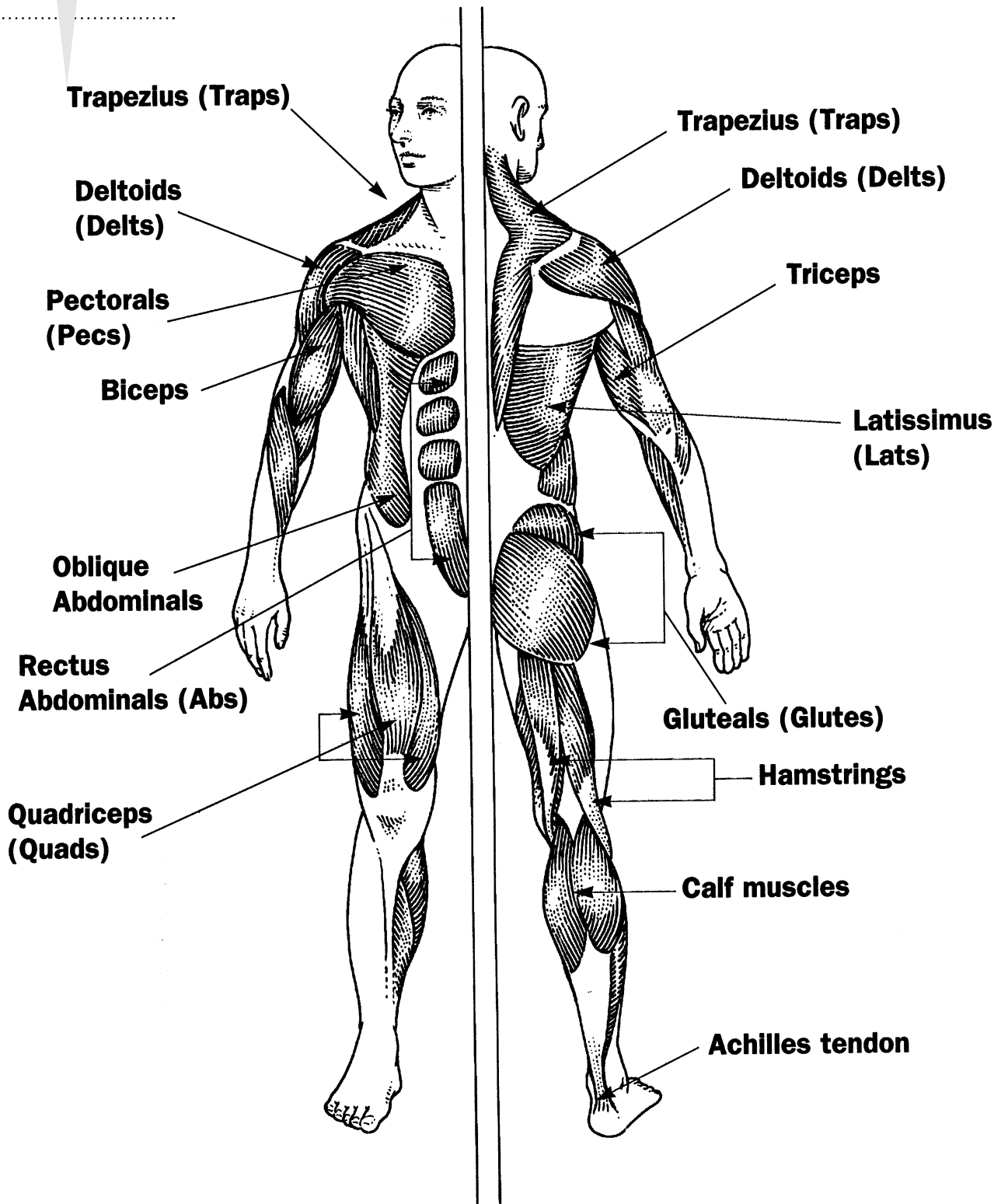


# SOME MAJOR MUSCLE GROUPS

## 11-A



From *Fitness for Life: Teacher Resources and Materials, Fifth Edition* by Karen McConnell, Charles B. Corbin, and Darren Dale, 2005, Champaign, IL: Human Kinetics.

# FITNESS TARGET ZONES FOR STRENGTH

## Isotonic

## Isometric

### F

#### Frequency

- **Teens 13-14 and older teen beginners:** 2 days/wk on non-consecutive days
- **Older teens and adults:** 2-3 days/wk on non-consecutive days
- Non-consecutive days; 2+ days/wk

### I

#### Intensity

- **Teens 13-14 and older teen beginners:** 40-60% 1RM or resistance allowing 10+ reps
- **Older teens:** 40-80% 1RM or resistance allowing 8+ reps\*
- **Adults:** 60-90% 1RM or resistance allowing 3+ reps
- Contract the muscles as tightly as possible for the required length of time.

