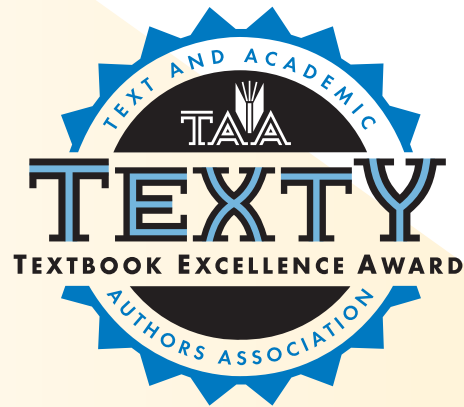


FITNESS

FOR LIFE

Middle School



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Human Kinetics

Library of Congress Cataloging-in-Publication Data

Corbin, Charles B.

Fitness for life : middle school / Charles B. Corbin, Guy C. Le Masurier, Dolly D. Lambdin.

p. cm.

Includes bibliographical references and index.

ISBN-13: 978-0-7360-6511-5 (hard cover)

ISBN-10: 0-7360-6511-3 (hard cover)

1. Exercise--Physiological aspects. 2. Physical fitness for youth. 3. Exercise for youth.
I. Le Masurier, Guy C. II. Lambdin, Dolly, 1951- III. Title.

RJ133.C665 2007

613.7'10835--dc22

2007000958

ISBN-10: 0-7360-6511-3

ISBN-13: 978-0-7360-6511-5

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The Web addresses cited in this text were current as of December 2006, unless otherwise noted.

The illustration on the back cover is adapted, by permission, from C. Corbin and R. Lindsey, 2005, *Fitness for life*, 5th ed. (Champaign, IL: Human Kinetics), 64.

Acquisitions Editor: Scott Wikgren; **Developmental Editor:** Ray Vallese; **Assistant Editor:** Derek Campbell; **Copy-editor:** Patsy Fortney; **Proofreader:** Joanna Hatzopoulos Portman; **Indexer:** Ann Truesdale; **Permission Manager:** Dalene Reeder; **Graphic Designer:** Robert Reuther; **Graphic Artist:** Angela K. Snyder; **Photo Manager:** Laura Fitch; **Art/Photo Office Assistant:** Jason Allen; **Cover Designer:** Robert Reuther; **Photographers (cover):** Kelly Huff, Tom Roberts, © Image 100 LDT; **Photographers (interior):** © Human Kinetics, unless otherwise noted; © Getty Images (pp. 7, 42 [top right and bottom left], 56 [second and third photos]); © Photodisc (pp. 18, 42 [top left], 56 [far right], 68 [top left and bottom right], 83 [left], 97 [top], and 108); courtesy of Charmain Sutherland (p. 29); © Image Source (pp. 30 and 104); courtesy of Chuck Corbin (p. 34); © Brand X Pictures (p. 52); courtesy of Scott Wikgren (pp. 57 [top] and 59 [top left]); © Stockdisc (p. 92); **Art Manager:** Kelly Hendren; **Illustrators:** Argosy, unless otherwise noted; art on pp. 4, 28, 40, 53, 66, 80, 96, 99 and the back cover by Mic Greenberg and Al Wilborn; **Printer:** Custom Color Graphics

