# Principles of the ESSENTRICS® Program

Level 1 Comprehensive Certification Written Evaluation Package Short Answer & Mutliple Choice

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# LEVEL 1 WRITTEN EVALUATION REQUIREMENTS

The contents of this Evaluation Package provide you with everything you need for the short answer and multiple choice portions of your Level 1 exam. Combined, they contribute to 30% of your overall Level 1 grade. The remaining portion is attributed to the practical teaching portion. A minimum total grade of 80% is required to obtain the Essentrics Level 1 Certificate of Completion and become a Certified Level 1 Essentrics<sup>®</sup> Instructor.

1.	WRITTEN EVALUATION	15%
	bmission of the completed written exam detailing objectives, techniques, and muscle ated to exercise sequences from PCW1.	groups
2.		15%

Submission of the completed multiple-choice questionnaire based on the theory from the Level 1 Manual (80 questions).

## WRITTEN EVALUATION GUIDELINE

For each question, you will be asked to: 1. Illustrate the exercise and explain the movement 2. List the primary objective 3. List the techniques that are required to achieve your primary objective List the secondary objectives 4. 5. List the techniques that are required to achieve your secondary objectives 6. List the primary muscle groups targeted Each question is marked out of a grade of 6.

**NOTE:** There are many potential correct answers to each question. As you know, each Essentrics exercise delivers many objectives through a variety of applied techniques that target many muscles. Once you choose your primary and secondary objectives, make sure that the techniques you choose relate directly to what *you* have written. Choose techniques that drive home the objectives you list in order to receive full marks and use this written portion as an opportunity to reflect and apply critical thinking to the program.

To "explain the movement," use imagery and verbal cues you would use to teach the exercise to your students in class. The purpose of this requirement is to help you break down the movement. We are not asking for every single step and instruction, just the main ones. See the <u>example provided</u> for an idea of what we are looking for.

When you choose your techniques, we ask that you outline the specific category from which they are from:

- Positional Techniques
- Joint Movement Techniques
- Neuromuscular Techniques

You will have marks deducted if this is omitted.

#### **EXAMPLE:** Lifting Buckets of Water (not featured in PCW1)

#### Illustrate and explain the movement:

- Start with your legs slightly wider than your hips, bend both knees and tuck your tailbone under into a Neutral C. Round your upper back, relax your shoulders and lower your upper body towards the floor, letting your arms hang heavy.
- Spinal roll up: Slowly straighten your spine, one vertebra at a time, imagine you are lifting heavy buckets of water (*this imagery will help students achieve the desired muscle contraction*).
- As your hands arrive at shoulder height, do a full shoulder rotation to finish with your shoulders down, elbows bent by your side, palms up.
- Finish: Push something heavy towards the ceiling as you straighten your elbows, arriving in Neutral Elongation.

#### What is the primary objective of this exercise?

Improving posture

# What techniques are needed to achieve your primary objective? (Minimum 2) + technique category

- Neutral C & Neutral Elongation (Positional Techniques)
- Pulling Up (Joint Movement Technique)
- Resistance & Imagery (Neuromuscular Techniques)

#### What are your secondary objectives? (Minimum 2)

- Flexibility of the spine
- Flattening the stomach

# What techniques are needed to achieve your secondary objectives? (Minimum 2) + technique category

- Movement of and within the Joint (Joint Movement)
- Resistance (Neuromuscular)
- Isotonic Contraction (Neuromuscular)
- Pulling Up (Joint Movement)

- Trapezius
- Latissimus dorsi
- Erector spinae muscles



## **1.** WRITTEN **EVALUATION**

#### 1. Shoulder Blast

Illustrate & explain the movement:

What is the primary objective?

What techniques are needed to achieve your primary objective? (Minimum 2) + technique category

What are the secondary objectives? (Minimum 2)

What techniques are needed to achieve your secondary objectives? (Minimum 2) + technique category

#### 2. Pliés

Illustrate & explain the movement:

What is the primary objective?

What techniques are needed to achieve your primary objective? (Minimum 2) + technique category

What are the secondary objectives? (Minimum 2)

What techniques are needed to achieve your secondary objectives? (Minimum 2) + technique category

#### 3. Arm Pumps

Illustrate & explain the movement:

What is the primary objective?

