

3: TAKE A RIDE BACK IN TIME



Penny Farthing (1870s)



Draisine / Swift-Walker (1820s)



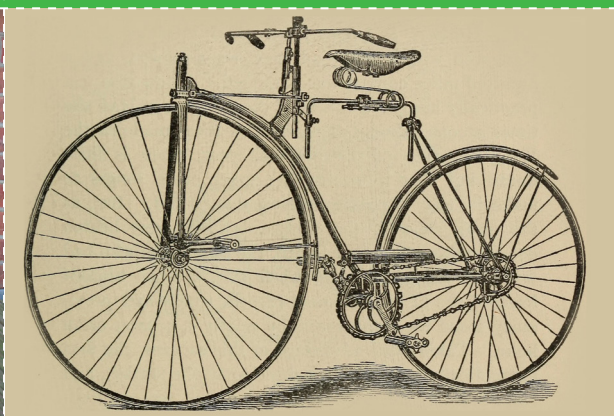
Quadracycle for two (1880s)



Chopper (1970s)

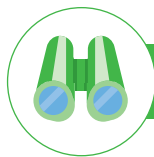


Brompton folding bike (1980s)



Rover safety bicycle (1880s)

6: SPECTATOR SCAVENGER HUNT!



Can you find all these things? Tick the box when you find one



Waving banners



Flags from other countries



Noise makers



Police motorbikes



Police cars



Peloton (crowd of cyclists)



Can you find all these things? Tick the box when you find one



A rush of wind after cyclists go past



Team kit from different countries



Camera crew on motorbikes



Helicopters filming



Support cars full of spare bikes



End of race vehicle

9: EXPLORING DRAFTING

1. Create your 'riders'

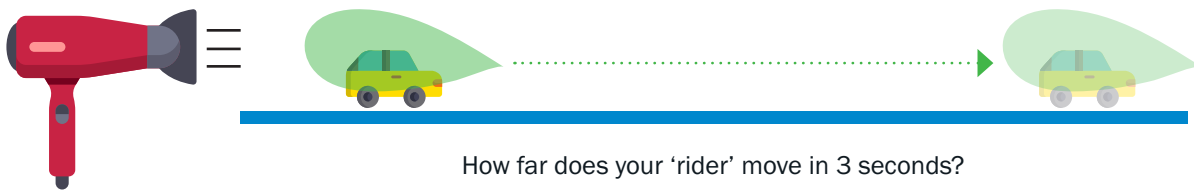


You will need

- toy cars
- card and scissors
- a hairdryer
- tape or staples

- Draw the shapes shown above onto card and cut them out.
- Wrap the card shapes horizontally around the toy cars to create some differently-shaped 'riders', making sure the wheels of your rider are not covered.
- Use tape or staples to hold your 'rider' together.

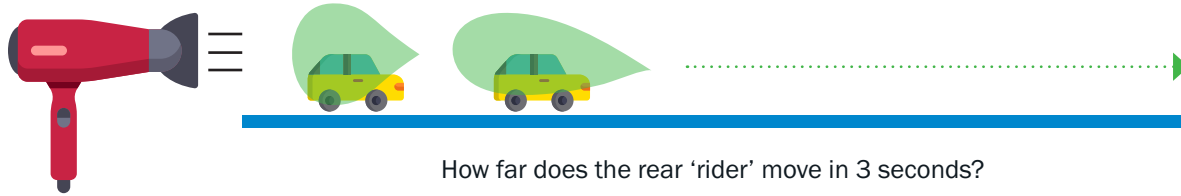
2. Test your 'riders' to find out which one is most aerodynamic



- Make sure it's a fair test:
 - What are you changing?
 - What should you keep the same?
- Create a table for your results.
 - Which 'rider' is the most aerodynamic?
 - How do you know this?

3. Why do riders stay so close together?

- Repeat your test using two of your most aerodynamic 'riders'. Start with one close behind the other. Hold the front 'rider' in place and turn on the hairdryer. How far does the second 'rider' move?



- Increase the starting distance between the 'riders' by 5 – 10cm each time and see how far it moves.
- What does this tell you about why riders stay close together in the peloton (the main body of riders in a road race)?

10: RIDERS AND AIR RESISTANCE

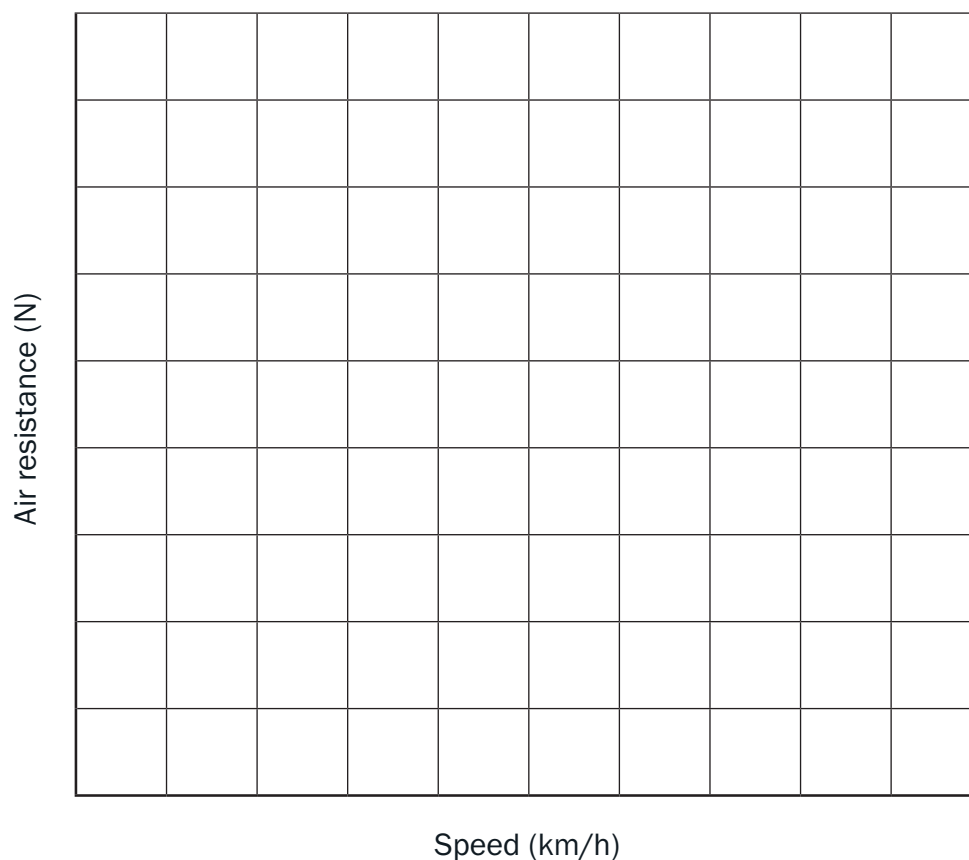
Sketch graphs to show how the air resistance acting on rider 1 and rider 2 varies with speed:

Speed (km/h)	5	10	15	20	25	30
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Air resistance (N)

Rider 1	50	200	450	800	1250	1800
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Rider 2	25	100	225	400	625	900
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What sort of graphs are these?

How can you tell?

What do your graphs tell you about the air resistance acting on rider 1 and rider 2?