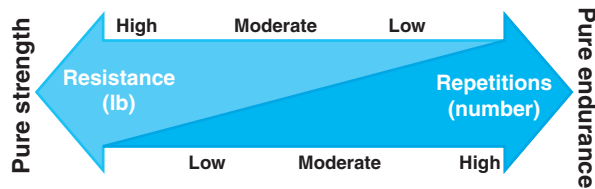
### T

#### Time

- **Teens 13-14 and older teen beginners:** 1 set of 10-15 reps
- **Older teens:** 1 or 2 sets of 8-12 reps
- **Adults and adult athletes:** 1-3 sets of 3-8 reps
- Hold the contraction for 7-10 sec, and rest for 1+ min. This is 1 set. Do 2+ sets.
- For all groups, rest between sets 1-2 minutes.*

\*Note: Older teens and experienced athletes may train using lower repetitions after consulting with a qualified teacher or coach.

# STRENGTH/ENDURANCE CONTINUUM



# RESISTANCE MACHINES VERSUS FREE WEIGHTS

Table 11.6

## Resistance Machines Versus Free Weights

	Resistance Machines	Free Weights
Safety	<ul style="list-style-type: none"><li>• They are safer because weights cannot fall on the lifter.</li><li>• A spotter is often not needed.</li></ul>	<ul style="list-style-type: none"><li>• You have a greater chance of injury from falling weights.</li><li>• You can easily lose control of the weights, so you need a spotter.</li></ul>
Cost	<ul style="list-style-type: none"><li>• They are very expensive to own.</li><li>• If you do not own the machines, you must join a club to use them.</li></ul>	<ul style="list-style-type: none"><li>• They are relatively inexpensive.</li></ul>
Versatility	<ul style="list-style-type: none"><li>• They can easily isolate a muscle group to work.</li></ul>	<ul style="list-style-type: none"><li>• Using them requires more balance, muscle coordination, and concentration.</li><li>• You use more muscles, and the movements are more like moving heavy loads in daily life.</li></ul>
Convenience	<ul style="list-style-type: none"><li>• They require a lot of floor space.</li><li>• You must go to where they are.</li></ul>	<ul style="list-style-type: none"><li>• They take up little space.</li><li>• Some weights are small enough to be carried around.</li><li>• They can easily scatter and get lost or stolen.</li></ul>

**Application****11****STRENGTH TRAINING**

Assume that a few of your friends have found out that they need to build strength for some of their activities. They have asked you to help them figure out ways to improve their strength. For each of these people, apply the fitness principles and the FIT formula to develop a strength training program.

1. Brad is a ballet dancer. He has to lift a female dancer in the dance troupe. His dance instructor thinks that Brad needs to increase his strength. What program would you advise Brad to follow?

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2. Adrienne has just begun a part-time job with a moving company. After several days on the job, she realizes that she lacks the strength to lift many of the heavy pieces of furniture that she is required to move. Adrienne wants to begin a strength training program, but she does not know which muscles to strengthen or how to strengthen them. What would you advise her to do?

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3. Luis has been trying to build his strength through bench pressing. Every Saturday he goes to the club and does 3 sets of 25 repetitions. When needed, he increases the load he presses. Luis has noticed two problems: His upper body strength is not increasing as quickly as he thinks it should, and he doesn't seem to be building lower body strength at all. How would you change Luis' workout?

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# 11

## Reinforcement

### STRENGTH WORD SCRAMBLE

Unscramble the following words using the clues provided. Then write the letters of the word in the blanks beneath each clue. Use the numbers under the letters to decode the message at the bottom of the page.

1. IOBALCAN REDOTISS dangerous drugs that build muscle

\_\_\_\_\_ 3 \_\_\_\_\_ 1

2. MITCRSEOI RISEEXEC muscles working against a stationary object or body part

15 \_\_\_\_\_ 7 \_\_\_\_\_ 2 \_\_\_\_\_

3. YUNJIR may result from too much exercise following long periods of inactivity

\_\_\_\_\_ 18 \_\_\_\_\_ 19

4. WOREP the rapid application of strength

\_\_\_\_\_ 11 \_\_\_\_\_

5. THEWIG NAGRTIIN lifting weights to build strength or endurance

\_\_\_\_\_ 20 \_\_\_\_\_ 6

6. ENTIKOICSI ECRXEESI muscles working with a machine that controls speed

\_\_\_\_\_ 16 \_\_\_\_\_

7. NESTSIF SNIRIPPLEC overload, progression, specificity

17 \_\_\_\_\_ 13 \_\_\_\_\_

8. GROSREPIESV ITRANESCES gradually increasing resistance to build strength

\_\_\_\_\_ 4 \_\_\_\_\_ 9 \_\_\_\_\_

9. UMLESC NOBUD tight, bulky muscles that prevent free movement

\_\_\_\_\_ 8 \_\_\_\_\_ 10 \_\_\_\_\_ 14

10. GRETTHNS amount of force a muscle exerts

\_\_\_\_\_ 5 \_\_\_\_\_ 12

11. MR1 maximum amount of weight a group of muscles can lift at one time

\_\_\_\_\_

1 2 3 4 5 6 7 8 1 9 10 11 1 12 11 10 13

20 11 14 8 9 11 3 15 1 16 4 17 15 5 18 8 3 19



# 11

## **Personal Project**

## **LOGGING AND PLANNING RESISTANCE TRAINING EXERCISES FOR STRENGTH**

### **Part 1—Logging Resistance Exercises**

Use this form to record your participation in resistance training exercises for one week. Record the weight used and the number of sets and reps you complete for each exercise each day. Remember to do resistance training exercises on non-consecutive days. Refer to the FIT formula chart in your textbook for guidance. Answer the questions provided when you have finished your weekly log.

