

## LESSON 4: RESISTANCE TRAINING

### Grade-Level Outcomes

#### Primary Outcomes

**Assessment and program planning:** Designs a fitness program, including all components of health-related fitness, for a college student and an employee in the learner's chosen field of work. (S3.H12.L1)

**Safety:** Applies best practices for participating safely in physical activity, exercise and dance (e.g., injury prevention, proper alignment, hydration, use of equipment, implementation of rules, sun protection). (S4.H5.L1)

**Rules & etiquette:** Exhibits proper etiquette, respect for others and teamwork while engaging in physical activity and/or social dance. (S4.H2.L1)

**Fitness knowledge:** Demonstrates appropriate technique on resistance-training machines and with free weights. (S3.H7.L1)

**Fitness activities:** Demonstrates competency in 1 or more specialized skills in health-related fitness activities. (S1.H3.L1)

#### Embedded Outcome

**Fitness knowledge:** Identifies types of strength exercises (isometric, concentric, eccentric) and stretching exercises (static, proprioceptive neuromuscular facilitation [PNF], dynamic) for personal fitness development (e.g., strength, endurance, range of motion). (S3.H9.L1)

### Lesson Objectives

The learner will:

- discuss the importance of the weight room rules and abide by them.
- properly demonstrate the stations and discuss the muscle groups being exercised.
- demonstrate correct form and alignment.

### Equipment and Materials

- Station cards
- Notes (or PowerPoint)
- Weight room: all you have available for resistance training (bands, free weights, medicine balls, machines, and so on)

### Introduction

*Now that you have assessed your health-related fitness, we will discuss how to set up a resistance training plan for muscle fitness based on your goals and data from Fitnessgram and Activitygram. At the end of the module, you will be able to develop a plan for yourself as a college student as well as a plan for an individual in your choice career. Before you can do that, we must review the benefits of resistance training and different exercises that we can do. Today, we will review safety and etiquette in the weight room and the different stations available to you for working on muscular fitness.*

*Note:* The focus of this module is not on weight training. It's a good module for scaffolding on previous learning. The best time to conduct this learning segment is after students have learned about resistance training and the weight room. Still, this lesson reviews safety, etiquette, and how to use equipment properly.

## **Instructional Task:** **Weight Room Etiquette and Safety Reminders**

### ■ **PRACTICE TASK**

Have students take notes in their binders on the benefits of resistance training:

- Easier performance of daily activities
- Increased lean body mass
- Increased metabolism
- Stronger muscles, tendons, and ligaments
- Stronger bones and reduced risk of osteoporosis
- Decreased risk of injury
- Decreased risk of low-back pain
- Enhanced feelings of well-being and self-confidence

Give students the vocabulary words for the lesson. They can fill in the definitions.

Review safety and weight room rules:

- No horseplay at any time.
- No food, drink, or gum in the weight room.
- Do not sit on equipment during your rest interval.
- Wear proper clothes.
- Wear shoes at all times (no sandals or open-toe shoes).
- Do not slam the weights on the weight machines.
- Use a spotter with all free-lifting stations (bench press, incline press, squats, and so on).
- Return all free weights to the correct weight racks.
- Report any injury to the teacher immediately.
- Never lift weights without a teacher present in the room.
- Always wipe down stations after use and at the end of class with proper cleaning materials.

Demonstrate correct technique for each lift, including proper hand and foot placement and spine alignment.

### **Refinement**

Remind students to lift weights at a slow, steady pace (do not lift too fast).

### **Guiding questions for students:**

- Why is proper alignment so important?
- Why should you lift at a consistent, slow-to-moderate rate and not fast?

### **Student Choices/Differentiation**

- Provide handouts to go over with the class.
- Have students read sections aloud.

### **What to Look For**

- Students can identify the importance of the weight room rules.
- Students are engaged in the discussion and are taking notes.

## Instructional Task: Station Review

### ■ PRACTICE TASK

Show students how to spot properly on stations where spotting is required. At other stations, partners are responsible for double-checking that the machine is set up appropriately for their partners to use correct form and alignment.

Place students in groups of two to four (depends on the number of stations). Give them a cue card for a particular machine or station. The card will show how to adjust the machine weights (e.g., pins, seats) and the proper alignment and movement. The cards also identify what muscles are being worked. Students go to the appropriate station and learn how to use that machine and how to adjust it appropriately.

