Fitness Unit

Name: _____

Testing Dates:

_____

_____

_____

_____

Fitness

Heart Rates

Resting Heart Rate (RHR) is the number of times the heart beats per minute during a resting state. The heart is most at rest when we are asleep; the best time to determine our heart rate is when we first awake. Record your resting heart rate for three days and then add these together and divide by three. This will give you an accurate average resting heart rate.

Detecting your pulse and therefore your heart rate is most easily done at your radial artery (which is located at the distal end of your radius) or at your carotid artery (which is located on the lateral sides of your hyoid bone in your neck).

Target Heart Rate (THR) is the number of beats per minute (bpm) at which your heart should be beating during aerobic exercise in order to facilitate cardiorespiratory improvement. For healthy individuals, this range is from 60-90 percent of maximal heart rate (MHR).

Maximum Heart Rate (MHR) is an estimate obtained by subtracting your age from 220. For example, an eighteen-year-old may have a MHR of 220 – 18 = 202 bpm. To determine THR, this individual would take a percentage of his or her MHR, and target aerobic work between 60 percent on the lower end to 90 percent on the upper end. This calculation would be expressed as follows:

THR of 60% = 121 bpm
THR of 90% = 181 bpm

The Karvonen or **heart rate reserve** method (HRR) takes into account resting heart rate and is defined as the difference between MHR and RHR (MHR – RHR). The American College of Sports Medicine (ACSM) recommends the use of this method over the percentage of maximal heart rate because it correlates well with laboratory values of VO_2 Reserve, which is the difference between VO_2max and VO_2 at rest.

Using this method, RHR is initially subtracted from MHR. Once the exercise intensity has been determined, RHR is simply added back on.

Using our example of the eighteen-year-old who has a RHR of 72 bpm and a MHR of 202, the application of the HRR formula would be as follows:

HRR = 202 – 72 = 130 bpm

Therefore, using the heart rate reserve method, a THR set at 50 percent of HRR would be

(130 x .50) + 72 = 65 + 72 = 137 bpm

Whereas, a THR set at 85 percent of HRR would be

(130 x .85) + 72 = 110 + 72 = 182 bpm

Current research tells us that individuals who are in poor aerobic condition will benefit more from working on the lower end of the percentage of their HRR and vice versa. Also, keep in mind that, whatever method you use to determine intensity, it is only an estimation of appropriate intensity levels – if you feel as if you are exercising too hard or too little, you probably are. The best advice is to reduce or increase your intensity and find a heart rate range that works best for you.

Source: *Exercise Science: An Introduction Health and Physical Education* by Ted Temertzoglou and Paul Challen

Fitness F.I.T.T. Principle • Body Mass Index • Fitness Components

The **F.I.T.T. Principle** captures the four basic building blocks of any exercise plan:

- Frequency
- Intensity
- Type
- Time

These four dimensions apply to and need to be addressed when devising any fitness or training program. The acronym (F.I.T.T.), coined by David M. Chisholm, M.D., makes it easy to remember.

Body Mass Index (BMI)

One measure widely used by medical practitioners to assess the extent to which individuals are balancing the energy equation (i.e., are underweight or overweight relative to their height) is **Body Mass Index (BMI)**. BMI is the ratio of a person's weight in kilograms to the square of his or her height in metres:

$$\textbf{BMI} = \textbf{weight}/\textbf{height}^2$$

In most cases, BMI correlates well with increased risks of disease, particularly cardiovascular, pancreatic, and kidney disease. Generally, those with a BMI of 27 or more are considered to be overweight; those with a BMI of 30 or more are considered obese. Those with a BMI of 18.5 or lower are considered to be underweight.

While BMI is well established, the index has limitations. The most important is that it does not distinguish between fat and excess muscle. For this reason, athletes such as wrestlers, weightlifters, and football players would record high BMIs, but this may have no relation to their overall risk for mortality.

