PE 1- Assignment #4

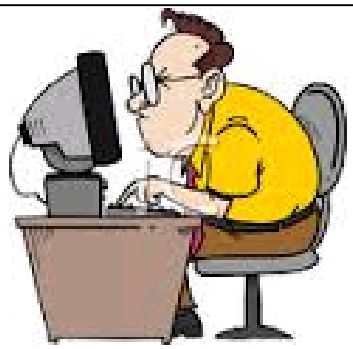
Name: _____

Per:_____ Date: _____

Teacher:_____

PICTURE THIS!

Take a look at the pictures below and write down what you see. Be as specific as possible. Think about who/what/where/why



As a class discuss your findings:
Record any observations that were different than yours.

<u>Read the text and answer the following questions:</u>
Why did they use these images?

How does this help you understand the text?

FLEXIBILITY:

Flexibility is the ability to move your joints through a full range of motion (R.O.M.) A joint is a place in the body where two or more bones meet (ex. Femur and tibia=knee joint). The best known joints include the ankles, knees, and hips in the legs; the knuckles, wrists, elbows, and shoulders in the arms; and the joints between the vertebrae in the spine. Some joints, such as the knees and elbows, work like a hinge, permitting movement in only two directions (flexion and extension). Other joints, such as the hips and shoulders, work like a ball and socket, allowing movement in all directions. R.O.M. is the amount of movement you can create at a joint (ex. How far that joint can "go")

Muscle Functions:

- Flexion: bending the joint
- Extension: straightening the joint
- Rotation: twisting or turning
- Abduction: movement away from the midline (raising your hand in class)
- Adduction: movement towards the midline

Flexibility can help your body reach its optimum fitness level and may play a role in injury prevention.

(RealSimple.com) -- You've managed to make it to spinning class (for the second time this week!), but as soon as the instructor starts the cooldown, you head for the door. Hold it right there. Turns out, stretching is just as important as getting on the bike in the first place. Although countless studies have shown how beneficial exercise is for your body and mind (it may do everything from reducing the risk of some cancers to helping improve memory), less attention has been paid to flexibility.

Doctors and physical therapists agree that it's a vital part of keeping your body fit and able. "Flexibility is one of the pillars of fitness, next to cardiovascular conditioning and strength training," says David Geier, the director of sports medicine at the Medical University of South Carolina, in Charleston, and a spokesperson for the American Orthopaedic Society for Sports Medicine. In fact, flexibility can help your body reach its optimum fitness level, may play a role in injury prevention, and can even contribute to staving off conditions like arthritis and more serious illnesses.

Here's how it works: When you stretch a muscle, you lengthen the tendons, or muscle fibers, that attach it to the bone. "The longer these fibers are, the more you can increase the muscle in size when you do your strength training," says Geier. That means that a more flexible muscle has the potential to become a stronger muscle, too. In turn, building strong muscle fibers may boost your metabolism and your fitness level. Flexible muscles also make everyday activities easier on your body and may decrease your risk of certain injuries.

Common behaviors, such as hunching over the computer, can shorten some muscles. That, along with the natural loss of muscle elasticity that occurs with aging, can set you up so any quick or awkward motion (lunging to catch a glass before it teeters off the table, for example) could stretch your muscles beyond their limit, resulting in a strain or a tear. "Even if you're aerobically fit, it helps to be limber, too, so your body can easily adapt to physical stressors," says Margot Miller, a physical therapist in Duluth, Minnesota, and a spokesperson for the American Physical Therapy Association. What's more, stretching may improve your circulation, increasing blood flow to your muscles. And having good circulation can help protect you against a host of illnesses, from diabetes to kidney disease.