What techniques are needed to achieve your primary objective? (Minimum 2) + technique category

What are the secondary objectives? (Minimum 2)

What techniques are needed to achieve your secondary objectives? (Minimum 2) + technique category

#### 4. Windmills

Illustrate & explain the movement:

What is the primary objective?

What techniques are needed to achieve your primary objective? (Minimum 2) + technique category

What are the secondary objectives? (Minimum 2)

What techniques are needed to achieve your secondary objectives? (Minimum 2) + technique category

#### 5. Side Leg Lifts

Illustrate & explain the movement:

What is the primary objective?

What techniques are needed to achieve your primary objective? (Minimum 2) + technique category

What are the secondary objectives? (Minimum 2)

What techniques are needed to achieve your secondary objectives? (Minimum 2) + technique category

6. Lever Stretch. Choose one of the following three options:

Lever Stretch with Side Lunge \_\_\_\_\_ Baby Stretch \_\_\_\_\_ Figure 4 Stretch \_\_\_\_\_

Illustrate & explain the movement:

What is the primary objective?

What techniques are needed to achieve your primary objective? (Minimum 2) + technique category

What are the secondary objectives? (Minimum 2)

What techniques are needed to achieve your secondary objectives? (Minimum 2) + technique category

## 2. MULTIPLE CHOICE EVALUATION

#### Circle one letter that best answers each question

- 1. Essentrics \_\_\_\_\_\_.
  - a. Increases the flexibility of your muscles through eccentric strength training
  - b. Is a strengthening program
  - c. Simultaneously stretches and strengthens your muscles
  - d. All of the above
- 2. The philosophy behind Essentrics is to \_\_\_\_\_\_ the entire body.
  - a. Stretch
  - b. Rebalance
  - c. Strengthen
  - d. Release
- 3. \_\_\_\_\_\_ helps explain how a foot injury can cause hip problems, or an arm injury can cause shoulder problems.
  - a. Body awareness
  - b. Muscle chains
  - c. Dynamic movement
  - d. Levers

4. To rebalance the full-body you must \_\_\_\_\_\_.

- a. Work agonist & antagonist muscle groups
- b. Stretch & strengthen all 650 muscles
- c. Work the Short & Long Levers equally
- d. All of the above
- 5. Strength without \_\_\_\_\_\_ inevitably leads to immobility, atrophy, and poor posture.
  - a. Flexibility
  - b. Power
  - c. Endurance
  - d. Massage

- 6. Essentrics uses \_\_\_\_\_
  - a. Static stretching
  - b. Active stretching
  - c. Passive stretching
  - d. Ballistic stretching
  - \_\_\_\_\_\_ is essential to be able to fully stretch and strengthen your muscles.
  - a. Passive stretching
  - b. Relaxation

7.

- c. Ballistic movement
- d. Weight training
- 8. This category of Essentrics Techniques is designed to ensure a safe load path and clean alignment of your joints:
  - a. Joint Movement Techniques
  - b. Neuromuscular Techniques
  - c. Positional Techniques
  - d. All of the above
- 9. Poor alignment leads to muscular imbalance, atrophy of un-recruited muscles and inefficient results when training.
  - a. True
  - b. False
- 10. \_\_\_\_\_\_ relieves pressure on your joints, protects them from impact and accelerates the healing process by permitting synovial fluid to enter joint capsule.
  - a. Pulling Up
  - b. Deep Breathing
  - c. Resistance
  - d. Isolation
- 11. What do Neutral C, Neutral Elongation, Alignment and Turnout have in common?
  - a. They are all Positional Techniques
  - b. They all ensure correct load path
  - c. They are all necessary to teach a safe class
  - d. All of the above

- 12. \_\_\_\_\_\_ are techniques that apply the basic philosophy of an eccentric movement: lengthening and strengthening.
  - a. Neutral C and Neutral Elongation
  - b. Pulling Up and Pulling Out
  - c. Short Lever / Long Lever
  - d. Agonist / Antagonist
- 13. \_\_\_\_\_ releases tension, allows for a deeper stretch, and catches peripheral muscles in addition to the primary targeted ones.
  - a. Isolation
  - b. Pulling Out
  - c. Movement Within a Stretch
  - d. Overextension
- 14. The primary purpose of all Joint Movement Techniques is to:
  - a. Trigger a response in the nerves and muscles
  - b. Increase the full mobility of every joint and to maintain their full function
  - c. Position the body to ensure correct load path
  - d. Burn more calories
- 15. Pulling Up helps us achieve the following benefit(s):
  - a. Good posture
  - b. Improved digestive health
  - c. Increased energy
  - d. All the above

Correct alignment starts with proper placement of the \_\_\_\_\_\_.

