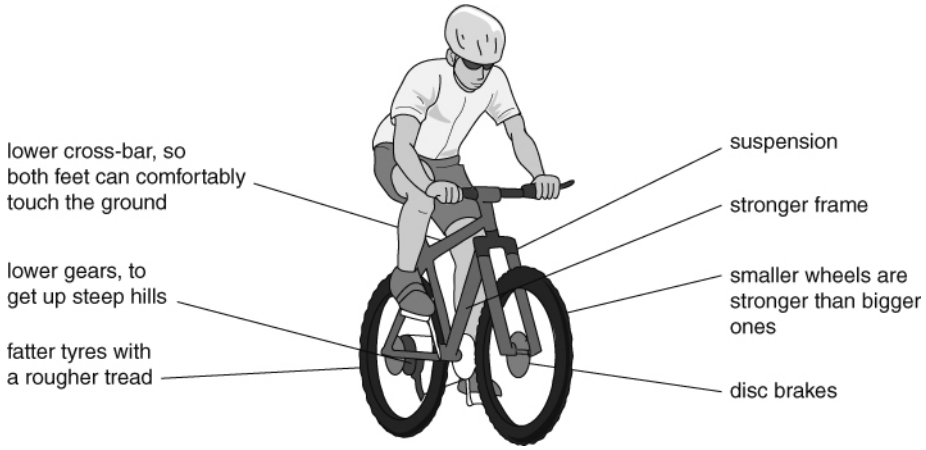
Mountain bikes are used for riding on rough, stony tracks, mud or grass. Mountain bikers can go up and down very steep hills. The drawing shows some of the ways in which a mountain bike is different from a normal road bike. A mountain bike tends to be heavier than a road bike, unless it is an expensive one made from special, light and strong materials.




**1** Why is it an advantage for a mountain bike to have:

**a** a lower cross-bar

**b** suspension

**c** stronger wheels and frame

**d** fat tyres with a rough tread?

**2** Suggest why a mountain bike is usually heavier than a road bike.

**3** Mountain bikes are not as good as road bikes for cycling on roads. Give as many reasons for this as you can.

**4** The brakes on a normal road bike are on the wheel rims, right next to the tyres. Give *one* reason why it is an advantage for a mountain bike to have brakes in the centre of the wheels.

**5** The first bicycle with a chain joining the pedals to the rear wheel (the 'safety bicycle') was built in 1885. Mountain biking only became popular in the 1980s.

**a** Suggest why mountain biking has only become a popular sport in the last 20–30 years.

**b** Optional: Cyclists can use 'wet lube' or 'dry lube' to lubricate their chains. Explain why cyclists need to lubricate their chains, and find out the advantages and disadvantages of each type of lubrication.

**I can...**

- use information to make comparisons
- explain why bikes are designed with differences.