

Student Worksheet

Uphill Struggle



The problem

Jack and Jill have made a luxury double-seater cart, but it is very heavy to push up the hill.

Can you design a way to stop the cart from rolling back down the hill when they stop to catch their breath?

Design brief

Design and make a vehicle that:

- can carry at least 50 g (≈ 1.75 oz) (or approximately 1 weight brick)
- · has a safety feature that does not prevent the vehicle from rolling forwards

1. Make a sketch of the idea you designed and made.



Fishing Rod



Freewheeling



Principle Models Building Instructions booklet for wheels and axles

2. Label the three most important parts, explaining how they work.

3. Suggest three improvements.