How to get -- and stay -- flexible

First off: How flexible do you need to be? Not as much as you might think. Sliding into a split may be a good party trick, but it's not necessary to living a healthy life.
The general rule of thumb is, you need to be as flexible as your lifestyle dictates, For example, in the world of sports, long-distance runners are known to be notoriously inflexible. But that's okay, because their bodies don't need a lot of flexibility to move forward in a relatively straight line. A gymnast, on the other hand, needs a lot of flexibility to be able to flip and tumble without injury. The rest of us need a level of flexibility that's somewhere in the middle. To increase your flexibility, start with about 10 minutes of stretching a day, focusing on the major muscle groups: upper body (arms, shoulders, neck), back, and lower body (thighs, calves, ankles).
Then, depending on how you typically spend your time, focus on specific stretches for problem-prone areas. So if you're pretty much parked at a desk from nine to five, you'll want to give extra attention to your lower back and shoulders. If you're on the move – playing sports or other activities, concentrate on your hamstrings and arms.

If you don't have 10 minutes a day to spare, stretching just a few times a week can be nearly as beneficial. In fact, that may be enough to help you stay supple once you've gotten there. A study published in the "Journal of Strength Conditioning and Research" found that after stretching every day for a month, participants who went on to stretch just two or three times a week maintained their degree of flexibility. Of course, you may find that stretching becomes one of your favorite parts of the day. Since you need to focus on even, deep breathing while listening to your body, stretching is a great relaxation or even meditation break. "The more you do it, the more you will get out of it -- both physically and psychologically," says Geier.

Time for Action: Warm up your muscles before you begin with a short walk, light activity, or some jumping jacks. For each move, breathe out as you stretch. "You want a slow, smooth, and controlled movement." says physical therapist Margot Miller. As you ease into each stretch, you'll feel the muscles relax a bit -- that's due to increased blood flow. Only move to the point of resistance; the stretch should not hurt. Be careful not to bounce, which can cause tiny injuries to the muscles.

Try It NOW!

For your upper body: Especially helpful if you sit at a desk all day, need to work on your posture, or carry tension in your upper body.

1. Place your hands on the back of your head and gently push it forward with your chin tucked. Hold for five seconds.
2. Now place the heels of your hands on your chin, fingers pointing toward your ears. Gently push your head back. Hold for five seconds.
3. Rest your right hand on the top of your head and gently press your right ear toward your right shoulder. Hold for five seconds. Repeat on the other side.
4. Raise your arms and clasp your hands above your head; imagine lifting and lengthening your spine. As you bend to the left, release your hands. Grasp your right elbow with your left hand and pull it to the left. Hold for five seconds. Come back to the center and repeat on the right side.

Test Your Flexibility

Test your tight spots and learn how to loosen up muscles with this flexibility guide. Take our expert test to find out exactly how limber you are and get the fix for areas where you come up short. Try again next month to see how far you've stretched your limits.

Shoulders and chest flexibility test

With left hand, hold a ruler so left thumb is just at the one-inch mark. Bend left arm behind back so ruler points toward head. Now reach right hand up and over right shoulder, grabbing ruler as close to left hand as you can. To measure, pull ruler up with right hand without moving fingers. Write down the number your right hand has reached and subtract an inch to get the results for the left shoulder. (You can also try this test without a ruler to see if you can touch or clasp hands.)

Repeat to the right side:

	LEFT	RIGHT
Good: Hands touch or are within 3 to 5 inches of each other.		
Fair: Hands are within 6 to 8 inches of each other.		
Poor: Hands are more than 8 inches from each other.		

Oblique flexibility test

Stand with feet hip-width apart with your back and butt (and heels, if possible) against a wall. Reach left arm up and overhead against wall as you side bend to the right; slide right hand down thigh toward knee. Have your partner measure how far down your leg your hand reaches while you keep your shoulder blades flush with wall.

Repeat to the right side:

	LEFT	RIGHT
Good: Fingertips are at mid-knee or lower.		
Fair: Fingertips are at top of knee.		
Poor: Fingertips are higher than knee.		

Hamstring and Lower Back flexibility test

Sit on floor with back and head against wall, legs extended, knees pressing against floor, feet flexed. Rounding the spine, extend arms toward toes by hinging forward at hips.

