

# *JUNIOR SENIOR PHYSICAL EDUCATION*

## *ARCHERY*

## *SOFTBALL TABLE TENNIS*

## *TEAM HANDBALL TENNIS ULTIMATE FRISBEE*

## *VOLLEYBALL WEIGHT TRAINING*

### **Archery**

#### **SAFETY**

- Obey all commands given in class.
- Always check equipment before starting to shoot.
- Do not draw the bow when anyone is between you and the target area.
- Shoot only at the target. Never shoot in the air on in any direction that might destroy property or endanger life.
- Always be sure that the areas in back of the target is clear or has an adequate backstop.
- Never allow anyone to retrieve arrows until all arrows have been shot.
- Do not overdraw the bow.
- Do not dry-fire the bow (release a fully drawn bow without an arrow.)
- Wear an arm guard and finger tab to prevent injury.
- Do not wear bulky clothing or dangling jewelry when shooting.
- No fooling around or horseplay on the shooting line.
- Never run with arrows in your hand. Always point them toward the ground.

#### **TERMINOLOGY**

- *End*- six arrows, which are shot in succession from the same distance.
- *Nocking Point*- the point on the string at which the nock of the arrow should be placed.
- *Perfect End*- six consecutive arrows shot in the gold.
- *Round*- another name used to describe a definite number of ends at specific distances.
- *Tackle*- an inclusive term for archery equipment.

- *Fistmele*- the distance between the bow belly and the string; approximately 6 to 7 inches.
  - *Grouping*- a cluster of arrows, which have landed approximately in the same place on the target.
  - *Fletching*- the feather of an arrow, usually three.
  - *Crest*- colored marks on the arrow usually used for identification.
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- *Shaftment*- that portion of the arrow from the neck through the crest.
  - *Serving*- the winding of the string around the center of a bowstring and its loops to protect it from wear by the fingers, arrow nocks, and bow nocks.
  - *Index Feather*- the feather at right angles to the nock. It should be perpendicular to the bow when the arrow is being shot.

### **SCORE**

9 points-Gold

7 points-Red, or an arrow that goes completely through, or bounces off.

5 points- Blue

3 points- Black

1 point- White

0 points- Petticoat

### **THE SEVEN BASIC STEP OF ARCHERY**

1. **THE STANCE:** Stand at a 90-degree angle to the target. Feet spread comfortably apart (about 18").

Weight should be equally distributed on both feet. Right-handed shooters should hold the bow in their left hand.

2. **NOCKING THE ARROW:** Nock the arrow on the serving area of the bowstring under the nocking point and grasp the string with your index finger below it. The string should be held in the first joints of these three fingers.

3. **THE DRAW:** Fully extend your bow arm toward the target, rolling the bowstring slightly in your string fingers to keep the arrow on the plate. **DO NOT SQUEEZE THE ARROW OR HOLD THE BOW TIGHT.**

4. **THE ANCHOR:** Anchor the string hand firmly against your face so your head is in the same place in

relation to the bow and arrow on every shot. The most common anchor point is the index finger of the

string hand in the corner of the mouth. The chin is kept parallel to the ground.

5. AIMING: It is necessary to hold two or three seconds to be sure that the point of the arrow is directly on the point of aim.

6. RELEASE: Quickly open your string hand and let the arrow go. The string hand follows back to the ear. A smooth relaxing release is one key to good shooting.

7. FOLLOW THROUGH: Keep your eyes on the target and try to hold the bow arm and hand near the face for a few seconds to check for mistakes.

## **Softball**

### THE GAME

- One complete inning consists of both teams finishing their term at bat (3 outs each= 6 outs).

- The home team bats last.

- A complete game consists of 7 innings, but seven complete innings do not need to be played if the home team is ahead after the visiting team bats in the top of the seventh.

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- If the batter incurs 3 strikes, he/she is out, but if he/she acquires 4 balls, he/she gets to go automatically to first base.