Fitness Components	
Agility Measures change of direction.	**Endurance** Measures how well the body uses oxygen.
Flexibility Measures range of motion of joints.	**Power** Measures explosiveness.
Speed (vs. Quickness) Measures all out linear speed.	**Strength** Measures explosiveness.
Body Composition Measures body fat and tissue distribution.	**Precision** Measures exactness and accuracy.
Proprioception Measures awareness of movement and position of body.	**Balance** Measures ability to remain upright and steady.

Source: *Exercise Science: An Introduction Health and Physical Education* by Ted Temertzoglou and Paul Challen

Fitness Testing Results Tracking • Name: ____________________

Students will be doing fitness testing four times throughout the semester. This will comprise 10% of the overall mark. This sheet is for the convenience of the student to track their progress by recording their results, and may be required for submission at the end of the semester.

Test Date: ____________________

Component	Test	Result
Agility	Illinois Agility	
Endurance	Beep Test	
Flexibility	Sit and Reach	
Power	Vertical Jump	
Speed	40 yard (33m) dash	
Strength	1 min. Push Up	
	1 min. Crunch	

Test Date: ____________________

Component	Test	Result
Agility	Illinois Agility	
Endurance	Beep Test	
Flexibility	Sit and Reach	
Power	Vertical Jump	
Speed	40 yard (33m) dash	
Strength	1 min. Push Up	
	1 min. Crunch	

Test Date: ____________________

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Strength	1 min. Push Up	
	1 min. Crunch	

Fitness

Goal Setting

Goal Setting	
Setting goals helps you to reach greater heights. By using the S.M.A.R.T.E.R. Goal-Setting Model below, you will be able to set objectives, remain focused, and achieve more in any aspect of your life. It can be used for personal development, school, work, or other performance-based environments, or project or event management.	
S.	**Specific** **(also: significant, sustainable, stretching)** Goals need to be clear, not general or vague. They must state exactly what is expected and why it is important. They should answer the five "W" questions: What, Why, Who, Where, Which?
M.	**Measurable** **(also: meaningful, manageable, motivational)** Goals need concrete measures of progress toward attaining the goal. This helps stay on track. It should answer questions like, how much/many? How will you know when it is accomplished? Indicators should be quantifiable.
A.	**Attainable** **(also: achievable, appropriate, adjustable, ambitious, assignable, actionable, adjustable, ambitious, aspirational, acceptable)** Goals must be realistic and attainable, not extreme. They should neither be out of reach or below standard performance, as these would be meaningless. When goals are important to you, you develop attitudes, abilities, skills, and means to reach them. Goals should answer the question, how can they be accomplished?
R.	**Relevant** **(also: realistic, reasonable, resonant, resourced, result-based, result-oriented)** A goal is relevant when it aligns with other goals. sIt is important to choose goals that matter to you, your team, or organization. When relevant goals are met, they drive you, your team, or organization forward. A relevant goal can answer yes to questions like, does it seem worthwhile? Is this the right time? Does this match our other efforts/needs?
T.	**Timely** **(also: time-framed, time-sensitive, timetabled, time limited, timed, tangible, trackable)** Effective goals need to have a target date. This establishes a sense of urgency. Committing to a deadline helps a person or team focus their efforts on completing the goal on or before the due date. This prevents goals from being overtaken by day-to-day crises that arise in life. A timely goal should answer what can I do six months from now? What can I do six weeks from now? What can I do today?
E.	**Evaluate** **(also: ethical, excitable, enjoyable, engaging, ecological, evidenced)** Goals are not static and can change from time to time. Important life changes or obligations, or a change in available resources have to be taken into consideration when evaluating your goals. Evaluating your goals consistently can help you better attain them.
R.	**Revise** **(also: reevaluate, reviewed, reassess, revisit, recordable, rewarding, recognize mastery)** After evaluating your goals, consider what may need to be changed or adjusted. This will ensure that targets of the goal are not forgotten. These two steps are done during and after the goal process.

Fitness

S.M.A.R.T.E.R. Goal-Setting Worksheet

Name: _____

S

What do you want to accomplish?
Specific reasons, purpose or benefits of accomplishing the goal:
Who is involved?
Identify location(s):
Identify requirements and constraints:

M

How much?
How many?
How will you know when it is accomplished?