- a. Feet
- b. Hips
- c. Knees
- d. Head

17. Correct alignment \_\_\_\_\_

- a. Protects your joints
- b. Recruits 100% of the targeted muscles
- c. Increases energy
- d. All of the above

- 18. Turnout, or Turning Out, is a technique that \_\_\_\_\_\_
  - a. Increases range of motion
  - b. Improves balance
  - c. Reverses atrophy and loosens scar tissue
  - d. All of the above
- 19. Everyone has the same Turnout angle.
  - a. True
  - b. False
- 20. Which technique involves moving the limb in a rotational fashion while the joint remains stabilized and isolated?
  - a. Rotation within a Joint
  - b. Movement of the Joint
  - c. Deep Breathing
  - d. PNF
- 21. \_\_\_\_\_\_ is one of the most valuable and effective tools to help your students properly execute various exercises without spending too much time explaining details.
  - a. Imagery
  - b. PNF
  - c. Alignment
  - d. Myotatic reflex
- 22. The use of \_\_\_\_\_\_ as a technique has several beneficial objectives which include relaxing your muscles, assisting in blood flow and transporting oxygen and nutrients.
  - a. Pulling Out
  - b. Resistance
  - c. Deep Breathing
  - d. Lever Stretches
- 23. Ballistic movement \_\_\_\_\_
  - a. Is a very safe flexibility technique
  - b. Does not increase flexibility because the speed contracts and shortens the muscle
  - c. Helps to relax the muscles
  - d. Is considered a Joint Movement Technique

- 24. What is PNF?
  - a. Propriocentric Neurological Facilitation
  - b. Propriometric Neuroactive Facilitation
  - c. Proprioception Neurological Facility
  - d. Proprioceptive Neuromuscular Facilitation
- 25. What is a simplified explanation of PNF?
  - a. Contract Release Stretch
  - b. Contract Release Relax Stretch
  - c. Contract Rotate Stretch
  - d. Stretch Relax Stretch
- 26. PNF requires special equipment.
  - a. True
  - b. False
- 27. The relationship between muscles that explains for the fact that when a muscle contracts and shortens its opposing muscle relaxes and lengthens is \_\_\_\_\_\_.
  - a. Myosin / Actin
  - b. Concentric / Eccentric
  - c. Agonist / Antagonist
  - d. None of the above
- 28. \_\_\_\_\_\_ is a Neuromuscular Technique that triggers our muscles to relax in order to release tension and safely increase flexibility.
  - a. PNF
  - b. Turnout
  - c. Two-Directional Stretch
  - d. Long Lever
- 29. Which one of the following is not a Neuromuscular Technique?
  - a. Relaxation
  - b. PNF
  - c. End of the Stretch
  - d. Rotation of a Joint

- 30. A(n) \_\_\_\_\_\_ contraction occurs when a muscle shortens, bringing its attachment points closer together.
  - a. Eccentric
  - b. Concentric
  - c. Isometric
  - d. Involuntary
- 31. A movement in which resistance or weight remains the same as your muscles change length is known as what kind of muscle contraction?
  - a. Isometric
  - b. Resistance
  - c. Isotonic
  - d. PNF
- 32. In Essentrics we only use eccentric strengthening.
  - a. True
  - b. False
- 33. An \_\_\_\_\_\_ contraction is one in which no change in muscle length occurs. In Essentrics, an example can be found in \_\_\_\_\_\_.
  - a. Isometric, the kicking leg during kicks
  - b. Isometric, the standing leg during kicks
  - c. Isotonic, the standing leg during kicks
  - d. Isotonic, the kicking leg during kicks
- 34. What defines an eccentric contraction?
  - a. Muscle fibres lengthening as they contract
  - b. Muscle fibres shortening as they contract
  - c. Stretching a muscle
  - d. No change in the length of the muscle fibre
- 35. Reflex intelligence \_\_\_\_\_
  - a. Is voluntary
  - b. Is an objective
  - c. Is your body's natural safety mechanism to avoid muscle and tendon injury
  - d. Moves the bones

