Review Sheet
Physical Education 1
Use this information to study for your PE1 Final Exam

- Understand the FITT Principal including its components and purpose.
  - **Frequency**: How often: Refers to the number of times a week a person engages in physical activity.
  - **Intensity**: How hard: Refers to the intensity of a given exercise period.
  - **Time**: How long: Refers to the duration of a single workout or the number of repetitions.
  - **Type**: Which exercises: Refers to the particular type of exercise performed.

- Identify the components of Health Related Fitness
  - **Cardiovascular Fitness (aka cardio respiratory endurance)**: Ability of the body to work continuously for extended periods of time. This is developed by engaging in aerobic activities.
  - **Muscular Strength**: The ability of a muscle or group of muscles to generate force in a short period of time.
  - **Muscular Endurance**: The ability of a muscle or group of muscles to sustain repeated contractions against a resistance for an extended period of time.
  - **Flexibility**: A joint's ability to move freely through a full and normal range of motion (ROM).
  - **Body Composition**: The amount of lean body mass compared to the amount of body fat. This is typically expressed in terms of percent body fat.
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- **Identify the components of Skill Related fitness**
  
  o **Agility:** The ability to change and control the direction and position of the body while maintaining a constant, rapid motion.

  o **Balance:** The ability to control or stabilize the body when a person is standing still or moving.

  o **Power:** The ability to move the body parts swiftly while applying the maximum forces of the muscles. It is a combination of both speed and muscular strength.

  o **Speed:** The ability to move your body or parts of your body swiftly.

  o **Coordination:** The ability to use the senses together with the body parts during movement.

  o **Reaction Time:** The ability to reach or respond quickly to what you hear, see, or feel.

- **Types of training methods**

  o **Interval:** Training that involves alternating shorts bursts of activity with rest periods.

  o **Speed Play:** Similar to interval training, but with the terrain (outside land such as trails, hills, jumping creeks, etc) influencing the intensity levels.

  o **Circuit:** Combines continuous aerobic activities with flexibility and muscular strength and endurance activities.

  o **Plyometrics:** A muscular fitness training technique used to develop explosive power. It emphasizes pre-stretching (eccentric contraction) the muscle prior to engaging in concentric contractions, and it often involves hops, jumps, and throws.

  o **Building:** Any exercise that builds upon a previous exercise with the purpose to increase ones fitness level.
Types of Physical Activity

- Explain the difference between **aerobic** fitness and **anaerobic** fitness.

  **Aerobic**: “with oxygen” where an activity is sustained over a continuous period of time using large muscle groups in the body.

  **Anaerobic**: “without oxygen” where an activity is performed in short bursts of time and/or distance.

- Understand what **isokinetic** and **isometric** and, **isotonic** exercise means.

  **Isokinetic**: when muscles contract at a constant rate, often used for therapy after an injury, an example is Yoga

  **Isometric**: an exercise in which muscles contract but very little body movement takes place, an example is to place your palms together and push them against each other.

  **Isotonic**: involves contracting and relaxing your muscles through the full range of a joint’s motion, an example is a pull-up or lifting with free weights

Terms to Know

- **Warm-up**: Done before exercise for the main purpose of preventing injury.

- **Cool-down**: Done at the end of an exercise period to allow heart rate to return to normal and to prevent injuries.

- **Overtraining**: When you exercise too often or too hard which can cause injury to the body.

- **Endorphins**: chemicals that block pain messages from reaching your pain (in turn causing you pleasure)

- **Lifelong Fitness**: The ability to stay health and fit as you age
Specificity Principle: Specificity is the principle of training that states that sports training should be relevant and appropriate to the sport for which the individual is training in order to produce a training effect.

Progression Principle: The principle of progression implies that there is an optimal level of overload that should be achieved, and an optimal time frame for this overload to occur. A gradual and systematic increase of the workload over a period of time will result in improvements in fitness without risk of injury.

Overload Principle: The exercise science principle of overload states that a greater than normal stress or load on the body is required for training adaptation to take place. What this means is that in order to improve our fitness, strength or endurance, we need to increase the workload accordingly.

Understand the impact of working in your target heart rate zone.

Working in your target heart rate will give you the best cardiovascular benefit. (Keeping your heart healthy). Working in your target heart rate zone is also considered “moderate or vigorous” activity.

Formula for an individual’s Max Heart Rate is $208 - 0.7(age)$

Target heart rate zone is 60%-80% of your Max Heart Rate

Understand how to take your pulse manually (fingers to neck) and how to convert that count into beats per minute (BPM). Ex. Heart rate of 11 in a 6 second count your exercise pulse rate would be 110.

Understand appropriate measures when monitoring your fitness, e.g. a drop in your resting heart rate is a good indicator of improved fitness.
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- **Physical Activity Recommendations**
  - Identify the recommended amount of **physical fitness activity for teens**. (up to 19 yrs)
  
  For health benefits, physical activity should be **moderate or vigorous** and add up to at least 60 minutes a day on most days of the week.
  
  - Identify the recommended amount of **physical fitness activity for adults**.
  
  For health benefits, physical activity should be **moderate or vigorous** and add up to at least 30 minutes a day on most days of the week.

Examples of moderate physical fitness activities include:
- Walking briskly (about 3 ½ miles per hour)
- Hiking
- Gardening/yard work
- Dancing
- Golf (walking and carrying clubs)
- Bicycling (less than 10 miles per hour)
- Weight training (general light workout)

Examples of vigorous physical fitness activities include:
- Running/jogging (5 miles per hour)
- Bicycling (more than 10 miles per hour)
- Swimming (freestyle laps)
- Aerobics
- Walking very fast (4 ½ miles per hour)
- Heavy yard work, such as chopping wood
- Weight lifting (vigorous effort)
- Basketball (competitive)

- Identify the recommended amount of **physical activity for teens and adults**.

Physical activity (this is in addition to the 30-60 minutes of moderate to vigorous activity) should add up to at least 60 minutes on ALL days of the week. This can be completed in bouts as small as 10 minutes up to 60 minutes at once.

Examples of physical activities.
- Walking to dog
- Washing the car
- Cleaning your room
- Walking to school
- Taking the stairs instead of an elevator

- Understand the difference between physical activity and physical fitness activity
Ways to measure your exercise intensity.

1. **Talk Test**
   The talk test is a method used for measuring exercise intensity. By judging your ability to talk during your workout, you can determine how hard you're working. In general, if you're able to talk while exercising, you're working out at a low-moderate pace (your may be at a RPE of 10). If you're breathless, you're working out at a harder pace (around a 15).

2. **Using the Rating of Perceived Exertion method for estimating intensity.**
   - 6 No exertion at all
   - 7 Extremely light
   - 8 Very light - (easy walking slowly at a comfortable pace)
   - 9 Light
   - 10 Somewhat hard (It is quite an effort; you feel tired but can continue)
   - 11 Hard (heavy)
   - 12 Very hard (very strenuous, and you are very fatigued)
   - 13 Extremely hard (You can not continue for long at this pace)
   - 14 Maximal exertion

3. **Measuring Heart Rate and computing appropriate “training zone” or Target Heart Rate Zone that represents 60%-80% of the maximum heart rate. (MHR)