A

How can the goal be accomplished?

R

Does this goal seem worthwhile?
Is this the right time?
Does this match my other efforts or needs?
Am I the right person?

T

When?
What can I do 6 months from now?
What can I do 6 weeks from now?
What can I do today?

E

How is my goal progressing?
Am I where I want to be in my goal?
What has changed that affects my goal?

R

Am I or have I adapted to my environment and any challenges that arise?
Based on results from the Evaluation step, do I need to increase or decrease my goal?

PPL3O Weight Training

Weight Training Quick Sheet

Type: Strength Training

Locale: Indoor

Equipment: free weights: kettle bells, dumbbells, barbells, iron weight plates, bumper plates; benches, racks; machine weights: Universal, York, Hammer Strength, etc.; stability balls, medicine balls, BOSU ball, stability discs/boards, suspension straps/ropes

Participants: ideally, one should always do weight training with a training partner, in case spotting is necessary when lifting heavy weights.

Variants: Olympic/powerlifting

Local Recreational Facilities:

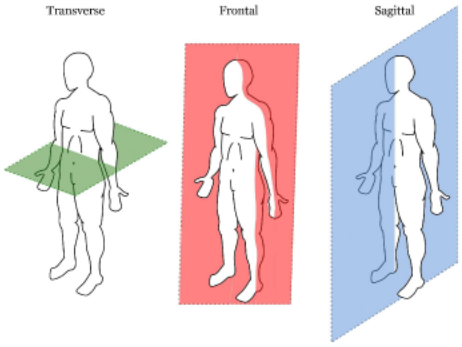
Pickering Recreation Complex	www.pickering.ca/recreation	Pickering
Ajax Community Centres		
ACC	www.ajax.ca/en/experiencerecreation/ajaxcommunitycentre.asp	Ajax
McLean	www.ajax.ca/en/experiencerecreation/mcleancommunitycentre.asp	Ajax
ARC	www.ajax.ca/en/experiencerecreation/audleyrecreationcentre.asp	Ajax

Weight Training

Principles

Warming up and stretching prior to physical exercise are essential to avoiding injury. Starting with a warm-up set for each exercise, without weight or very little weight, then stretching before would also work. Negatives can be done by resisting the downward motion of the weight, using eccentric muscle contraction. Generally, the more weight used, the less repetitions (reps) needed; the less weight, the more repetitions needed. Exhale when exerting effort. For example, exhale when push up during bench press; standing up during squat; pulling up during a pull-up or one-arm row.

Planes of Movement
There are three planes of movement. They are sagittal, coronal/frontal, transverse. Refer to image at right.



Core
Your core is comprised of the major (large) and stabilizing (small) muscles of the trunk of your body from your shoulders to your hips/pelvis. You are working core whenever you are working in more than one plan of movement at the same time.

Power
Exercises with repetitions between 1-5 will target muscular power and strength and develop size, with no impact on muscular endurance. Number of sets ranges from 3-5. Recovery time between sets should range between 2-6 minutes. The number of sessions per week of these types of workouts range from 3-6.

Strength
Exercises with repetitions between 6-12 offer more of a balance between muscular strength, endurance, and size. Number of sets ranges from 4-7. Recovery time between sets should range between 2-6 minutes. The number of sessions per week of these types of workouts range from 3-6.

Endurance
Exercises with repetitions between 13-20+ will develop muscular endurance and some increase in muscle size, and especially muscle tone, and little impact on muscle strength. Number of sets ranges from 2-4. Recovery time between sets should range between 1-2 minutes. The number of sessions per week of these types of workouts range from 8-14.

Recovery
Between sets of each exercise, recovery times range between 1-6 minutes of rest. Recovery time between sets depends on the type of training goal: power, strength, or endurance.

