bio 230 muscle worksheet # 1

**muscles of facial expression**
1. orbicularis oculi
2. orbicularis oris
3. zygomaticus minor
4. zygomaticus major
5. depressor anguli oris
6. platysma

**Muscles of mastication (insert on mandible/move mandible at TMJ)**
7. masseter
8. lateral pterygoid (deep to masseter)
9. temporalis

**Mover of neck**
10. sternocleidomastoid (deep to platysma)

From cadaver
This is a very thin superficial muscle

Ramus of mandible cut/removed to reveal muscle #8—a deep muscle
Movers of neck: 1. Sternocleidomastoid muscle (anterior muscle)
2. Splenius capitis (posterior muscle - deep to the large trapezius)

1. **Sternocleidomastoid** –
Look at the insertion of the SCM. (mastoid process)
Can you figure out the movement if BOTH SCM muscles contract vs. if only one side contracts?
Remember….insertion moves towards origin.

Draw this muscle using your blank skeleton worksheets.
Feel this muscle when you turn your neck!

2. **Splenius capitus**- (deep to trapezius)
First you need to understand what the
3. **Ligamentum nuchae** is. This is a ligament that runs from the external occipital protuberance along the tips of the spinous processes of the 7 cervical vertebrae. It helps stabilize the neck region.

Look at the origin and insertions of this muscle. Can you figure out the actions of this muscle if both the right and left contract?
If only one side contracts?

When are the SCM and splenius capitus acting as antagonists?

When are they acting as synergists?
The prime mover (agonist) of breathing is the DIAPHRAGM. The diaphragm stops working...that is B-A-D and you will D-I-E.

If the muscle fibers of the intercostals run 90 degrees to one another, would you expect them to be synergists or antagonists to one another?

What is the difference between passive and forced expiration?
See Page 2 of MUSCLE MASTER LIST
Movers of the Vertebral Column

Abdominal muscles: (anterior muscles)
1. external oblique
2. internal oblique
3. rectus abdominis (mid-line muscle)
4. transversus abdominis

Be sure to know the relationship of these muscles to one another (ie superficial, deep etc.)

Which abdominal muscle is the deepest?
The Rectus abdominis is on the same level as which muscle?

5. **Linea alba** (white line) is a narrow tendinous sheath that runs along the middle of the abdomen from the xiphois process to the pubic symphysis. It is formed by the fusion of the **aponeurosis (6)** of the anterior abdominal muscles.

Notice the direction of the muscle fibers!
Oblique, Transverse and rectus (straight)

We will see these muscles and their aponeurosis clearly when we view the cadaver.

These are anterior muscles and when both sides contract produce flexion of vertebral column. Lateral flexion and rotation of vertebral column produced when one side of the muscle contracts.

**NOTE:** Transversus abdominis **DOES NOT**
Flex vertebral column And does not laterally flex or rotate vertebral column.

All fours muscles aide in Forced expiration! (and hold in your abdominal organs!)
Can you feel them when you blow out your birthday candles!
Vertebral column movers continued

**Erector Spinae Group (posterior muscles)**
(extenders of vertebral column)
you do not need to know the 3 individual muscles that make up this group. These are very deep muscles. Know where they are located on your classroom chart and their action as a group. We may see them on our cadavers.

This group of muscles are antagonists to which muscles?

Be sure you know all the locations and actions of the muscles on this worksheet. Then move on to worksheet # 2.