### Refinement

Provide feedback specific to using the equipment safely.

### Extension

Groups share and demonstrate their stations to the rest of the class, showing how to use the station and what muscle groups it works.

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**EMBEDDED OUTCOME: S3.H9.L1** As groups share their stations, they should indicate the type of exercise (e.g., isometric, concentric, eccentric).

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### Guiding questions for students:

- When you are not lifting, what are you doing for your partner?
- If you want to increase your leg strength, what stations work on leg strength?

### Student Choices/Differentiation

- Offer basic instruction on more difficult stations, and then let students explore stations safely with a guided discovery sheet.
- Students may use a self-check test (Darst & Pangrazi, 2009).

### What to Look For

- Students can demonstrate their assigned station properly.
- Students can identify what muscle groups are being targeted by specific exercises.
- Students can perform resistance exercises at stations with proper cues and alignment.

## Instructional Task: Station Review

### ■ PRACTICE TASK

After all groups have presented their station, groups rotate to the next one. If time permits, groups will rotate through all the stations before class ends to become familiar with what equipment is available and how to use it properly.

### Refinements

- Remind students to lift in a slow, controlled manner.
- Ensure time is used effectively at each station with rest and sets.

### Student Choices/Differentiation

Students choose the amount of weight and the number of sets and reps, so long as they are safe.

### What to Look For

- Students can identify the muscle groups being targeted without looking at the station card.
  - Students can perform the exercises safely and properly.
  - Partners are spotting when necessary.
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## Formal and Informal Assessments

Exit slip: List three weight room rules and protocols.

## Closure

- Today, you learned about the weight room and resistance training. Do we need machines or special equipment to work on muscle fitness?
- What other things could we do to work on muscle fitness?
- What are the benefits of resistance training?
- Tonight, think about a goal for your resistance training. Do you want to build strength? Do you want to be more toned? Do you want to work more on muscular endurance or a combination?
- Depending on your goals, the amount of weight and the number of sets and reps will be different. We will discuss this more in our next class. Be sure to complete the vocabulary in your binder. Also, remember that your Activitygram is due in Lesson 6. Be sure you log two weekdays and one weekend day. Your cardio and flexibility plan is due next time.

## Reflection

- Can students set up the equipment properly?
- Do students know which stations work on which muscle groups?
- Are students using correct form and proper alignment?
- Are students being safe and responsible?

## Homework

Write down whether you want to work on building strength, toning your body, building muscular endurance, or working toward a combination of those. Give reasons for your answer. Please bring your answer to our next class, when we will be in the weight room.

## Resources

Dale, D., McConnell, K., & Corbin C. (2007). *Fitness for life: Wraparound teacher's edition and resources kit*. 5th ed. Champaign, IL: Human Kinetics.

Darst, P.W., & Pangrazi, R.P. (2009). *Dynamic physical education for secondary school students*. 6th ed. San Francisco: Pearson Benjamin Cummings.

Faigenbaum, A., & Westcott, W. (2009). *Youth strength training programs for health, fitness, and sport*. Champaign, IL: Human Kinetics.

Very Well: <https://www.verywell.com/the-principle-of-overload-definition-3120362>

Very Well: <https://www.verywell.com/principle-of-specificity-definition-3120375>

Internet keyword search: "weight room safety," "weight room protocols," "weight lifting technique"

## RESISTANCE TRAINING VOCABULARY

Specificity<sup>1</sup>—Students must select exercises that mimic the skill patterns used in the sport and that involve only the muscle groups used to perform a technical skill.

Overload—Using an excessive load to attain improvement in training.

Progression<sup>2</sup>—An increase in work being completed over time. This usually is represented by an increase in volume or intensity during a training program.

Repetition<sup>3</sup>—One complete movement of an exercise.

Set<sup>3</sup>—A group of repetitions performed continuously without resting.

Strength<sup>3</sup>—The maximal amount of force a muscle or muscle group can generate.

Strength training<sup>3</sup>—Also called resistance training. A specialized method of conditioning that includes the progressive use of a wide variety of resistive loads and a variety of training modalities designed to enhance muscular fitness.

<sup>1</sup>-Reprinted from Bompa and Carrera 2015.

<sup>2</sup>-Reprinted from NSCA & Brown (ed) 2017.

<sup>3</sup>-Reprinted from Faigenbaum and Westcott 2009.