- The pitcher must throw the ball underhand and must start his/her pitch with at least 1 foot in contact with the pitching rubber.

### PLAYERS AND SUBSTITUTIONS

- A team consists of 9 players (fast pitch) and 10 players in slow pitch-pitcher, catcher, first, second, and third basepersons, shortstop, left, center, and right outfielders. Slow pitch adds the short fielder (in center field) as the 10<sup>th</sup> player.

- Any team needs the 9 or 10 players necessary to start or continue a game.

- Substitutes may be used, but if the starting player is removed, they may reenter once for the player that substituted for them.

### BATTING

- A foul ball is called a strike unless the batter already has 2 strikes in fast pitch. In slow pitch, a foul ball is called an out after 2 strikes.
- A fly ball caught in fair or foul territory is an out.

## BASERUNNING

- Fast pitch: when attempting to steal a base, a runner may not leave the base until after the ball leaves the pitcher's hand.
- Slow pitch: no stealing allowed.

## FACTS

- Fast pitch pitchers have been clocked at 98 mph (about the same as in baseball)  
Pitching distance: FP=43 ft SP=46ft  
Base distance: FP=60 ft SP=65 ft
- A game is legal after 4 ½ innings (it may be cut short due to weather).

## TERMS

- *Base on balls*- when 4 balls are called on a batter (walk)
- *Beat out*- to reach a base on a slowly hit ball or to bunt safely
- *Blocked ball*- a batted or thrown ball which is interfered with by someone or something not officially in the game.
- *Clean up*- the 4<sup>th</sup> hitter in the batting order, usually the best/strongest batter and must be able to bring runners home
- *Count*- the number of called balls and strikes on a batter
- *Crowding the plate*- standing close to the plate
- *Cut*- to swing at the ball
- *Diamond*- the area of the field formed by 4 bases
- *Double play*- 2 outs resulting from one batted ball
- *Error*- a defensive misplay
- *Fair ball*- any legally batted ball which is touched or which stops in fair territory between home and first, and home and third base, or which lands in fair territory and does not cross the foul line until after it passes first or third base
- *Force out*- an out occurring when the defensive player in possession of the ball merely touches that base before the runner who must move to that base because of the batter becoming a runner
- *Full count*- 3 balls and 2 strikes on a batter
- *"Lay one down"*- to bunt
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- *Line drive*- a batted ball that travels in a straight line
- *On deck*- refers to the player next up to bat after the batter up hits safely or is put out
- *Overthrow*- to throw about the baseperson or fielder's head

- *Pinch hitter*- a substitute hitter; so named because they are usually put in when a team is losing or in a “pinch”
- *Sacrifice*- advancing a runner by forcing play only on the batter
- *Square around*- when bunting, it means to turn the body in the batter’s box to face squarely to the pitcher
- *Walk*- occurs when four balls are called on the batter; batter is then entitled to go to first base (base on balls)

## TABLE TENNIS

### HOW TO KEEP SCORE IN TABLE TENNIS

GAMES ARE NOW PLAYED TO 11 POINTS NOT 21!

HERE’S HOW:

1. Preliminary matches are often the best of 5 games. CHAMPIONSHIP matches are often the best of 7 or 9 games.
2. After deciding the serve (flip of coin), each player will serve TWO points each.
3. If a player serves a net ball (called a ‘let serve’), the point is replayed. (There are no limits to the number of let serves a player may serve.)
4. The server in singles can serve anywhere: short, long, straight, or crosscourt. Only in doubles do you have to serve diagonally from your right court to the opponent’s right court.
5. If you volley the ball while it is still above the table surface, you lose the point.
6. If you move the table, or touch it with your free hand, during the rally, you lose the point.
7. If you or your clothing touches the net or post during the rally, you lose the point.
8. If you hit the ball twice in succession, you lose the point.
9. If your shot hits a wall, the ceiling, or misses the opponent’s side of the table, you lose the point.
10. Change ends of the table after each game.
11. The player who serves at the beginning of a game is the receiver at the beginning of the next game.
12. After the first player scores the 5<sup>th</sup> point in the final game of the match, change ends. If you forgot to change at 5, then change as soon as you realize it.
13. If your opponent distracts you by talking or yelling while the ball is in play, play a let.
14. At 10-10, the score is called “Deuce”. A player must then win by 2 points. Alternate serves until

one player has a 2-point lead.

