

Introduction to the F.I.T.T. Formula

You know that you must do more physical activity than normal to build fitness. You also know that you should gradually increase your physical activity in order to stay within your target fitness zone. But, how much physical activity do you need?

You can use the **FITT Formula** to help you apply the basic of principles of exercise. Each letter in the word FITT represents an important factor for determining how much physical activity is enough:

- **Frequency refers to how often you do physical activity.** For physical activity to be beneficial, you must do it several days a week. As you will see later, frequency depends on the type of activity you are doing and the part of fitness you want to develop. For example, to develop strength you might need exercise 2 days a week, but to lose fat daily activity is recommended.
- **Intensity refers to how hard you perform physical activity.** If the activity you do is too easy, you will not build fitness and gain other benefits. But remember, extremely vigorous activity can be harmful if you do not work up to it gradually. Intensity is determined differently depending on the type of activity you do and the type of fitness you want to build. For example, counting heart rate can be used to determine intensities for building cardiovascular fitness, while the amount of weight you lift can be used to determine the intensity for building strength.
- **Time refers to how long you do physical activity.** The length of time you should do physical activity depends on the type of activity you are doing and the part of fitness you want to develop. For example, to build flexibility you should stretch for 15 seconds or more for each muscle group, while to build cardiovascular fitness you need to be active continuously for a minimum of 20 minutes or more
- **Type refers to the kind of activity you do to build a specific part of fitness or to gain a specific benefit.** One type of activity may be used for building one part of fitness but may not work to build another type of fitness, for example, running is a type of activity that builds cardiovascular fitness but it does little to develop flexibility.

FITT Application	Cardiovascular Fitness	Muscular Endurance	Muscular Strength	Flexibility
FREQUENCY	3-5 time per week	2-4 times per week	2-4 times per week	Daily
INTENSITY	Train within the Target Heart Rate Zone (60%-80%)	Low Resistance	High Resistance	Hold beyond normal muscle length
TIME	Minimum of 20 minutes	High number of Repetitions	Low number of Repetitions	Hold each stretch a minimum of 20 seconds
TYPE	Aerobic activity keeping heart rate within the THR zone	Resistance Training, Yoga, Light Weights, Pilates	Anaerobic Activities: weight lifting, core training	Movements that allow full range of motion.

1. Describe the FITT Formula:

F:

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T:

2. Select one of the 5 Components of Fitness (Cardiovascular Fitness/Muscular Strength/Muscular Endurance/Flexibility/Body Composition) and give an example from class to show how each part of the FITT formula is used.

Complete the table below:

	Example:	Your Example:
Fitness Component	Muscular Strength	
Frequency	2-3 days a week	
Intensity	Full Body Weight	
Time	3 sets of 10 reps	
Type	Push Ups	

DESIGNING YOUR OWN FITNESS PROGRAM:

If you want to design your own fitness program, you should follow some basic Principles of Training. These principles can be applied to any fitness goal and with a little practice you'll be creating programs for mom and dad too!

1. Specificity

The **Specificity Principle** simply states that exercising a certain body part primarily develops that part. The Principle of Specificity implies that, to become better at a particular exercise or skill, you must perform that exercise or skill. A runner should train by running, a swimmer by swimming and a cyclist by cycling. While it's helpful to have a good base of fitness and to do general conditioning routines, if you want to be better at your sport, you need to train specifically for that sport.

2. Progression

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. If overload occurs too slowly, improvement is unlikely, but overload that is increased too rapidly may result in injury or muscle damage.

Example: During a weight-training program there is no advantage to bench pressing 40lbs during one session and 140lbs the next session. The chances are that you will fail in the attempt and become de-motivated or injure yourself by trying. As muscle strength increases then there is a gradual, progressive increase in the amount of weight being benched and so improvements are made accordingly.

The same is true when learning new skills and developing those skills to an advanced form. There is no point in trying the advanced form first; failure is almost sure to occur and so de-motivate or injure the performer. For example, a gymnast does not start with the double full twisting back somersault but rather a simple skill like the cartwheel. the weekend athlete who exercises vigorously only on weekends violates the principle of progression and most likely will not see obvious fitness gains, not to mention risking injury.

The Principle of Progression also stresses the need for proper rest and recovery. Continual stress on the body and constant overload will result in exhaustion and injury. You should not train hard all the time, as you'll risk overtraining and a decrease in fitness.

3. Overload

The **principle of overload** states that a greater than normal stress or load on the body is required for training adaptation to take place. Overloading body systems with higher work rates and increased loads causes the body to respond to these extra demands by improving its performance.

In order for a muscle (including the heart) to increase strength, it must be gradually stressed by working against a load greater than it is used to. To increase endurance, muscles must work for a longer period of time than they are used to or at a higher intensity. Here is where the FITT formula goes to work. By manipulating the FITT formula, you can change the amount of overload and safely increase your level of fitness.

4. Reversibility

This is the reverse of progression. You've heard the saying "use it or lose it". That sums up the idea of Reversibility. We know that exercise improves fitness. So it seems pretty easy to conclude that if we stop exercising, our fitness level will drop. Your CVF can quickly reduce through lack of exercise. Muscular endurance diminishes when muscles are no longer used over extended periods of time. Muscle size will also decrease with lack of use (like when you have to wear a cast...) this decrease in size is referred to as **atrophy**.

Once you have achieved your fitness goal you have two choices... maintain the current level or set new goals.

5. Tedium

Your training program must be varied to ensure that you can maintain your motivation. If your routine becomes boring- you are more likely to stop. It's important to utilize multiple types of training to keep yourself interested, you will be more likely to see bigger gains in your fitness levels as well.

Designing a program that adheres to all of these guidelines can be challenging, so it's not a surprise that many athletes turn to a coach or trainer for help with the details so they can focus on the workouts.

Activity:

You've been hired by IPTO (International Principles of Training Organization) to put together an amazing poster/flyer to be used in schools and gyms across the world. Your job is to get people interested enough to stop and read the valuable information that will help them learn to design their own fitness programs thus improving health around the globe.

Using the information provided here and the template provided (or you can make your own), create an exciting visual experience that would help someone understand the Principles of Training. See the grading rubric below for more information

SPORT POSTER Grading Rubric:

1. Minimum size 8.5" x 11" (provided) Maximum size 12"x 18"
2. All text must be LEGIBLE (easy to read)
3. LABEL and EXPLAIN each principle
4. Include EXAMPLES (pictures)
5. Color- must use a minimum of 2 colors maximum of 5 colors

PRINCIPLES OF TRAINING

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REMEMBER: To avoid injury, all training programs should include a full warm-up and cool down, As well as time for rest and recovery