05-02A

Power (Power up lab)

Power

- Power: The **RATE** at which work is being done
- Rate means: divide by time, P = W/t
- Remember, positive work increases PE or KE
- Examples (answers on next slide):

1. How much work do you do to climb 10 stairs in 3 seconds if your mass is 60 kg and each stair is .15 m tall? How much is your average power?
2. How much work do you do to get your 10 kg bike up a 3 m tall hill where your final speed is 6 m/s in 5 seconds (your still the same person as in question 1)?
3. How much work did you do by walking 500 m along a flat track?

Answers to problems

1. How much work do you do to climb 10 stairs in 3 seconds if your mass is 60 kg and each stair is .15 m tall? How much is your average power? 882 J,294 W
2. How much work do you do to get your 10 kg bike up a 3 m tall hill where your final speed is 6 m/s in 5 seconds (your still the same person as in question 1)? (3318 J: 2058 J PE + 1260 J KE)
3. How much work did you do by walking 500 m along a flat track? (0 J, no change in PE or KE)