15. Shake hands after every match to show good sportsmanship.

## HOW TO SERVE IN TABLE TENNIS DOUBLES

### HERE'S HOW

1. Larry Looper and Sammy Smasher won the toss and are serving to Charlie Chopper and Peter Pusher.
2. Larry will serve the first two to Charlie. Remember all serves must be delivered crosscourt from the right side of the table.  
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3. After Larry's two serves are completed, Charlie becomes the server and Sammy the new receiver.
4. When Charlie is done with his two, Sammy takes over the serve and serves to Peter.
5. Peter follows with the final set of serves to Larry and then the teams are back to the original order.
6. At deuce the order will change after every point.
7. Also once a team reaches 5 point in the final game of the match (the 3<sup>rd</sup> game in a 2/3, 5<sup>th</sup> game in 3/5, 7<sup>th</sup> game of 4/7, etc) the server stays the same but the receiving team changes receivers. This is to ensure that both orders get equal time.
8. Game 2 starts with either Charlie or Peter serving against the player that didn't return their serve in the first game returning.
9. Game 3 starts with either Larry or Sammy serving against the player that didn't return their serve in the second game returning.

## HOW TO SERVE LEAGALLY IN TABLE TENNIS

### HERE'S HOW

1. Stand on your side of the table with the ball in your non-racket hand.
2. Place the ball in the center of your palm.
3. Be sure your hand is higher than the table surface and behind your end line.
4. Keep the ball above the table's surface at all times during the serve.
5. Toss the ball upwards a minimum of six inches.
6. Remove your free hand/arm immediately to the side of your body to allow your opponent a clear view of the toss.
7. Make contact on the descent with the ball visible during the toss at all time to your opponent.
8. The ball must land on your side of the table first, then your opponent's.

9. If the ball touches the top of the net on its way over, the ball is re-served.
10. The ball can be served anywhere, any angle and long or short. The white center line is only used for serving in doubles.
11. Each player served 2 points until one reaches 11 or at deuce (10-10) serves alternate.

## **TEAM HANDBALL**

### **HISTORY**

Team handball is actually called handball in the rest of the world. The United States calls this fast paced, Olympic sport team handball to distinguish it from the four-wall court sport. It developed in the early 1900s in the Scandinavian countries to escape the sever winters of northern and eastern Europe. It is a combination of soccer, hockey, water polo, and basketball. The International Handball Federation (IHF) is the international organization that is comprised of 54 nations and about 3 million players. It became an Olympic event for men in 1972 and for women in 1976. In general, the most powerful handball teams have been from European countries. The United States Team Handball Federation (USTHF) was formed in 1959 and is a member of IHF. It publishes *Team Handball-USA* which is the official publication of the federation.

### **RULES**

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1. Play begins with a throw-off at the center of the court. All players must be in their own halves of the court when the throw is taken. A throw-off is taken by the team who did not score after every goal to restart play. The player taking the throw must keep at least one foot in contact with the ground at all times.
2. This is a non-contact sport.\*
3. A player is allowed three steps with the ball and may hold it for up to three seconds. A player is not allowed to play the ball with any part of the leg below the knee.
4. There is no dribbling.
5. A throw-in is awarded to a team when their opponents loss the ball out of bounds on a

sideline. This

throw may be done with one or two hands.

6. A corner throw is awarded to the offense when any defensive player (besides the goalie) is last to

touch the ball before it goes out of bounds on an endline.

