

Lever Systems Mark Scheme

1. The picture below shows a performer 'taking-off' in the sport of long jump. Identify the type of lever system being used at the ankle joint and outline the fulcrum, load and effort. **(4 Marks)**



Mark One – The lever system being shown at the ankle joint is a 2nd class lever system

Mark Two – The fulcrum is the balls of the feet

Mark Three – The load is the bodyweight through the centre of the foot

Mark Three – The effort is the gastrocnemius

2. A bicep curl is being performed in the image below. Identify the type of lever system being used. Justify your answer. **(2 marks)**



Mark One – A bicep curl is a third class lever system

Mark Two – This is because the effort is in the middle

3. First class lever systems have a mechanical advantage. Describe what is meant by a mechanical advantage. **(2 Marks)**

Mark One – A mechanical advantage is when a large load can be lifted with relatively little effort

Mark Two – $\text{Effort arm} \div \text{Resistance Arm}$

4. Give an example of a first class lever system. **(1 Marks)**

Mark One – Nodding the head **OR** Rowing a boat **OR** Tricep Dip