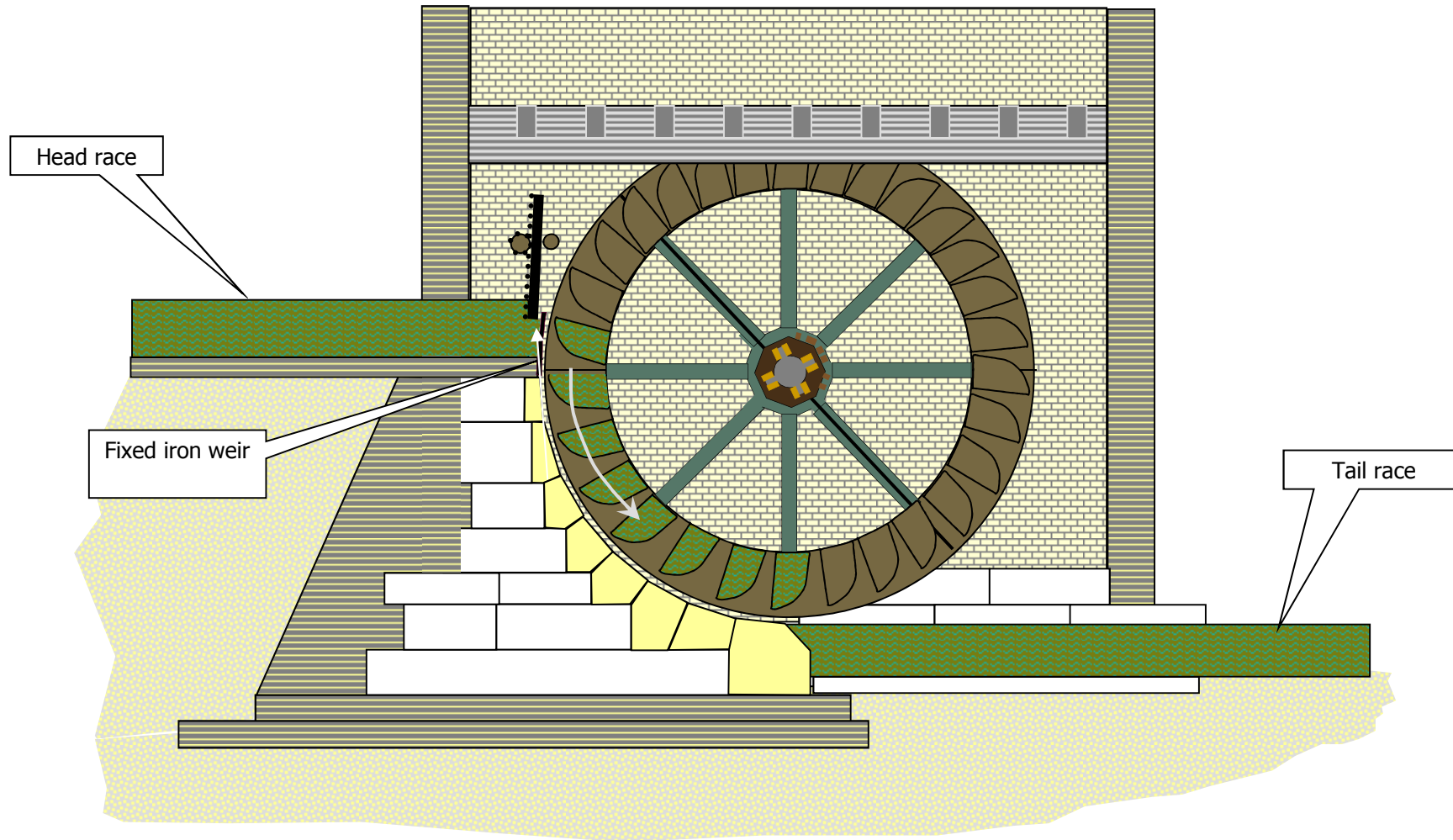


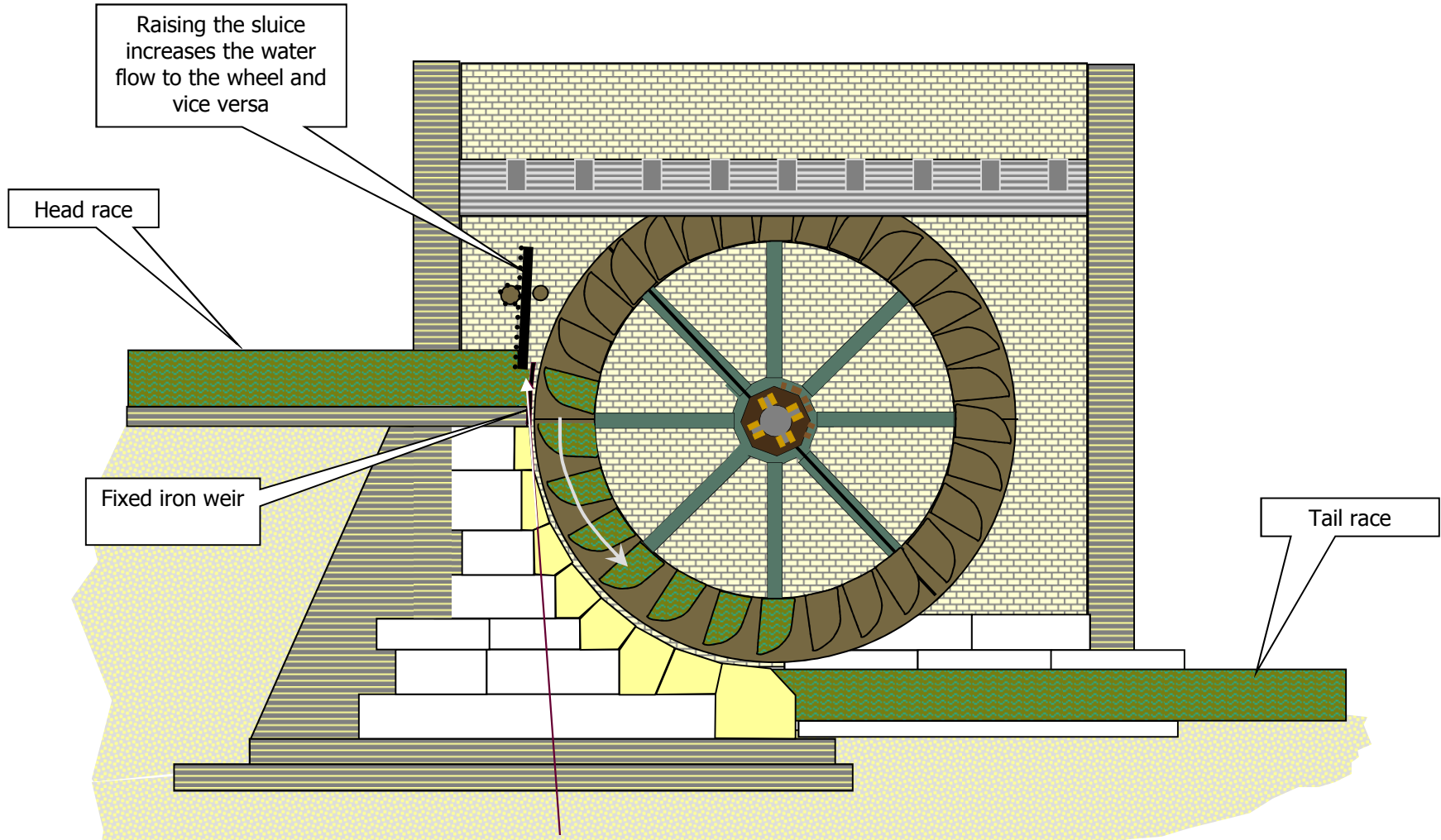


## **School Project Sheet**

# **Combe Mill Waterwheel Free Power**

# *Lower breast shot*





Raising the sluice increases the water flow to the wheel and vice versa

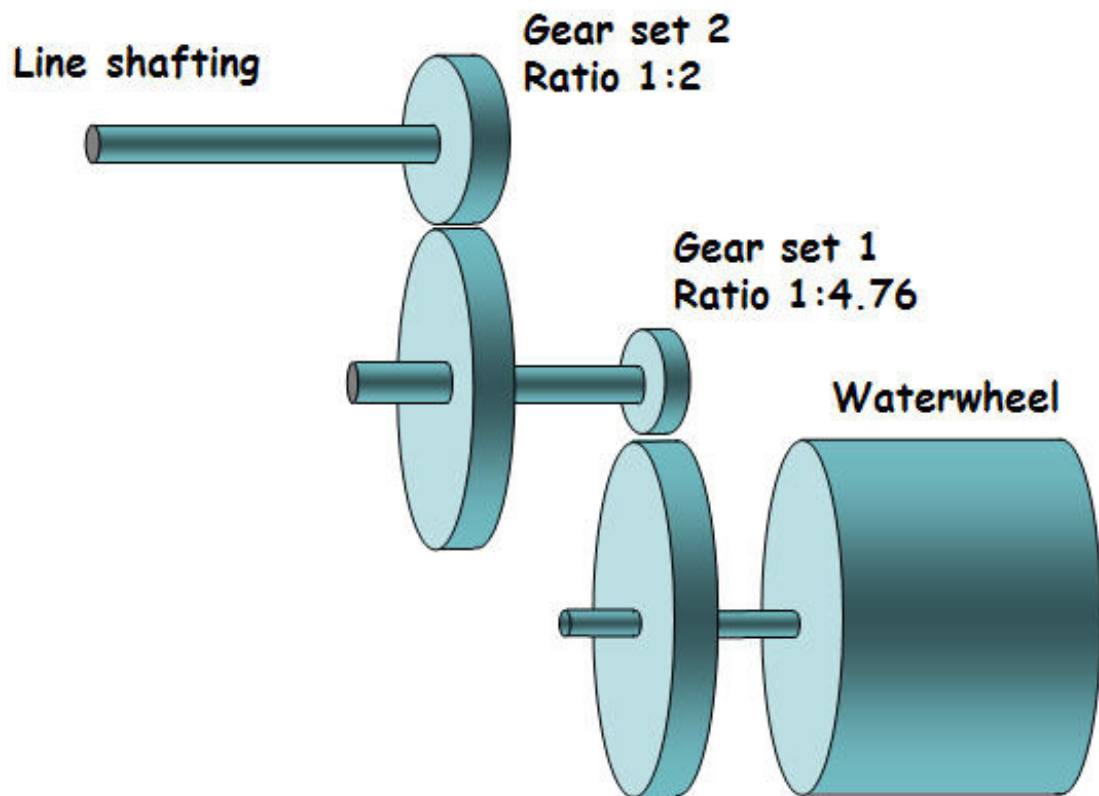
Head race

Fixed iron weir

Tail race

Water flows up between back of moveable wooden sluice gate and front of iron weir. The lower the sluice gate the more the water is slowed down.

***Typical lower breast shot wheel***



**Waterwheel gearing**



## Waterwheel Film Commentary

The waterwheel at Combe Mill was fed by the River Evenlode which formed the channel of water which turns the wheel. This is also known as the head race.

River level was controlled by an upstream lasher. Excess water arriving at the Mill could be diverted by a side sluice. The flow of water through the wheel was controlled by raising or lowering a gate just in front of the wheel. The gate could be adjusted either from inside the sawmill or beside the sluice.

The thirteen foot diameter, eight foot wide metal wheel, runs on an octagonal wooden shaft. The water hits the wheel at just below its mid-point and this type of wheel is called a lower breast-shot.

The waterwheel provided power for the mill machinery and although turning at a relatively low speed of about nine revolutions per minute it was able to supply the necessary power via a series of gear wheels that increase the speed by about ten times to drive the mill's line shafting.