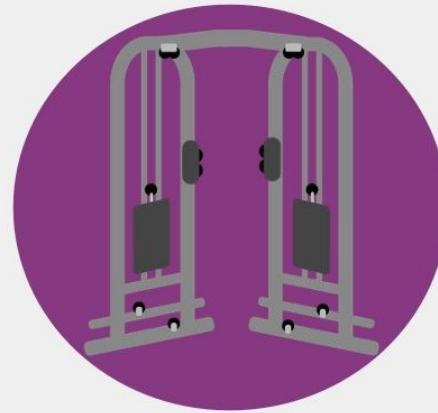
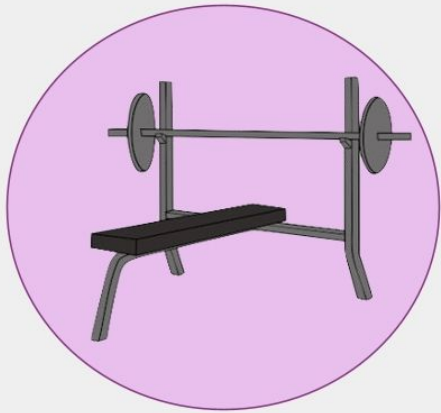


Anatomical Adaptation



Review

Content that you learned in 7th grade



What is Anatomical Adaptation

Scientific definition:

This is the initial phase of physical training which usually occurs after a period of being **sedentary** and is known as a prep period. Its purpose is to prepare each of these physiologic systems (**the circulatory system, the muscular system, and the respiratory system**) which undergo specific **adaptations** that increase the body's **efficiency** and **capacity**.

Wordbank

Sedentary: (of a person) tending to spend much time seated; somewhat inactive.

Cardiovascular system: The system that circulates blood and lymph through the body, consisting of the heart, blood vessels, blood, lymph, and the lymphatic vessels and glands.

The muscular system: All the muscles of the body collectively, especially the voluntary skeletal muscles.

The respiratory system: The respiratory system is the set of organs that allows a person to breathe and exchange oxygen and carbon dioxide throughout the body.

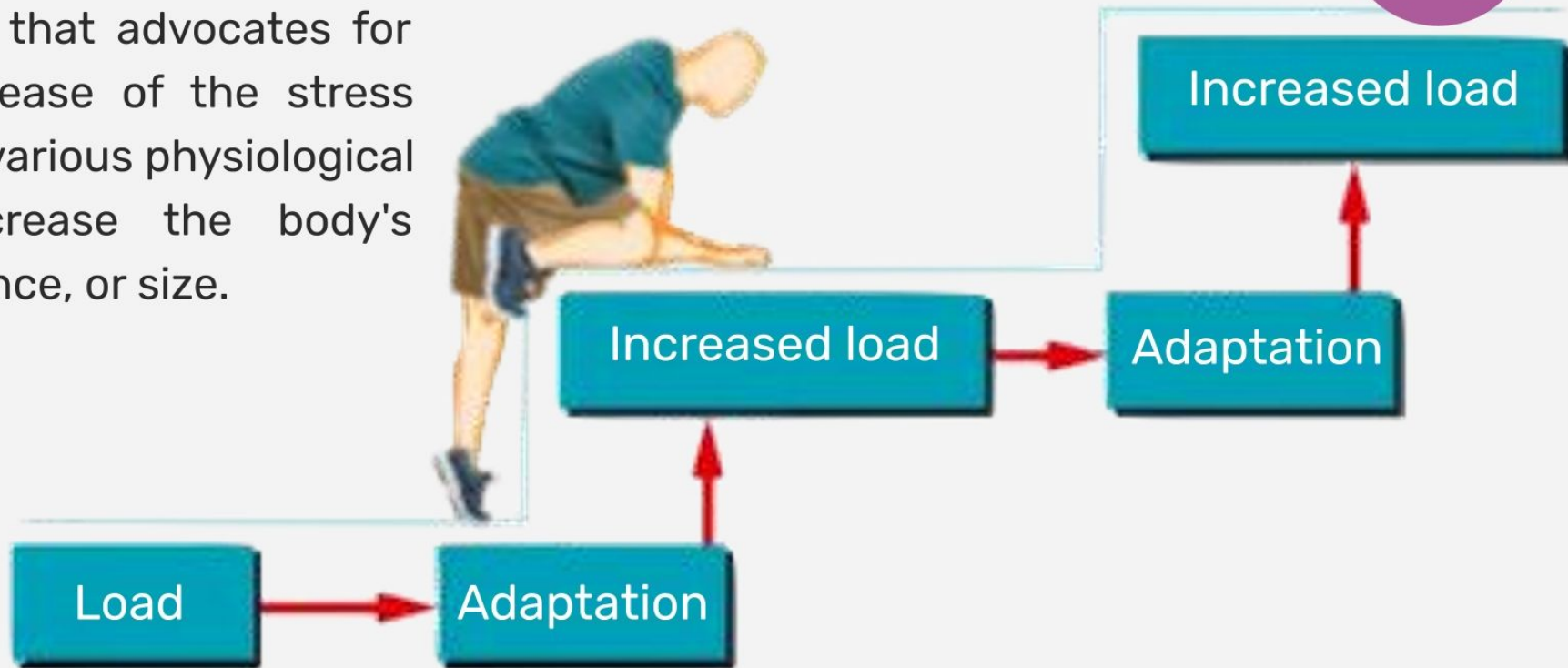
Adaptations: The process by which a species becomes fitted to its environment