Supersets
Effective workout for muscular endurance. The idea is to not take any recovery time between two or more exercises. The exercises are different, but target the same individual muscle group (e.g., 1x10 prone tricep extension, then 1x10 tricep kickback). Push-pull supersets are the same idea, except working opposing muscle groups, rather than the same muscle group (e.g., chest, then back exercise).

Circuit Training
An effective workout that will benefit muscular strength and endurance, with resistance. Combine a number of exercises (about 8-12) that will target various muscle groups. The aim is to work the entire body. Like with supersets, there is little-to-no recovery time between exercises within the circuit. Then do as many circuits of those exercises as you wish (e.g., 3 circuits of 9 different exercises, 3-5 minutes recovery between circuits).

Supplemental Source: Wikipedia.org

Weight Training

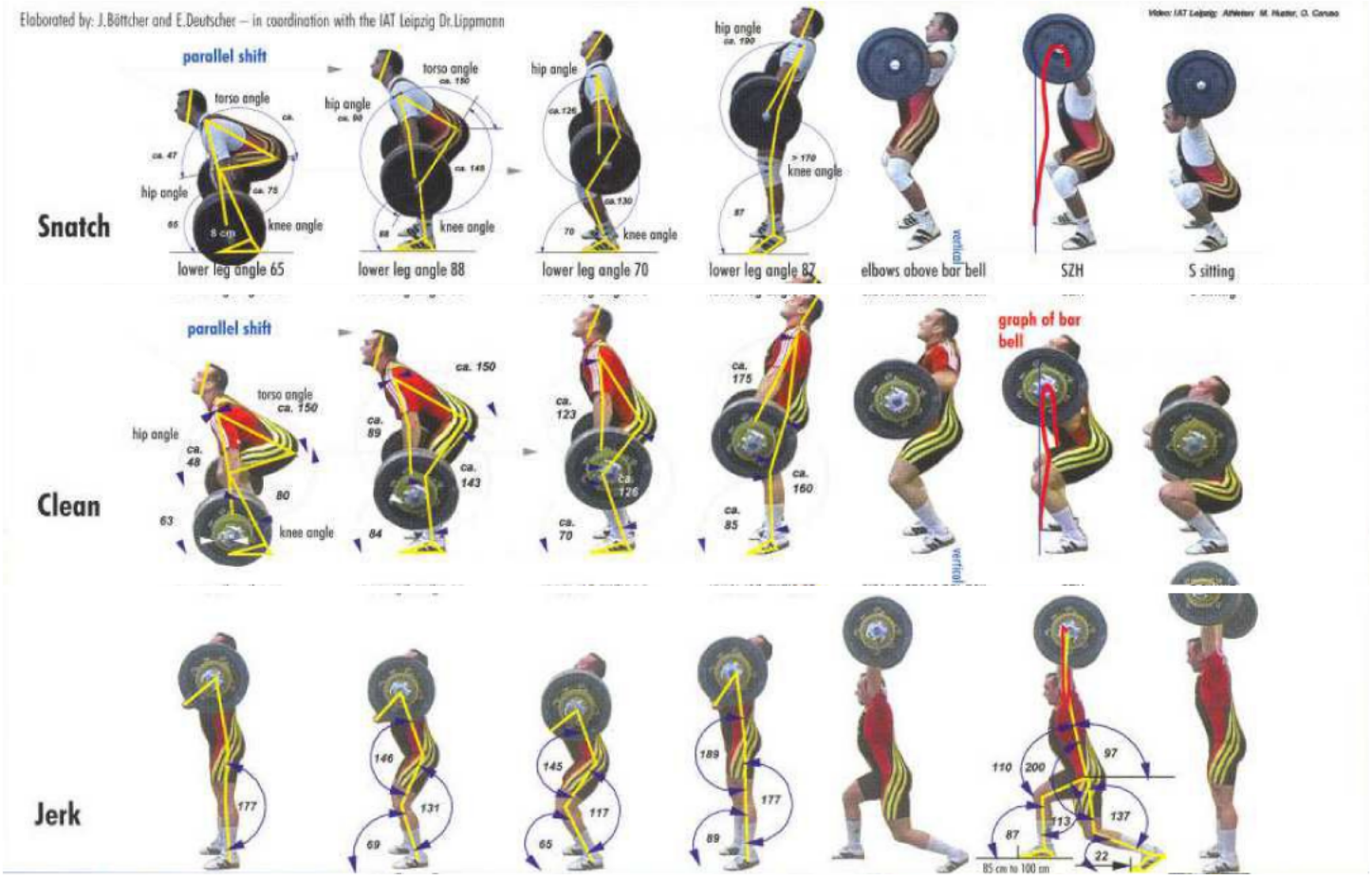
Exercises

Most exercises can be done with either a barbell, dumbbells, kettle bells, a medicine ball, or plates. For added challenge and to benefit the core, exercises can be done using a stability ball, disc, or board.

Legs	Arms	Abs & Core
○ Back squat	○ Shoulder raise	○ Hanging leg raise (front, side)
○ Front squat	○ Bicep curl	○ Jack knifes/V-ups/Pike-ups
○ Lunges	○ Tricep extension	○ Broken jack knifes
○ Side lunges	○ Wrist curls	○ Bicycle
○ Step-ups	○ Rotator cuff	○ Crunches (standard, double/suitcase, straight-leg, legs up, side)
○ Leg curl	**Back**	○ Leg raises (standard, elevated pelvis, partner leg throws)
○ Leg extension	○ Pull ups	○ Alphabet
○ Calf raise	○ Row (seated, bent-over)	○ Plank (centre, quarter, side)