7. If the goalie or any offensive player is last to touch the ball as it passes over the endline, it is a free throw for the goalie.

8. The goal area is a circle 9 meters from the goal. The goalie is the only player allowed in this area.

Goalies can come out of the area, but they lose their goalie privileges and become a regular player.

They may choose to go back and resume their privileges.

9. If you score, you become the goalie on your team.\*

10. Free throws are awarded as a result of minor violations. They are taken at the spot of the foul. If a

foul occurs while inside the 9 meter line, a penalty throw is awarded and taken from the line. A goal

may be scored off of this throw.

11. Each team consists of 7 players (6 court players and 1 goalie).

12. The offensive players stay spread and pass the ball rapidly to try to outwit the defense.

13. The defensive players try to position themselves between their respective players and the goal to try

to prevent a shot.

14. The official game consists of two 30-minute halves with 5-10 minute half-time period.

\*These rules have been modified for our class.

### **Handball Terms**

•*Held ball*: a ball held for more than three seconds

•*Referee's throw*: a throw from the referee to put the game back into play after simultaneous fouls occur

from both teams; does not occur often

•*Traveling*: illegally moving more than three steps in any direction with the ball

•*Common foul*: violations such as illegal throw-ins, illegal substitutions, illegal body contact, etc. (the

penalty for such violations is a free throw at the point of infraction)

•*Goalkeeper*: the defender of the goal and the only person who can legally play the ball inside the goal area

and use the feet

## **TENNIS**

Game Scoring

# of points Score

Zero - love When calling out the score always say the

One - 15 (server's score)- (non-serving score).

Two - 30 Example: 30-love (2-0)

Three - 40 40-15 (3-1)

Four - game

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A game is tied 40-40 is called deuce. You must win the game by 2 points, so the point after deuce is

called "advantage." If the server wins the point after deuce the score is "add in" and if the non-server scores

the point after deuce it is called "add out." If the person who had the "advantage" loses the next point the

score goes back to deuce, if the person who has "advantage" scores then it is "game."

SET:

To play a set in tennis one player must win 6 games to win the set. However, to win a set you must

win by at least 2 games, so a game score of 6-5 results in another game played. If the score after the game

is 7-5 then the set is over, but if the score is 6-6 then a tiebreaker game is played.

TIEBREAKER GAME:

When a tiebreaker is played the person who was to serve the next game serves the first point of the

tiebreaker. The service changes on each odd number of points. So the first server serves once then each

person serves two times after that. The tiebreaker is played to 7 points and scored 1-7.

The first player to 7

points wins if they are ahead by at least 2 points. If the score is 6-6 it is then "deuce" and the player keep

playing until one person is ahead by 2 points. The points continue to accumulate until the game is over.

MATCH:

A match is played by winning a predetermined number of sets.

High School matches are the best 2 out of 3 sets.

Professional women play the best 2 out of 3 sets.

Professional men play the best 3 out of 5 sets.

Professional men play best 3 out of 5 sets in grand slam matches.

TENNIS STROKES:

Forehand-When you hit the ball on the racket side of body.

Backhand-When you hit the ball on the non-racket side of body.

Volley-Hitting the ball before it hits the ground.

Ace-Serving the ball past your opponent with no return.

Fault-Serve that does not go in the correct service box.

Double Fault-When 2 consecutive serves do not go into the correct service box, the other person/team gets a point.

#### Terminology

Alley: area between the singles sideline and the doubles sideline

Service line: line that a server must be in front of.

Right service line: the area between the right singles sideline, the centerline, the service line and the net. It

is also the court served into to begin each game, and used on all even scores.

Left service court: the area between the left singles sideline, the centerline, the service line and the net. It is

also used on all odd scores.

Forecourt: the area between the service line and the net.

Backcourt: the area between the service lines and the baseline.