- 36. The Golgi tendon reflex \_\_\_\_\_
  - a. Relaxes muscles
  - b. Is triggered by a muscle contraction
  - c. Is involuntary
  - d. All of the above
- 37. What does the myotatic reflex do?
  - a. Inhibits movements when you are strengthening
  - b. Inhibits the muscle from lengthening when you are stretching
  - c. Inhibits movements when you try to contract
  - d. Inhibits movements when your muscles are cold
- 38. Your myotatic reflex, or stretch reflex, \_\_\_\_\_
  - a. Triggers a muscle contraction
  - b. Is a response to stretching
  - c. Protects muscles from being torn
  - d. All of the above
- 39. Doing the splits triggers the myotatic reflex.
  - a. True
  - b. False
- 40. Catching a ball triggers the Golgi tendon reflex.
  - a. True
  - b. False
- 41. Lack of movement leads to \_\_\_\_\_
  - a. Hardening of the body's lubricating oil
  - b. Cell atrophy
  - c. Stiffness in surrounding areas
  - d. All of the above
- 42. \_\_\_\_\_\_ is a form of connective tissue that can be considered like a protective web, enveloping all muscles, nerves, bones and blood vessels.
  - a. Fascia
  - b. Blood
  - c. Synovial fluid
  - d. Tendons

- 43. Mitochondria are considered the \_\_\_\_\_ of a cell.
  - a. Vacuum
  - b. Calorie burning units
  - c. Fat storage units
  - d. Waste units
- 44. Our mitochondria are effected when we stop using our muscles.
  - a. True
  - b. False
- 45. The cardiovascular system consists of \_\_\_\_\_\_.
  - a. The cardiac muscle (heart) and veins
  - b. The aortas and ventricles of the heart
  - c. The cardiac muscle (heart), blood vessels and lungs
  - d. The cardiac muscle (heart), blood, and the blood vessels
- 46. Essentrics helps increase our circulation and eases the workload of the heart by involving the full musculature of the body.
  - a. True
  - b. False

47. A muscle is made up of tens of thousands of muscle cells called \_\_\_\_\_\_.

- a. Myofilaments
- b. Sarcomeres
- c. Myosin
- d. Actin
- 48. \_\_\_\_\_

\_\_\_\_\_ are controlled by the conscious brain.

- a. Skeletal muscles
- b. Involuntary muscles
- c. Smooth muscles
- d. Cardiac muscles
- 49. A joint is only as flexible as its \_\_\_\_\_
  - a. Strongest muscle
  - b. Smallest muscle
  - c. Tightest muscle
  - d. Loosest muscle

- 50. A typical spine follows a natural \_\_\_\_\_\_ which \_\_\_\_\_\_ every person.
  - a. C curve; is the same for
  - b. C curve; varies for
  - c. Double S curve; varies for
  - d. Double S curve, is the same for
- 51. \_\_\_\_\_ provide(s) a frictionless surface between bones, cushioning and preventing wear on articular surfaces.
  - a. Cartilage
  - b. Ligaments
  - c. Synovial fluid
  - d. Blood
- 52. \_\_\_\_\_ can inhibit the movements of our limbs and make us feel glued and stiff.
  - a. Scar tissue
  - b. Concentric training
  - c. Atrophy
  - d. All of the above
- 53. Ligaments and tendons are forms of connective tissue.
  - a. True
  - b. False
- 54. The rate of healing is \_\_\_\_\_\_ in tendons and ligaments compared to muscles because of their \_\_\_\_\_\_.
  - a. Slower, range of movement
  - b. Faster, high blood flow
  - c. Slower, low blood flow
  - d. Faster, range of movement
- 55. A strain is overstretching or tearing of a \_\_\_\_\_\_.
  - a. Muscle
  - b. Tendon
  - c. Muscle or tendon
  - d. Ligament

