

Student work sample: Stretches

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For students who have been exposed to nonfiction texts throughout their elementary education, the move to more sophisticated research is not a big leap. In Paul Niles' eighth-grade science class, students use informational texts as sources for independent projects. This student project links the study of anatomy and the muscular system to a personal stretching program.

Cobra Stretch:

The cobra stretch stretches my abdominal muscles while lengthening and loosening my spine and lower back. The abdominal muscles I am stretching are my Rectus Abdominus and my Internal and External Obliques (see figure 22). My Rectus Abdominus is the muscle located on the front of my torso that flexes my torso. That means that it either brings my rib cage towards my pelvis, (like if I were to do crunches) or brings my pelvis towards my ribcage (like if I were to raise my leg). However, in the cobra stretch, I am not flexing my spine. I am doing the opposite of flexing which is extending. Since I am moving my Rectus Abdominus in a way opposite of the way it normally moves, I am stretching it. My Internal and External Obliques are the abdominal muscles located on the side of my torso. They are used to flex and rotate my torso. Like the Rectus Abdominus, they are being stretched because I am extending my torso which is the opposite of the way my Internal and External Obliques usually move.

Specific Analysis:

When I perform these stretches to increase my flexibility, I am stretching my sarcomeres. The sarcomere is the basic unit of striated muscle. (Striated muscle is the most common type of muscle in the human body. It is voluntary which means that it can be controlled. This is different than involuntary muscles that work automatically, such as the ones that assist in the breathing process.) Every muscle in my body is made up of multiple bands of muscle fibers. My muscle fibers are made of even more smaller

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