○ Hip flexor	○ One-arm row	○ Side twists (with plate or medicine ball, with partner)
Chest	○ Back extension	○ Wheel
○ Flat bench press	○ Dead lift	
○ Incline bench press	○ Good mornings	
○ Flies/peck deck	○ Reverse peck deck	

Olympic Lifts

Olympic lifting (aka powerlifting) allows one to get stronger without getting bulky. It develops a more explosive, dynamic, functional strength. The exercises include: clean, push press, snatch, split jerk.



PPL3O Competitive Fitness

CrossFit & Races Quick Sheet

Type: Competitive Fitness

Locale: Indoor/Outdoor

Equipment: various

Participants: any number of participants

International Governance:

CrossFit, Inc.	www.crossfit.com
Spartan Race	www.spartanrace.com
Tough Mudder	www.toughmudder.com

Local Recreational Leagues:

CrossFit Pickering and Pilates Pickering	www.crossfitpickering.com	Pickering
CrossFit Oshawa	www.crossfitoshawa.com	Oshawa
CrossFit Markham	www.crossfitmarkham.com	Markham
CrossFit Toronto	www.crossfitto.com	Toronto
CrossFit Colosseum	www.crossfitcolosseum.com	Toronto
CrossFit Quantum	www.crossfitquantum.com	Toronto
CrossFit 416	www.crossfit416.ca	Toronto
Tidal CrossFit Danforth	www.tidalcrossfit.com	Toronto
Auxiliary CrossFit	www.auxiliarycrossfit.com	Toronto
Reebok CrossFit Liberty Village	www.reebokcrossfitlibertyvillage.com	Toronto
Academy of Lions	www.academyoflions.com	Toronto

CrossFit History

CrossFit, Inc. is a fitness program developed by Greg Glassman in 2000. The first affiliated gym was CrossFit North in Seattle, Washington; there were 13 by 2005 and more than 4,300 today. Coaches associated with CrossFit include Louie Simmons, Bob Harper and Mike Burgener. Another CrossFit subject matter expert is Dr. Nicholas Romanov, inventor of the Pose method of running.