- 56. A sprain is \_\_\_\_\_
  - a. Overstretching or tearing of a ligament
  - b. Overstretching or tearing of a muscle
  - c. Overstretching or tearing of a tendon
  - d. All of the above
- 57. A primary function of our ligaments is to \_\_\_\_\_\_.
  - a. Move our joints
  - b. Lubricate our joints
  - c. Stabilize our joints
  - d. Stretch our joints
- 58. When a ligament or tendon is stretched beyond its 6% capacity, it will never fully rebound or return to its original constitution.
  - a. True
  - b. False
- 59. There are roughly \_\_\_\_\_\_ skeletal muscles in our body.
  - a. 560
  - b. 650
  - c. 360
  - d. 206
- 60. All skeletal muscles cross at least one joint. If they did not cross a joint they would not be able to move our body parts.
  - a. True
  - b. False
- 61. You have \_\_\_\_\_\_ joints in your body.
  - a. 320
  - b. 360
  - c. 650
  - d. 206
- 62. Every movement, big or small, involves an agonist and antagonist muscle group.
  - a. True
  - b. False

- 63. What is the Sliding Filament Theory?
  - a. An explanation of how protein filaments slide past each other during muscle contraction
  - b. An explanation of how tendon filaments slide along the bones
  - c. An explanation of how blood slides into a muscle filament
  - d. A theory that explains blood circulation
- 64. The Sliding Filament Theory helps explain and account for \_\_\_\_\_
  - a. Cellular movement
  - b. Large full-body movement
  - c. Concentric and Eccentric Strengthening
  - d. All of the above
- 65. The muscles of your Top Three include:
  - a. The front of your torso
  - b. The back of your torso
  - c. The sides of your torso, including shoulders, arms and fingers
  - d. All of the above
- 66. The muscles of your Big Four include:
  - a. The front of your legs
  - b. The back of your legs
  - c. The inside and outside of your legs
  - d. All of the above
- 67. Which of the following is not a section of the spine?
  - a. Cervical
  - b. Thoracic
  - c. Femur
  - d. Lumbar
- 68. Which one of the following applies to the skeletal system?
  - a. Protects organs and soft tissues
  - b. Provides support to the body
  - c. Produces a lever system for body movements
  - d. All of the above

- 69. The major building blocks of muscles are two thread-like protein strands called:
  - a. Lactic & acid
  - b. Myosin & actin
  - c. Mitochondria & insulin
  - d. The Krebs cycle
- 70. What does a tendon connect?
  - a. A bone to a bone
  - b. A muscle to a muscle
  - c. A muscle to a bone
  - d. A ligament to a muscle
- 71. What does a ligament connect?
  - a. A muscle to a bone
  - b. A bone to a bone
  - c. A tendon to a bone
  - d. A muscle to a tendon
- 72. How much flexibility does a tendon have?
  - a. 4% to 6%
  - b. 6% to 8%
  - c. 8% to 10%
  - d. 0%
- 73. What does Best Resting refer to?
  - a. The muscles' starting point when you start training
  - b. A good night's sleep for maximum performance
  - c. The muscle's best state, after training
  - d. The body's state after exercising for 30 minutes
- 74. A muscle has the ability to shorten \_\_\_\_\_\_ from its Best Resting. This is a concentric contraction.
  - a. 4-6%
  - b. 25%
  - c. 75%
  - d. Individually varies too much to say

- 75. A muscle has the ability to increase its length \_\_\_\_\_\_ from its Best Resting position.
  - a. 4-6%
  - b. 25%
  - c. 75%
  - d. Individually varies too much to say
- 76. Everyone has the same flexibility potential.
  - a. True
  - b. False

77. A person's potential flexibility depends on their \_\_\_\_\_

- a. Genetic musculoskeletal makeup
- b. Age and degree of atrophy
- c. Type of frequent activities
- d. All of the above
- 78. In the musculoskeletal system, our \_\_\_\_\_\_ is a primary indicator of our potential flexibility. This ratio is established by our \_\_\_\_\_\_.
  - a. Ratio of tendon to muscle; genetic makeup
  - b. Ratio of ligament to muscle; genetic makeup
  - c. Ratio of tendon to muscle; lifestyle
  - d. Ratio of ligament to muscle; lifestyle
- When an individual has long muscles and proportionately shorter tendons, they will naturally be more \_\_\_\_\_\_.
  - a. Flexible
  - b. Strong
  - c. Athletic
  - d. Energetic
- 80. When an individual has longer tendons and proportionately shorter muscles, the potential for increasing their flexibility will be \_\_\_\_\_\_.
  - a. Increased
  - b. Limited
  - c. Unaffected
  - d. Greater