seed below. Label any important parts and describe how it uses the ideas of pressure, air resistance, and Bernoulli's principle to travel on the wind.