CrossFit describes its strength and conditioning program as “constantly varied, high intensity, functional movement," with the stated goal of improving fitness (and therefore general physical preparedness), which it defines as "work capacity across broad time and modal domains." Workouts are typically short—20 minutes or less—and intense, demanding all-out physical exertion. They combine movements such as sprinting, rowing, jumping rope, climbing rope, flipping tires, weightlifting, and carrying odd objects; they use barbells, dumbbells, gymnastics rings, pull-up bars, kettlebells, medicine balls, boxes for box jumps, and many bodyweight exercises. These elements are mixed in numerous combinations to form prescribed "Workouts of the Day" or "WODs". Hour-long classes at affiliated gyms, or "boxes," typically include a warm-up, a skill development segment, the high-intensity WOD, and a period of individual or group stretching. Performance on each WOD is often scored and/or ranked to encourage competition and to track individual progress. Some affiliates offer additional classes, such as Olympic weightlifting, which are not centered around a WOD.

CrossFit programming is used by 4,400 private affiliated gyms and many fire departments, law enforcement agencies, and military organizations including the Canadian Forces and the Royal Danish Life Guards, as well as by some U.S. and Canadian high school physical education teachers, high school and college sports teams, and the Miami Marlins. In addition, there are a number of gyms that use CrossFit-style exercises and workouts but are not officially affiliated with CrossFit, Inc. Many people who do CrossFit workouts on their own often post their results on CrossFit's website.
The "CrossFit Games" have been held every summer since 2007. Participation and sponsorship have grown rapidly; the prize money awarded to each first-place male and female increased from $500 at the inaugural Games to $250,000 in 2011 and 2012. Athletes at the Games compete in workouts they learn about only hours beforehand, sometimes including surprise elements that are not part of the typical CrossFit regimen; past examples include a rough-water swim and a softball throw. The Games are styled as a venue for determining the "Fittest on Earth," where competitors should be "ready for anything."

Source: wikipedia.org

CrossFit Common Exercises

Body-Weight Exercises

1. **Air squat:** Athlete moves from the standing position to a squatting position with the hips below the knees, and back to standing. One-legged air squats are referred to as *pistols*.
2. **Back extension:** Using a GHD machine, the athlete moves from an L-shaped position with the head directly below the pelvis to an extended horizontal position.
3. **Box jump:** From a standing position on the floor, the athlete jumps and lands with both feet on top of a box, and fully extends before returning to the floor. Typical box heights in inches are 15", 20", 24", and 30".
4. **Burpee:** Beginning in a standing position, the athlete drops to the floor with the feet extending backward, contacts the floor with the chest, and then pulls the legs forward, landing in a squatting position before standing up, usually ending with a small jump.
5. **Handstand push-up:** Beginning in a handstand, with the arms straight and (usually) the heels gently resting against a wall, the athlete bends the arms until the head touches the ground, and then pushes back up into a handstand position.
6. **Jump rope:** The most common variation in CrossFit is the "double under" in which the jump rope makes two revolutions for each jump.
7. **Knees-to-elbows:** Hanging from a bar, starting in an extended position, the athlete raises the knees until they make contact with the elbows.
8. **L-sit:** With the body supported on gymnastics rings or parallettes, the athlete holds the feet at or above the level of the hips with the legs straight.
9. **Lunge:** Athlete takes a large step forward, bends the forward knee until the back knee makes contact with the ground, and rises.
10. **Muscle-up:** Hanging from gymnastics rings or a bar, the athlete pulls up and over the rings or bar, ending with the arms straight and the hands below the hips.
11. **Ring dip:** Starting with the body supported on the rings with straight vertical arms, the athlete bends the arms, lowering the body until the shoulder drops below the elbow, and then straightens the arms.
12. **Pull-up:** Starting from a hanging position with straight arms, the athlete pulls up until the chin is over the bar. Variations include: strict, in which no swinging is allowed; kipping, in which momentum is used to help complete the movement; weighted, in which extra weight is hung from the athlete; chest-to-bar, in which the ending point of the movement is higher, and the chest makes contact with the bar; jumping, in which the legs are used to help propel the athlete upwards; assisted, in which an elastic band allows the movement to be completed with less than full body weight.
13. **Push-up:** Starting in a plank position with the arms straight, the athlete lowers until the chest makes contact with the ground, keeping the body straight throughout, and pushes back up into the plank position. Variations include weighted push-ups and ring push-ups, in which the hands are supported just above the ground by gymnastics rings.
14. **Rope climb:** Starting from the ground, the athlete climbs a rope and touches a point at a designated height, often 15 feet. Variations include no feet, and L-sit, in which the feet are held above the level of the hips during the climb.
15. **Sit-up:** Athlete moves from a supine position, with the shoulders on the ground, to a sitting position with the shoulders over the hips. The feet are sometimes anchored. An "ab-mat" is sometimes placed under the lower back.
16. **Toes-to-bar:** Hanging from a bar in an extended position, the athlete brings the feet upward until they make contact with the bar.