<b>Write the weight, sets, and reps you complete for each exercise each day. See your textbook for FIT guidelines and descriptions of the exercises.</b>	<b>Day 1</b> Date: / / weight/sets/reps	<b>Day 2</b> Date: / / weight/sets/reps	<b>Day 3</b> Date: / / weight/sets/reps
Seated Overhead Press			
Bench Press			
Knee Extension			
Half Squat			
Hamstring Curl			
Biceps Curl			
Heel Raise			
Seated French Curl			
Bent Over Dumbbell Row			
Back Extension Exercise			
Abdominal Exercise			
Other:			

Did you complete all of the basic exercises at least two times during the week?

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How might you adjust your physical activity to better maintain or improve your muscular strength?

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What short-term goals might you have for improving your muscular strength?

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# 11

## **Personal Project**

### **LOGGING AND PLANNING RESISTANCE TRAINING EXERCISES FOR STRENGTH** *(continued)*

#### **Part 2—Planning Resistance Training Exercises**

Make a plan for the following week incorporating changes that might help you reach your goals. Use the chart to indicate how much weight you will lift along with the number of sets and reps you will do for each of the exercises listed.

**Write the weight, sets, and reps you plan to complete for each exercise each day. See your textbook for FIT guidelines and descriptions of the exercises.**

	<b>Day 1</b> Date: / weight/sets/reps	<b>Day 2</b> Date: / weight/sets/reps	<b>Day 3</b> Date: / weight/sets/reps
Seated Overhead Press			
Bench Press			
Knee Extension			
Half Squat			
Hamstring Curl			
Biceps Curl			
Heel Raise			
Seated French Curl			
Bent Over Dumbbell Row			
Back Extension Exercise			
Abdominal Exercise			
Other:			

Does your plan match up with the FIT guidelines for your strength needs?

\_\_\_\_\_

Identify some strategies you can use that will help you achieve your plan.

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\_\_\_\_\_



# 11

## Chapter Test

### MUSCLE FITNESS: BASIC PRINCIPLES AND STRENGTH

Choose the letter of the *best* answer for questions 1-14.

Use what you learned throughout the chapter to answer the final question.

1. Strength refers to
  - a. the amount of exercise completed.
  - b. the amount of force a muscle can exert.
  - c. the strain a muscle can bear.
  - d. the amount of overload.
2. A sport in which athletes train to develop large, well-defined muscles is
  - a. weightlifting.
  - b. powerlifting.
  - c. circuit weight training.
  - d. body building.
3. In an isotonic exercise,
  - a. muscles contract by moving against a stationary object or body part.
  - b. the speed of movement of a body part remains constant.
  - c. muscles shorten or lengthen as they contract and body parts move.
  - d. machines must use force to provide resistance.
4. Your 1RM represents the
  - a. maximum weight a group of muscles can lift at one time.
  - b. power resulting from your weight training.
  - c. type of exercise to improve muscle strength.
  - d. exertion of near maximal muscular force.
5. Exercising some muscles vigorously while neglecting others can cause a person to be
  - a. coordinated.
  - b. overloaded.
  - c. muscle-bound.
  - d. flexible.
6. In an exercise program, you should follow the principle of progression, which states that you should
  - a. do weight training.
  - b. overload gradually.
  - c. work mainly on your arms.
  - d. do stretching exercises.
7. Hypertrophy is an increase in muscle
  - a. size.
  - b. endurance.
  - c. target zone.
  - d. strength.
8. Muscular endurance is the
  - a. muscles' ability to work for long periods without tiring.
  - b. same as cardiovascular fitness.
  - c. amount of force a muscle can exert.
  - d. same as body strength.
9. Exercises in which body parts do not move
  - a. decrease muscular endurance.
  - b. decrease lean body mass.
  - c. are isotonic.
  - d. are isometric.
10. Exercises done using all or parts of your body weight as resistance are
  - a. resistance training.
  - b. circuit resistance training.
  - c. calisthenics.
  - d. isometric contractions.
11. A condition that occurs when people obsess about building muscle is called
  - a. body dysmorphia.
  - b. body image.
  - c. obesity.
  - d. muscle-bound.
12. Muscle fibers used in endurance activities are
  - a. fast twitch.
  - b. moderate twitch.
  - c. slow twitch.
  - d. nontwitch.
13. According to the Fitness Target Zones for Strength it is best to lift using
  - a. 95-100% 1RM.
  - b. 60-90% of 1RM.
  - c. 40-65% of 1RM.
  - d. 20-45% of 1RM.
14. One benefit of resistance machines over free weights is that
  - a. they use less floor space.
  - b. they require more balance and coordination.
  - c. a spotter is often not needed.
  - d. they are relatively inexpensive.
15. The three basic principles—overload, progression, specificity—can be applied to strength exercises. Explain.
 

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