HCPS Physical Education
Weight Training 1 -1501340 Content Review

Muscles: Name, where they are located, exercise examples:

- Biceps (upper arm) - dumbbell curls (upright)
- Quadriceps (front of thighs) - leg extensions
- Deltoids (shoulder) - standing military press
- Hamstrings (back of thigh) - leg curls
- Trapezius (between neck and shoulder) - standing military press
- Triceps (back of upper arm) - triceps extension, dips
- Pectorals (chest) - dumbbell butterflies
- Abdominals (stomach) - curl ups (bent knee)
- Gastrocnemius (back of lower leg) - heel raises
- Latissimus Dorsi (back) - wide grip downs

Benefits of Weight Training:
- Improves flexibility, muscular strength and endurance and posture.
- Increases metabolism
- Increases self confidence
- Healthier skeletal system
- Improved athletic performance

Designing a Weight Training Program
- Increase the weight periodically (overload) to increase muscular fitness.
- A complete weight training workout can be accomplished in 30-40 minutes.
- Muscles should have 48-60 hours of rest between workouts.
- After weight training you should cool-down to burn off lactic acid.
- It will take 2-3 months after beginning a weight program to see results.
- A comprehensive weight training program challenges 2 foundational thresholds: Physical Thresholds and Psychological Thresholds allowing for progressive physical and mental/emotional/social growth
- FITT – Frequency, Intensity, Time, Type Basic Fitness Training Principles

Principles of Training – applied to components of FITT Principle by various methods
- Overload – to do more than you are used to
- Progression – to advance, increase, or move forward
- Specificity – to reach a certain goal, or training for certain attributes of athletics

Cardiorespiratory Fitness: The ability of the heart, lungs and circulatory system to supply the nutrients necessary for prolonged work.
- The resting heart rate in a normal person should be approximately 70-80 BPM.
- You should train for cardiorespiratory fitness at least 3 times per week.
- Aerobic exercise is activity that gets your heart rate to the target level.
- Working out gives you less chances of cardiovascular disease.

Nutrition:
- Five food groups according to USDA MyPlate are milk, meat, fruit, vegetables, and grains
- Proper Diet greatly affects a person’s health.
- Proteins help develop muscles, tendons, and nerve tissue.
- Carbohydrates are your main source of energy, and should be majority of diet.
• Balanced Diet is very important for increasing muscular strength.
• Water helps to control body temperature, aids in eliminating waste.
• The meat group supplies protein, niacin, iron and thiamin.
• Vitamins are the safest supplements.

Consumer Issues:
• Use resources such as the internet, public library or your teacher.
• A common misconception about weight training is that it results in loss of fat.
• Personal Fitness Programs should be adjusted according to personal goals and objectives.
• The best method for weight/fat loss is diet and an exercise program.

Safety/Spotting:
• Do not work out alone.
• Warm up properly to prepare joints and muscles.
• Exercise your larger muscle groups first.
• Wearing a shirt at all times will prevent the spread of infection.
• When lifting maximal loads on the bench press or squat, use three spotters.
  ➢ Squat: Male - both arms firm on torso hands on chest, Female – Hands directly next to and against shoulders while lightly gripping the bar, 2 spotters on each side
  ➢ Bench Press: 1 behind, 2 on each side of bar.
• Bench press: hands should be placed 2-3 inches wider than shoulders
• Proper breathing on the bench press and squat is, inhale - down, exhale - up.
• Return weights back to the tree when finished with them.
• Bars and machines should be cleaned and disinfected once a week.
• Muscle groups need 48 – 72 hours of rest between intense resistance training sessions.
• Individual muscle groups should be trained between 2 and 3 days per week depending on program design.

Injury Prevention:
• Don’t lift above capabilities.
• Be sure equipment is not damaged or broken.
• Drink water: 16 oz. for every 1 pound of weight loss after a workout.
• Lift with the legs when lifting free weights off the floor or weight loading.
• Wear proper attire including shorts, shirt, and shoes.
• Lift through a full range of motion: to improve flexibility.
• Weight training will strengthen injured joints or muscles.

Weight Training Terminology:
• Atrophy: when weight lifting stops the muscles lose size
• Circuit training: timed program that rapidly moves you from one exercise to another
• Dumb bell: fixed hand weights on a bar 18 inches long
• Muscular Endurance: light weights and many reps (circuit training, 12 – 20 reps)
• Muscular Strength: heavy weights and few reps (pyramid 8-6-4-2)
• Negative Workout: a focus on the eccentric contraction of a lift, resisting weight down with spotter assisting weight up
• Principles of Training: overload, progression, specificity
• Repetition: lifting an amount of weight one time. (approximately 6 seconds)
• Set: a group of repetitions
• Universal Gym: has up to 16 different stations
- Weight Tree: used for storage of the weight plates
- Psychological Threshold: Mental/Emotional ability to perform physical activity, tolerance of intensity as it relates to discomfort
- Five Foundational Biomechanical movements of weight training: Squat, Press, Pull, Hinge, Carry
- Physical Thresholds: Physical performance abilities based on coordination, muscular strength, muscular endurance, and cardiorespiratory fitness
- Concentric Contraction: shortening contraction of a muscle group, “positive” of lift
- Eccentric Contraction: lengthening contraction of a muscle group, “negative” of lift

**Warm-ups:**
- Example: jogging for 5-10 minutes then stretching 15-30 seconds each stretch.
- Ballistic (bouncy) stretching should be avoided.
- Dynamic Stretching is healthy controlled ACTIVE stretching
- Static Stretch: no movement and position holds for 15-30 seconds
- Three components of a work-out: warm-up, workout, cool-down