

## *Helicopters!*

### *Jumping Rivers*

#### *Question 1 - Helicopters*

- a) In teams of 2/3, cut and fold your helicopter into shape.
- b) Time your helicopter falling to the ground from the same height as everyone else
- c) Enter everyone's results into a **pandas** DataFrame called **heli** with two variables, **length** & **time**.
- d) Produce a scatter plot of length against time. What does this tell you?
- e) Perform linear regression with the model  $time = \beta_0 + \beta_1 \times length$ . What is the value of  $\beta_1$  and what does this tell you about the relationship between the length of the helicopter's blades and the time it takes to reach the ground?
- f) Overlay the model line using the fitted values.
- g) What is the residual sum of squares for the fitted model?
- h) Before we time the helicopter with 14cm blades, use your model to predict how long it will take.