Efficiency: The ratio of the useful work performed

Capacity: The maximum amount that something can contain

Progressive overload

Progressive overload is a method of physical training that advocates for the gradual increase of the stress placed upon the various physiological systems to increase the body's strength, endurance, or size.



Pacing

Scientific definition:

Pacing is learning how to run within your body's energy and fitness level. By learning the importance of pacing and fine-tuning your skills, you can improve your consistency and set new personal bests.

Conversational Gauged Energy Expenditure

Scientific definition:

A pace that you can run and carry out a conversation. If you become out of breath and cannot continue your conversation, you need to slow your pace down.

New Content

Expanding your knowledge and understanding for 8th grade





Goals of Resistance training

Strength

Muscular strength refers to an increase in the maximum force that a muscle or group of muscles can generate against resistance. For targeting muscular Strength a low repetition range with heavy loads (from **1 to 5 repetitions** per set with 80% to 100% of 1-repetition maximum (1RM)) optimizes strength increases.

Hypertrophy

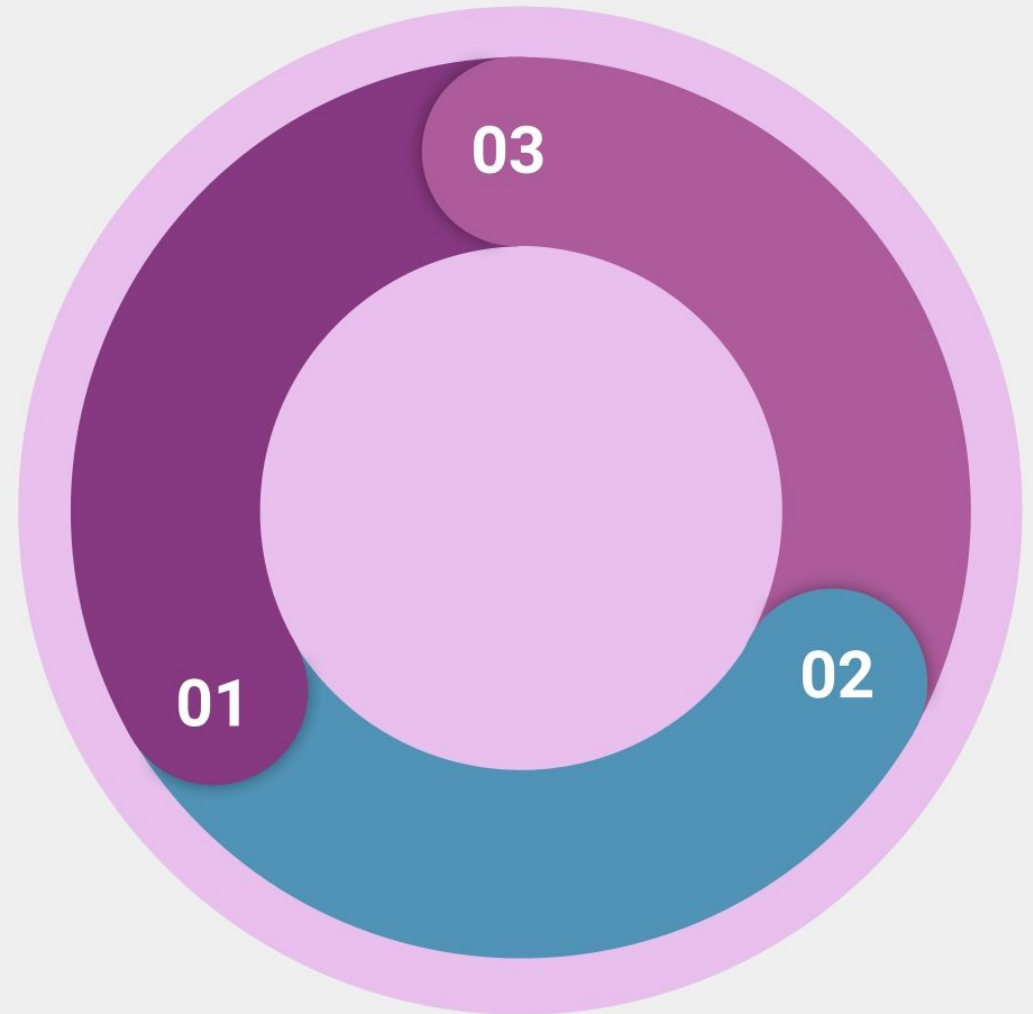
Muscle hypertrophy is a term for the growth and increase of the size of muscle cells, the goal is to increase the muscle size. For targeting muscular growth moderate repetition range with moderate loads (from **8 to 12 repetitions** per set with 60% to 80% of 1RM) optimizes hypertrophic gains.