Distance Movements

17. **Running:** Typical distances range from 100 meters to 1 mile. Shuttle runs back and forth between marks 10 meters apart are also common.
18. **Rowing:** Many workouts include rowing machine distances from 500 meters to 2000 meters, or rowing "for calories".

Weighted Movements

19. **Deadlift:** Barbell is lifted from the ground until the athlete reaches an upright standing position.
20. **Clean:** Barbell is (or dumbbells are) lifted from the ground to a "rack position" in front of the athlete's neck. Athlete ends in a standing position. In a squat clean the athlete receives the bar in a squatting position and stands to finish the lift. In a power clean, the athlete receives the bar in a partial squat.
21. **Kettlebell swing:** A kettlebell is swung from between the legs to overhead.
22. **Press:** Barbell is moved from the "rack position" to the overhead position. In a strict press, also called a shoulder press or military press, the lower body remains stationary. In a push press, the bar is "jumped" off the body using a "dip and drive" motion. A push jerk is like a push press, but with a re-bend of the knees to allow the athlete to drop under the bar and receive it with straight arms. A split jerk is like a push jerk, but one leg goes forward and the other backward when the athlete drops under the bar.
23. **Snatch:** Barbell is raised from the floor to the overhead position in one motion. In a squat snatch the athlete receives the bar in a squatting position and stands to finish the lift. In a power snatch, the athlete receives the bar in a partial squat.
24. **Squat:** Barbell is supported on upper back (back squat), in the rack position (front squat), or in the overhead position (overhead squat). From a standing position with a wider-than-shoulder-width stance, the athlete bends the knees until the hips are below the knees, and then stands, keeping the heels on the floor.
25. **Sumo deadlift high pull:** With a wide stance, a barbell or kettlebell is lifted from the ground to a position just under the chin.
26. **Thruster:** A combination of a front squat and a push press: starting with the barbell in the rack position, the athlete squats (hips below knees) and then stands, driving the barbell overhead.
27. **Tire flip:** A large tire, lying on its side, is flipped over by lifting one edge.
28. **Wallball:** Holding a medicine ball below the chin while facing a wall at arms length, the athlete squats (hips below knees) and stands, throwing the medicine ball in order to make contact with an overhead target on the wall.

Source: wikipedia.org & crossfit.com

Spartan Race History

Spartan Race was founded in 2004 by Joe Desena, Mike Morris, Andy Weinberg, Selicia Sevigny, Richard Lee, Brian Duncanson, Shaun Bain, and Noel Hanna. Each has an extensive background in athletics, racing, and service. The Spartan Death race originated in 2005 as a seed for future Spartan Races.

The first Spartan Race event was held in 2010 at the Catamount Outdoor Center in Williston, Vermont and represented the city of Burlington, Vermont. Roughly 500 competitors had to "run, crawl, jump and swim" and overcome a variety of obstacles at the first ever Spartan Race. All finishers received a medal and prizes were awarded to the top athletes- a precedent that lives on today. Currently, Spartan Race attract thousands of athletes to each event.

While Spartan Races vary in distance from 1 mile to marathon distances, the obstacles themselves also vary and are unpredictable. Many obstacles are present at each Spartan Race, though where in the course they will be remains a mystery. Unlike other companies, Spartan Race does not provide a course map or list of obstacle to their participants and the majority of obstacles are a mystery until race day.