### **ULTIMATE FRISBEE**

Ultimate Frisbee is a fast-moving, competitive, non-contact sport played by **two seven-person**

**teams**. The object of the game is to gain points by scoring goals. The Frisbee may only be **passed**, and a

goal is scored when a player successfully passes the Frisbee to a teammate in the endzone which that team

is attacking. Each goal is worth **one point**. The team with the most points at the end of the game wins. The

official Frisbee of Ultimate Frisbee is the **Wham-O 175g**.

The ideals of sportsmanship and fair play are the utmost importance in the game. Teams will call

their own fouls and infractions of the rules. **Contact is not allowed**. A foul occurs when contact is made.

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When a foul disrupts possession, the play resumes as if possession was retained. If the pass is completed

then the foul is automatically declined and play proceeds without stopping. If the player committing the

foul disagrees with the foul call, the play is redone. Players are responsible for their own foul and lines

calls. Players resolve their own disputes. Competitive play is encouraged, but never at the expense of

respect between players and adherence to the rules, and the basic joy of the game.

The game begins with the defensive team throwing off to offensive team. The team **throwing off**

**must all be on or behind their goal line**. The person doing the throwoff must call out **FRISBEE** before

releasing the disc do as to let the other team know to be ready. The receiving team must be at least behind

the midway line of the field. The receiving team has the option of catching the Frisbee or

allowing it to fall to the ground. The team that threw off is not allowed to touch the disc until the offensive team does. The first point of contact with the ground is the spot where the team may start their play. If the receiving team attempts to catch the Frisbee and then drops it the team that threw off will gain possession at that point. If the Frisbee goes out of bounds the receiving team will bring the Frisbee perpendicular to the out of bounds line and begin play there. Do not play out of bounds.

The Frisbee may be passed in any direction. However, **handoffs are not allowed.** A person passing the Frisbee may catch his or her own throw only if another player has touched the Frisbee while it is in the air. In order to score a player must have established contact with **both feet** in the endzone prior to catching the Frisbee. The lines are considered to be in bounds. **Teams will switch ends of the field after each goal.**

No player may walk, run or take steps while in possession of the Frisbee. The momentum of a player, however, must be taken into consideration. When a player takes too many steps to stop, a foul is called and that player must return to the point where the catch was made. This is not a turnover. A person's momentum may never carry them out of bounds or into the endzone.

Only **one defensive player** may guard the person with the Frisbee. The defensive player must be at least one arms' length away from the offensive player. The Frisbee may not be wrenched or knocked away from the offensive player. The defensive team gains control of the Frisbee whenever the offensive team's throw is **incomplete, knocked down intercepted, or goes out of bounds.** Stalling is also a turnover. The defensive player must **call out stalling and then count to Ten**, if the Frisbee has not been released it will go to the defense.

The field is 70 yards long, 40 yards wide, with endzone 25 yards deep.

## **VOLLEYBALL**

**History of Volleyball-** Volleyball was created by William G. Morgan in Holyoke, Massachusetts in 1895. He made the game up as a less strenuous activity for older people who could not take the demands of basketball.

**The Game-** Volleyball is played by two teams of six players each on the court. The court is 60 ft. by 30 ft. and is divided in half by a centerline and net. The net is 7' 11 5/8" for

men and 7'4 1/8" for women.

### **Skills**

**Overhead Pass-** Also called a SET; contact is made with the pads of fingers positioned above the head in a triangular window. An accurate method of passing the ball to a position near the net from your teammate to spike the ball.

**Forearm Pass-** Also called a BUMP; is used to return low hit balls, hard spikes, and generally any ball below chest height. The ball is hit off the forearms with the arms straight and with the lift coming from the legs.

**Spike-** A powerful offensive play that drives the ball down and into the opponents' court with great force.

**Serve-** Used to begin play. There is an overhand and underhand serve. All serves must be done with the ball being tossed into the air prior to making contact. A player may serve from anywhere behind the end line/baseline. A serve that hits the net and goes over is in play.