Good: Hands can reach your ankles or feet.	
Fair: Hands can reach your mid-shin or just above ankle.	
Poor: Hands can reach only to area between your knee and mid-shin.	

Hamstring Flexibility test

Lie face up on floor and lift right leg 90 degrees . Left leg should remain straight on the ground. Try to straighten right knee .

Repeat with left leg

	LEFT	RIGHT
Good: Leg is straight.		
Fair: Knee is bent 20 degrees.		
Poor: Knee is bent more than 20 degrees.		

Hip Flexibility test

Stand with feet hip-width apart, left hand holding the back of a chair for balance. Bend right knee 90 degrees up to hip height, then bring it out to right side.

Repeat with the left leg

	LEFT	RIGHT
Good: Thigh is parallel to floor; knee is directly out to the side.		
Fair: Thigh is parallel; knee is slightly in front of body.		
Poor: Thigh is lower than parallel; knee is slightly in front of body.		

Adductor Flexibility test

Sit on floor with knees bent, legs together and feet flat. Lower your knees out to the sides as far as possible while keeping soles of your feet together. Clasp feet with both hands and pull heels as close to body as possible. Measure the distance between your heels and your body.

Good: Heels are 4 inches from your body.	
Fair: Heels are 5 to 8 inches from your body.	
Poor: Heels are 9 or more inches from your body.	

Gastrocnemius (calf muscle) Flexibility Test

Sit on floor with legs extended, feet flat against a wall, arms by sides with palms down. Without moving heels away from wall, flex left foot so that toes point toward body.

Repeat with right foot

	LEFT	RIGHT
Good: Ball of foot moves more than 2 inches from wall.		
Fair: Ball of foot moves less than 2 inches from wall.		
Poor: Can't get to 90 degrees with knee straight.		

RESULTS: Give yourself 3 points for every “Good” rating
2 points for every “Fair” rating and 1 point for every “Poor” rating. TOTAL SCORE:_____

30-36= Loosey Goosey!

22-29= It’s a stretch…

12-21= Knot so good

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USING THE INFORMATION FROM THE TEXT- complete the information below

Muscle Function:

List, define, and give an example of each of the muscle functions discussed in the text:

Function:	Definition:	Example:
Rotation	Turning, twisting	Turning your head to look behind you

(**MIDLINE= imaginary vertical line dividing the body into right and left halves)

What does the acronym R.O.M stand for?_____

What does it MEAN?

Joints:

Type of joint	Function	Example:
Pivot	Rotation	Intervertebral

List three benefits to increasing your flexibility;

1.

2.

3.

Explain how increasing flexibility can affect your muscle strength.

1. Briefly describe the FITT formula (from assignment #2)

2. Johnny (the couch potato) decided to get off the couch and get into FITNESS! We recommend that he starts by increasing his flexibility before attempting any cardio and strength training. Using the FITT formula and information from the text, make a plan to help Johnny get started on the road to improved fitness.

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3. Unlike Johnny, Jenny the Gymnast is already very flexible, or at least she was. Jenny recently injured her hamstring but needs to get back in shape for a big meet coming up. Using the FITT formula can you help Jenny get back ready for the big meet?

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PE 1- Assignment #5- Anatomy

Name: _____

Per:_____ Date: _____

Teacher:_____

FLIP IT:

MUSCLE IDENTIFICATION

Label the muscles listed below on the diagram before the next class period. You may use any credible outside resource.

Anterior (Front)

- Deltoid
- Rectus Abdominis (Abdominals)
- External Obliques
- Pectoralis (major)
- Quadricep
- Trapezius
- Bicep (brachii)
- Adductor longus (Groin)

Posterior (Back)

- Trapezius
- Deltoid
- Latissimus Dorsi (Lats)
- Gluteus(maximus)
- Tricep
- Gastrocnemius
- Hamstring