Muscular Endurance

The goal of muscular endurance is to improve the ability of a muscle or group of muscles to sustain repeated contractions over an extended period without fatigue. In other words, it focuses on increasing the muscle's capacity to endure continuous or repetitive work over time. For targeting muscular endurance high repetition range with light loads (**15+ repetitions** per set with loads below 60% of 1RM) optimizes local muscular endurance improvements.

Resistance training splits

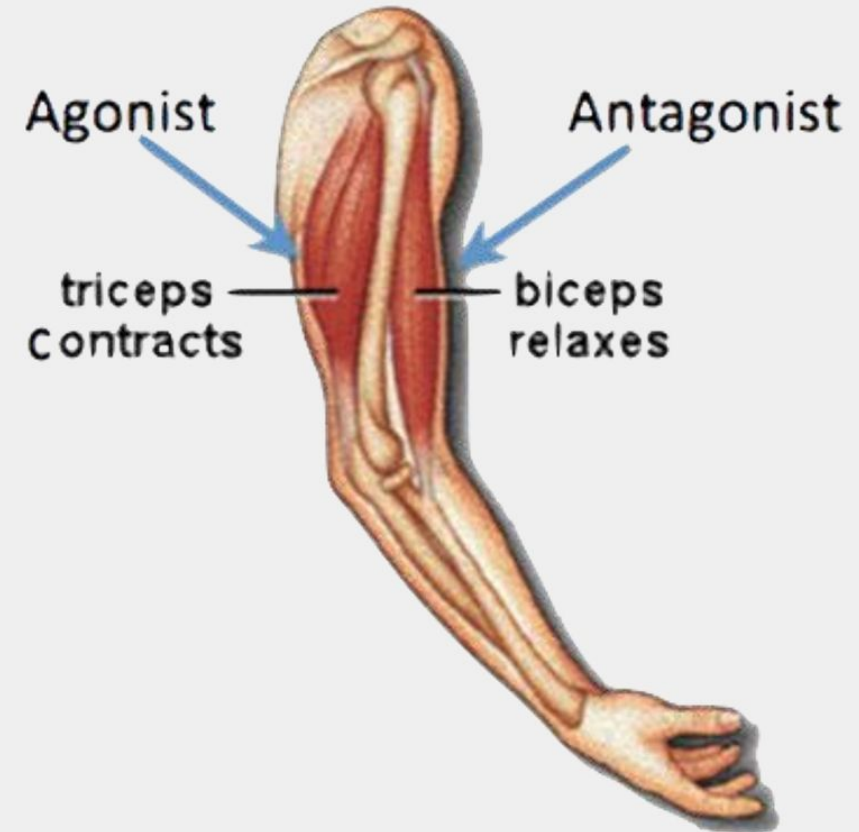
A resistance training split organizes your workouts into specific days targeting different muscle groups or movements. This allows you to focus on individual areas, providing optimal rest and recovery while maximizing training intensity.