**Block-** Stopping the ball from coming over from your opponent's court by jumping high with the arms extended overhead.

### **Terminology**

**Carry-** An illegal hit in which the ball momentarily rests on the player's hands. Hitting the ball underhand with an open palm.

**Foot Fault-** When the server steps on or over the end line while contacting the ball

**Double Fault-** When two opposing players commit a violation at the same time, the point is replayed.

**Point-** A point is scored when a team fails to return the ball (Rally Scoring)

**Rotation-** Shifting the players in a clockwise direction after a side out is called.

**Side Out-** A term used by officials when the serving team illegally plays the ball, or fails to return the ball over the net.

**Rally Scoring-** A point is scored every serve.

### **Rules**

1. The ball may be served from anywhere behind the end line.
2. It is a foul to touch the net. Touching the net with any part of your body is illegal.
3. A player may land under the net or over the centerline as long as they do not interfere with a player from the opposing team or touch the net.
4. A ball landing on the boundary line is in.
5. The ball must be distinctly hit, not thrown or lifted.
6. A point may be scored by either team.
7. The ball may be hit up to three times by one team. A player may not hit the ball two times in succession.
8. A block is not considered as one of the three hits. After a block, the player may hit the ball again.
9. Players on the serving team must rotate clockwise when a side is awarded.
10. Players may shift positions after the ball is served, but back row players are not allowed to spike or block the ball.
11. The ball must be on your side of the net before it can be spiked.

12. Any ball that hits the net and continues over the net is considered to be in play.
13. A high school match consists of the best three out of five games.
14. Games are to 25 points and team must win by two.
15. If a deciding 5<sup>th</sup> game is played the game is only played to 15, win by two.
16. A serve may not be blocked or spiked.
17. Spikes at the net can only be performed by front row players. Back row players may spike, but only from behind the 3-meter line (10 foot line.)

### **Etiquette**

The server should announce the score before each serve.

The server should announce their score first, then the opponents.

Roll the ball under the net when returning it to your opponent.

Swearing, name-calling, “hogging the ball,” cheating, and being disrespectful to your teammates and/or opponents will not be tolerated.

## **WEIGHT TRAINING**

**WEIGHT TRAINING-** is the use of progressive resistance exercises to improve performance in a sport or activity. Weight lifting is a sport that can be recreational or competitive for both men and women.

### **TERMINOLOGY**

**REPETITION:** the number of times the resistance is moved through the whole range of motion.

**TRAINING LOAD:** the amount of weight being used for a specific exercise.

**CIRCUIT:** a series of exercises done in succession for a specific training purpose. Circuit training is often timed when done.

**RANGE OF MOTION:** when a joint of the body moves from full flexion to full extension.

**REPETITION MAXIMUM:** the maximum amount of weight that can be lifted for a certain amount of repetitions. Most programs use a percentage of this weight as the training weight.

### **PRINCIPLES**

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**OVERLOAD:** as a muscle increases in size and strength the load against which the muscle works must get progressively greater.

**ADAPTATION:** the body will respond and adapt to the kind and amount of physical demand put on it.

**SPECIFICITY:** the effects of exercise are specific to the type of activity engaged in. EN

weight lifting will do little of the cardiovascular system; while aerobic will do little for strength.

## **FOUR PHYSICAL QUALITIES DEVELOPED BY WEIGHT TRAINING**

**STRENGTH:** the ability to exert force. Usually done with heavy weight and low reps.

**POWER:** the rate at which force is produced. This is usually done with a combination of fast and heavy repetitions.

**ENDURANCE:** the ability to perform a movement many times without undue fatigue. Low weight/high repetitions.

**FLEXIBILITY:** is the ability to move a joint or a series of joints through a full range of motion. This is or should be carried out with all weight lifting exercises.

## **AEROBIC VS. ANAEROBIC**

**AEROBIC:** These are activities which require a constant supply of oxygen, and focus on the cardiovascular/respiratory systems. Ex. Walking, running, stretching.