Spartan Mission

Spartan Race tag line, “You’ll know at the Finish” promotes training and an active lifestyle. Spartan Races seek to motivate participants to become active, healthy, excited about change, and return habits where running through woods, getting dirty, and facing adversity is part of everyday life. Spartan Races have levels for everyone beginning with the entry level "Spartan Sprint", intermediate level "Super Spartan", the advanced "Spartan Beast", and the ‘99.9% need not apply’ extreme level "Spartan Death Race".

Kids Spartan Races

Each Spartan Race feature Kids Spartan Races for children age 5–13. These races feature cargo nets, balance beam, and mud. The mini obstacle courses typically last 1/2 mile. Children who complete the courses receive finisher medals.

Charity

For the 2011 season Spartan Race announced it partnered with Homes For Our Troops. Homes For Our Troops is a charity dedicated to providing specialty homes for troops that have been severely injured. The goal of Spartan Race Inc. is to raise enough money in the 2011 season to build a "Spartan" home for soldiers who have been injured while on duty.

A Variety of Spartan Races:

Spartan Sprint = 3+ miles/15+ obstacles
Super Spartan = 8+ miles/20+ obstacles
The Spartan Beast = 12+ miles/25+ obstacles
The Death Race = 40 miles/15-20 grueling mental & physically challenges/24-48 hours

Source: wikipedia.org & spartanrace.com

Spartan Race

Common Obstacles

1. **Fire jump:** athletes must leap over flames. This obstacle is typically at the beginning or end of a race. The fire jump has appeared in nearly every Spartan Race, though certain venues do not allow fire.
2. **Barbed wire crawl:** a crawl through mud under barbed wire. Athletes must stay low to the ground as to not get injured by the wire. Crawls range from 20-100+ yards in length. The wire crawl has appeared in every Spartan Race to date.
3. **Over-Under-Through:** a series of obstacles in which runners must first climb over a wall, then under a wall, then through a tire or square hole placed in a wall. This obstacle is often repeated three or more times in a row and appears in almost every Spartan Race.
4. **Spear throw:** from a distance of 10-20 yards, athletes must throw a wooden spear into a target. If the spear does not stick, a punishment of 30 burpees is assigned. The spear throw is present at every Spartan Race with the exception of state parks that do not allow weapons. Typically, the spear throw is near the end of the race.
5. **Wall climb:** as the name suggests, runners must climb over a wooden wall. Walls range from 4-8 feet and are often in sequence. This obstacle may be repeated throughout the course.
6. **Object carry:** A signature obstacle, the object carry is often the most challenging. In a Spartan Sprint, this obstacle typically appears once. In a Super Spartan, twice; in a Beast, three times or more. The object to be carried may be a tire, rock-filled bucket, or sandbag. Both the bucket and sandbag weight between 30 and 70 pounds. Men must carry heavier objects than women.
7. **Herculean Hoist:** athletes must hoist a cement block or heavy bucket off the ground using a pulley system. This obstacle is similar to the "lat-pull" exercise machine, but is more difficult because the rope is often muddy and slippery.
8. **Tyrolean Traverse:** Spartans must traverse a single rope that is hung horizontally between two posts or trees. The rope is hung over a body of water, so if competitors cannot traverse the rope, they will fall into the water and swim.
9. **Traversal Wall:** the traversal wall is similar to a bouldering wall. If one cannot make it across the wall without falling, a 30 burpee penalty is given.
10. **Slippery Wall:** a wall built at an incline (roughly 45 degrees) that is covered in soap or grease. Runners may try to sprint up the wall or use a rope for assistance.
11. **Gladiator Arena:** before the finish line, athletes must pass through the "gladiators" who try to knock down runners using their pugil sticks.
12. **Hobie Hop:** Place a thick band around your ankles and hop through 20+ tires in a row

A variety of other obstacles are also present at a Spartan Race, and obstacles relevant to the venue are typically present as well.

The *New York Times* described the Spartan Death Race as "*Survivor* meets *Jackass*"; the Death Race is designed to push an athlete to his or her limits, as evidenced by its 10-15% completion rate.

Source: wikipedia.org