

# Drone delivery



Years 7-8  
Years 9-10



Groups of 2



20 minutes

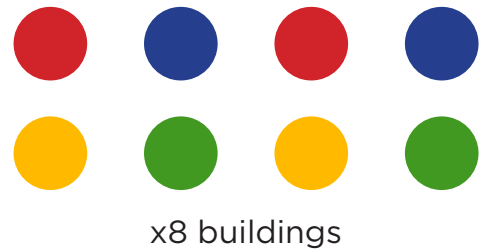
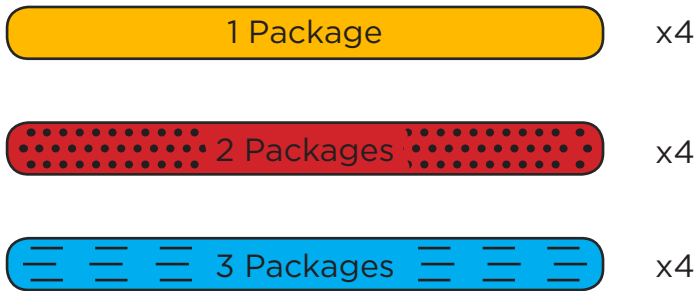


Pens/paper  
A4 graph paper  
12 paddle pop sticks  
(3x4 colours)  
8 counters

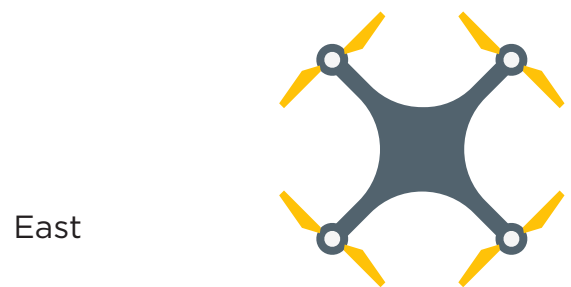
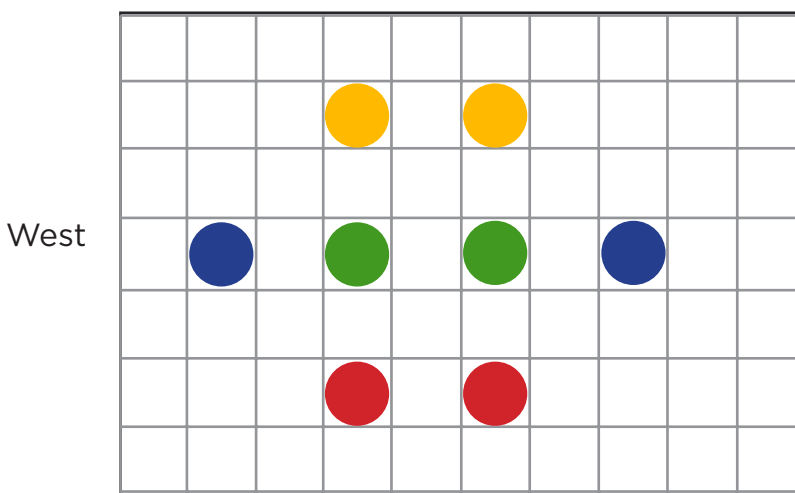
## Student instructions

Design a network diagram for the delivery of the **maximum number** of packages between the **WEST CBD** and **EAST CBD** warehouse.

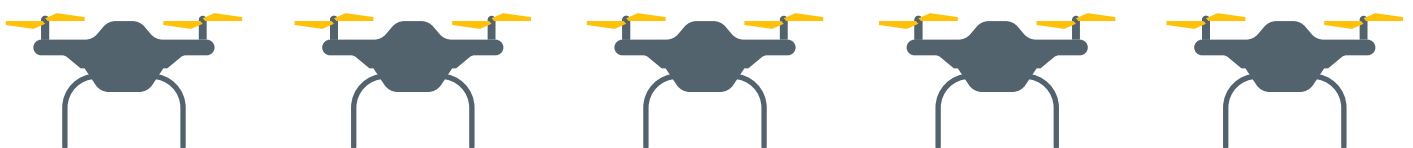
Due to flight regulations this network has a maximum capacity. The colour of the paddle pop sticks indicates the capacity for the flight path.



1. Arrange 8 tokens onto graph paper to represent building rooftops
2. Connect tokens with different paddle pop sticks to represent the direction of drone delivery and the number of packages per pathway
3. Calculate the network capacity (total number of packages from west to east in 1 hour)
4. Change the position of the sticks to try and improve the network capacity



If it takes 5 minutes per flight, how many packages can your network deliver per hour?



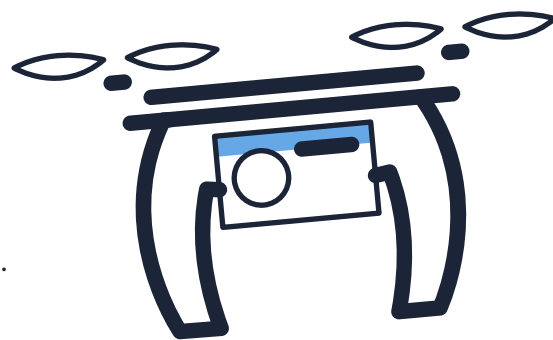
# Drone delivery: extension

## Flying taxis in Melbourne

As Australian cities continue to grow in size, so do the problems involved in moving around our cities. Our current transport networks are limited in their carrying capacity as we rely heavily on roads to move things through our network.

Uber has recently decided to introduce a program pilot for autonomous flying drone taxis from the Melbourne airport to the city as a way of improving the cities transport network.

Drone technology is improving rapidly and is being explored to improve many different networks and their carrying capacity.



## Drone deliveries in Canberra and Logan

Wing, a world-first commercial air delivery business, was launched in Canberra's north in April 2019. The year-long trial will see burritos, medication, coffee, gelato and golfing equipment delivered by drone directly to homes. The air safety regulator Civil Aviation Safety Authority (CASA) needed to consider whether to grant safety exemptions, such as allowing drones to fly closer to people than usual. Wing is also set to launch deliveries in Logan, Queensland in late 2019.

## Want to learn more about drone technology?

For more information and the latest news on drones, visit:

[www.digitalcareers.csiro.au/links](http://www.digitalcareers.csiro.au/links)

Can you come up with an application for a drone in your context?

Use a design thinking process to create your own drone application



Submit your design to YICTE!

[www.youngictexplorers.net.au](http://www.youngictexplorers.net.au)