

Worksheet 1 (Page 1 of 3) – understanding human movement (fill in after discussing each in groups of two or three)

Practical Example:

- Let us use the information about muscle structure you learnt (in slide #12) to figure out how the muscles are used to move your arm
- Feel the inside of your elbow as you bend it repeatedly, you can feel the tendons that connect your biceps muscle to your bones in your forearm. You can actually feel these muscles contract in your own arm! Then feel your biceps muscle as you bend your elbow.
- What happens to your biceps muscle when you straighten your elbow? It's harder to feel your triceps muscle, so if you can't feel it, what do you think is happening to your triceps muscle as you bend and straighten your elbow?

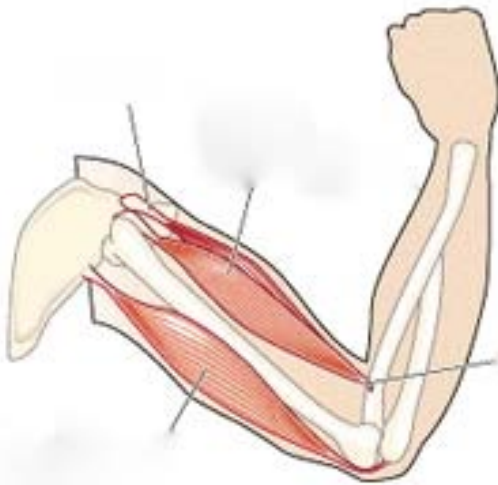
Worksheet 1 (Page 2 of 3) – understanding human movement (fill in after discussing each in groups of two or three)

Fill in the blanks marked by the lines with words from the Word Bank (there are two tendons on each picture):

Word Bank

Tendon
Triceps (relaxed)
Triceps (contracted)

Biceps (contracted)
Biceps (relaxed)



Worksheet 1 (Page 3 of 3) – understanding human movement (fill in after discussing each in groups of two or three)

Application of knowledge

1. In the front of your thigh there is a muscle called the quadriceps muscle. The back portion of your thigh has a muscle called the hamstring muscle. Using what we learned in this worksheet, can you explain how those two muscles are involved in the bending and straightening of your knee?

2. Discuss how humans walk. Note that we typically use about 200 muscles when we just walk and it is a very complex activity. In comparison, robot motion on wheels is much simpler.