**ANAEROBIC:** These are activities that require so much oxygen that they cannot be carried on for a long period of time. Ex. Heavy weight training and sprinting.

**CARDIOVASCULAR ENDURANCE:** The ability of the lungs, heart, and blood vessels to deliver adequate amounts of oxygen to the cells to meet the demands of prolonged physical activity.

As a person breathes, oxygen is taken into the lungs, and absorbed into the bloodstream. The oxygen is delivered to the body's cells which uses aerobic activity, such as exercise, our body responds by faster breathing to the muscles. A person with good cardiovascular endurance will not tire as easily as a person with poor cardiovascular endurance.

## **BENEFITS OF CARDIOVASCULAR ENDURANCE TRAINING**

1. Increase in the oxygen carrying capacity of the blood.
2. Higher maximal oxygen uptake (Max VO<sub>2</sub>).
3. A decrease in resting heart rate and an increase in cardiac muscle strength
4. A lower heart rate at given work loads.
5. An increase in the number and size of the mitochondria (energy producing organelles within cells).

6. An increase in the number of functional capillaries.
7. A decrease in recovery time.
8. A decrease in blood pressure.

FREQUENCY OF EXERCISE: 3 to 5 training sessions per week at 20-30 minutes.

DURATION OF EXERCISE: 80% Training Intensity- 20 minutes  
60% Training Intensity- 30 minutes

Remember that more intense workouts are short, while easy workouts are long. The frequency and duration rules need to be followed to produce improvements in max VO<sub>2</sub>.

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### **DETERMINING INTENSITY OF EXERCISE**

Max Heart Rate (Max HR)= 220-age

Resting Heart Rate (RHR)= Pulse in 15 seconds x 4 while at rest

Heart Rate Reserve (HRR)= Max HR-RHR

Target Heart Rate Zone (THRZ)= Training Intensity (TI) at 60% and 80%

$HRR \times .60 + RHR = 60\% \text{ TI}$

$HRR \times .80 + RHR = 80\% \text{ TI}$

Your beats per minute should fall between 60% TI and 80% TI, during an aerobic exercise.

Moderate aerobic activity should hover closer to 60% TI while more intense aerobic activity should hover closer to 80% TI.

### **DEFINITIONS:**

**AEROBIC EXERCISE:** sustained, rhythmic, physical exercise that requires additional effort by the heart and

lungs to meet the increased demand by the skeletal muscles for oxygen.

**CARDIOVASCULAR SYSTEM (CV):** the heart and blood vessels, which brings oxygen and nutrients to

the body through the circulation of blood.

**HEART RATE (HR):** number of times the heart beats per minutes (BPM).

**MAXIMUM HR:** the maximum number of BPM a person can safely reach (220 bpm-age).

**RESTING HR:** HR taken when a person is not active; best taken when person first wakes

up.

TARGET HR: 60-85% of Max HR; it's best level to work out at.

RECOVER HR: HR after completion of workout; faster the person returns to Resting HR, the better CV

condition he/she is in.

THREE (3) THINGS THAT AFFECT RESTING HR: weight (especially the amount of fat), amount of exercise regularly performed, and daily habits (smoking, eating style, use of drugs).

### **THREE MAIN PARTS TO AN AEROBIC WORKOUT**

WARM UP: start of exercise session used to loosen muscle and joints; stretching and light movement is included; this is important because it will prevent injuries.

PEAK EXERCISE: the body is taxed the most and therefore reaches its highest HR (should be in the Target HR). In order to gain the benefits of Aerobic Exercise, it must be performed 3 times per week and the Target HR must be sustained for a minimum of 20 minutes.

COOL DOWN: this is the end of an exercise session used to slowly lower the HR and work the body back down progressively from peak exercise; prevents stiffening, cramping, and soreness of muscles and joints; stretching included.