Agonist - Antagonist Training Split

Scientific definition:

Agonist and antagonist training involves coupling exercises that target layered muscles in an alternating manner. This approach increases blood flow to specific areas of the body by working the contracting (agonist) while relaxing (antagonist) muscles and then alternating the next exercises targeted muscle.



Three day Agonist - Antagonist Split Organization

1

Chest and Back

2

Arms

3

Lower body

Push - Pull - Legs Training split

Three Day Split Organization

- 1** Push (Chest + Triceps)
- 2** Pull (Back + Biceps)
- 3** Legs and Shoulders

Scientific definition:

This split organizes your workout sessions into three distinct categories: push exercises, pull exercises, and leg and shoulder exercises. This method strategically targets specific muscle groups while emphasizing the movement patterns associated with each muscle groups actions. One of the major advantages of this split is the ability to pair muscles based on their contraction and relaxation movement pattern. By incorporating exercises that target primary and secondary movers this muscular pairing enables you to take advantage of synergistic movements.

Sport Specificity in Resistance Training Programs

Sport specificity in resistance training refers to designing strength and conditioning programs that correspond to the demands and movements of a particular sport. The concept of sport specificity recognizes that different sports involve unique movement patterns, muscle groups, energy systems, and performance demands. Therefore, training programs should aim to enhance the physical attributes and abilities that are directly relevant to the sport, ultimately improving an athlete's performance.





**RHMS Golden Eagle Fitness
Challenge /
Presidential and National
Fitness Challenge**



ROLLING HILLS MIDDLE SCHOOL

8TH GRADE GOLDEN EAGLE FITNESS CHALLENGE ACTIVITIES AND STANDARDS

Students will need Golden Eagle in all 5 fitness testing areas.

| Fitness Area | Golden Eagle | Advanced | Proficient | Basic | Improvement Needed |
|------------------------|--------------------|-----------------|----------------|---------------|--------------------|
| Mile Run | Below - 9:25 | 9:26-10:00 | 10:01-10:30 | 10:31-13:00 | 13:01-Higher |
| PACER | 62 - Above | 52 - 61 | 40 - 51 | 30 - 39 | Below - 29 |
| Push-ups | 27 - Above | 17 - 26 | 12 - 16 | 9 - 11 | Below - 8 |
| Pull-ups | 2 - Above | | 1 | | 0 |
| Flexed Arm Hang | 14 Seconds - Above | 11 Seconds - 13 | 8 Seconds - 10 | 5 Seconds - 7 | Below - 3 Seconds |
| Shuttle Run | Below - 10.9 | 11 - 11.3 | 11.4 - 11.8 | 11.9 - 12.2 | 12.3 - Higher |
| Sit-Ups | 37 - Higher | 39 - 54 | 30 - 38 | 25 - 39 | Below - 24 |
| Sit and Reach | 27 - Above | 23 - 26 | 19 - 22 | 12 - 18 | Below - 11 |



8TH GRADE PRESIDENTIAL / NATIONAL FITNESS CHALLENGE ACTIVITIES AND STANDARDS

Students will need Presidential or National in all 5 fitness testing areas.

| Award | Age | FAH | Pull Ups | Sit & Reach | Mile | Push Ups | Sit Ups | Shuttle Run |
|--------------|-----|--------|----------|-------------|------|----------|---------|-------------|
| Presidential | 13 | N/A | 4 | 35 | 7:30 | 30 | 49 | 9.8 |
| Presidential | 14 | N/A | 6 | 38 | 7:12 | 30 | 51 | 9.6 |
| National | 13 | 15 Sec | 2 | 28 | 9:15 | 17 | 39 | 10.6 |
| National | 14 | 17 Sec | 3 | 30 | 9:00 | 17 | 41 | 10.5 |

