

## Flight Challenges

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#### Rescue a class of students on a camping trip from a remote lake in Northern Ontario

Requirements:

- Speed > 300 km/h
- Landing gear = water
- Load carrying capacity > 1000 kg
- Maneuverability = medium or high
- Weight < 2500 kg
- Range > 1500 km

Real example of an airplane matching these criteria: The Otter



#### Pick up a mountaineer on a glacier

Requirements:

- Speed > 150 km/h
- Landing gear = skis
- Load carrying capacity > 500 kg
- Maneuverability = high
- Weight < 2000 kg
- Range > 200 km

Real example: The Beaver



### Transatlantic Flight with 400 passengers

Requirements:

- Speed > 800 km/h
- Landing gear = wheels
- Load carrying capacity > 100 tonnes (100,000 kg)
- Maneuverability = low
- Weight < 150 tonnes (150,000 kg)
- Range > 8000 km

Real example: Boeing 747 (the Jumbo Jet)



### Fly passengers with the least amount of fuel per person possible

Requirements:

- Speed > 800 km/h
- Landing gear = wheels
- Load carrying capacity > 15 tonnes (15,000 kg)
- Maneuverability = low
- Weight < 50 tonnes (50,000 kg)
- Range > 12,000 km

Real world example: The Airbus A321neo



### **A private jet for a rock star**

Requirements:

- Speed > 1000 km/h
- Landing gear = wheels
- Load carrying capacity > 2 tonnes (2,000 kg)
- Maneuverability = medium
- Weight < 25 tonnes (25,000 kg)
- Range > 10,000 km

### **Real world example: Bombardier Global Express**

