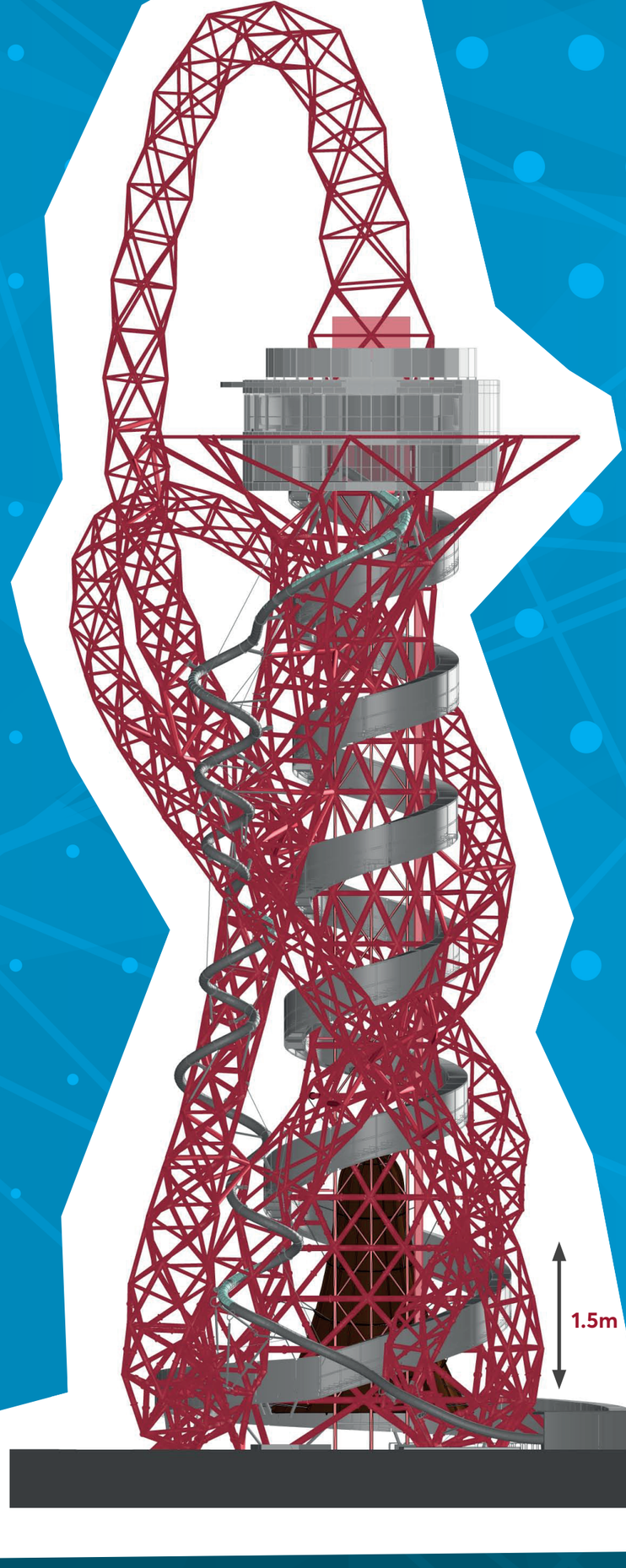
# THE ARCELORMITTAL ORBIT

## QUEEN ELIZABETH OLYMPIC PARK

The ArcelorMittal Orbit is 114.5m tall

The Slide is 178m long




It takes 40 seconds to travel down the Slide

The Slide reaches speeds of up to 15 miles per hour

The Slide has 12 turns

It takes 34 seconds to reach the top platform in the lift

REMEMBER!

Speed = distance/time

Kinetic Energy (KE) = ½ mass (kg) x Speed$^2$

1. What is the approximate fastest top speed in m/s?
2. What is the average speed in m/s (1mph=0.45m/s)?
3. If a person is travelling at 3 m/s at point A of the Slide and 6 m/s at point B, what is the rate of acceleration?
4. What would be your kinetic energy (KE) when reaching the top possible speed (in m/s) if you were to ride the Slide?
5. If the greater the mass the greater the KE, what might happen when different people ride the Slide?
6. Now think of an experiment to test this theory...!

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