Printed in the United States of America

10 9 8 7 6 5 4 3 2

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Introduction



Touring *Fitness for Life: Middle School*

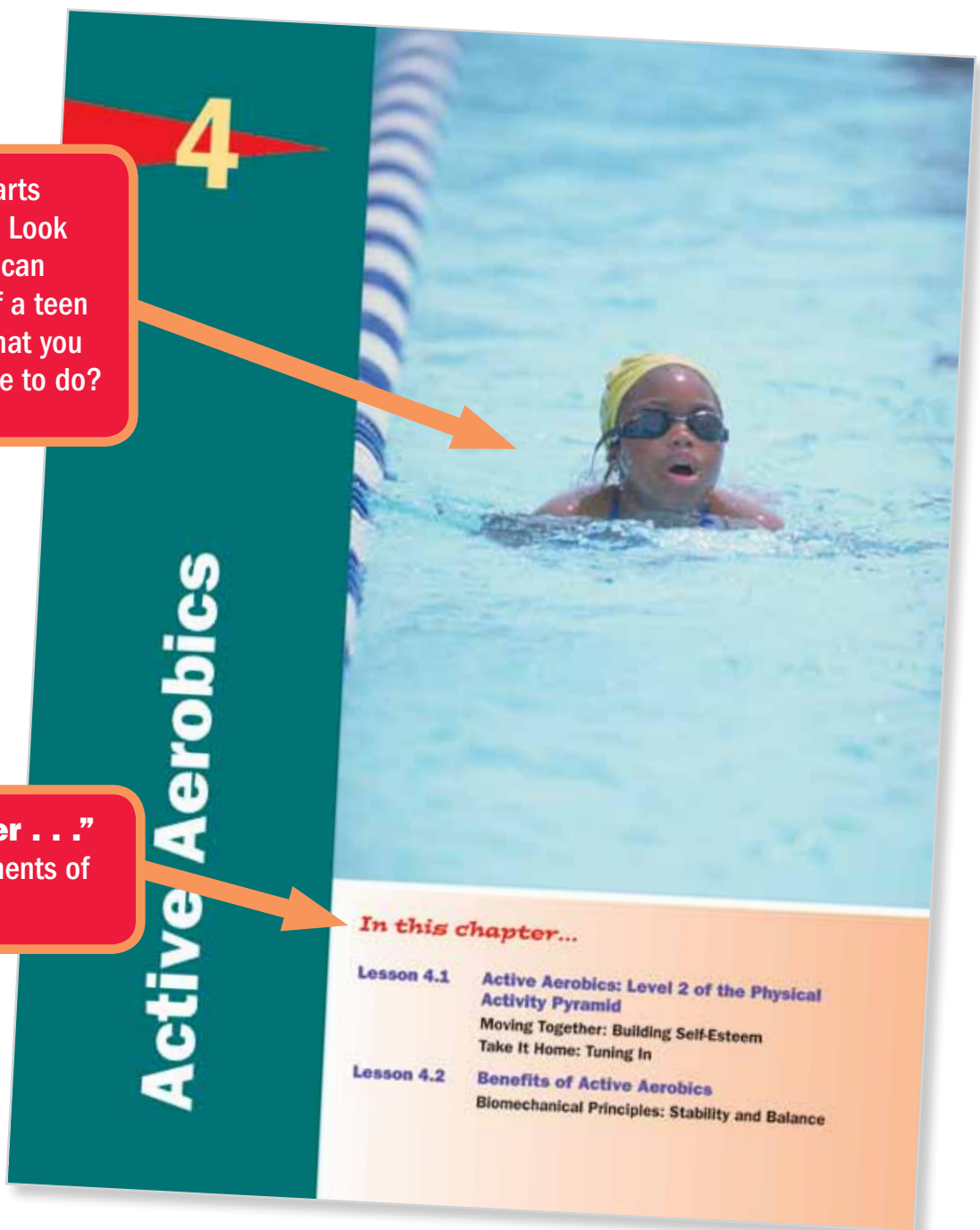
Do you want to be healthy and fit? Do you want to look your best and feel good? *Fitness for Life: Middle School* will help you meet your fitness and physical activity goals. Take this guided tour to learn about all of the features of this textbook.

The *Fitness for Life: Middle School* program includes several other components:

- ▶ **Teacher's Guide.** Your teacher has a special *Teacher's Guide* with lessons and activities that you can do to better learn and understand the information in this textbook.
- ▶ **Worksheets and Resources.** Special worksheets guide you in putting the information to use in assignments and projects.
- ▶ **Web Site.** The *Fitness for Life: Middle School* Web site (www.fitnessforlife.org/middleschool) offers further information on topics involving fitness and physical activity.

Each **chapter** starts with a large photo. Look through the book—can you find a photo of a teen doing something that you do or that you'd like to do?

"In this chapter . . ." lists the main elements of each chapter.



Lesson vocabulary lists the key terms in each lesson. These terms appear in bold type the first time they're used in the lesson. They're also defined in the book's glossary and on the *Fitness for Life: Middle School* Web site.

Fit Facts offer interesting facts about health and fitness.

Opening questions describe the **objectives** of each lesson to show you what you'll learn.

Visit the *Fitness for Life: Middle School* Web site for extra information about topics. Go to www.fitnessforlife.org/middleschool, click on "Student Information," and click on the topic number.

Lesson 5.2

Benefits of Active Sports and Recreation

Lesson Vocabulary
acceleration, deceleration, velocity

Click Student Info ▶ Topic 5.6

When you participate in active sports and recreation, you get health, wellness, and fitness benefits. Can you describe some of the most beneficial active sport and recreation activities? What are some of the best types of sports and recreation for you? When you finish this lesson, you'll know the answers to these questions. You'll also understand the importance of acceleration and velocity to your performance in physical activity.

What Are the Benefits of Active Sports and Recreation?

Sports have many benefits. Perhaps the best benefit is that they're fun. Even if you don't enjoy all sports, you probably have found several that you do enjoy. Even the least active sports and recreation activities provide health benefits similar to those provided by lifestyle physical activities. Active sports and active recreation have the added advantage of building cardiovascular fitness. This is one reason why active sports and recreation are included along with active aerobics in level 2 of the Physical Activity Pyramid. To gain cardiovascular fitness, you must follow the FIT formula that you learned in chapter 3. You must perform active sports and recreation for at least 20 minutes at least three days a week, and your heart rate must be elevated into the target heart rate zone.

FIT FACT

Sports and recreational activities can be adapted for people with disabilities. In "beep-beep softball," the ball makes a beeping noise so that people who are visually impaired can participate. In wheelchair tennis, a person in a wheelchair is allowed two bounces to get to the ball.

Sports and recreational activities can help you in many other ways as well. They can help you to relax and reduce the stresses in your life. They cause your body to expend calories that can help you maintain a desirable weight and feel and look your best. They provide a great way to meet friends and enjoy social interactions. They can help you learn to work as part of a team, which can benefit you in your adult career. Finally, participation in active sports and recreation can help you build parts of fitness other than cardiovascular fitness, including flexibility and muscle fitness. You'll learn more about these in later chapters.

Use the worksheet supplied by your teacher to interview other students about their favorite active sports and recreation activity. Ask them about the fitness benefits they gain, why they enjoy the activity, and what advice they can give to others who want to try the activity.

Active sports provide a way to meet friends and enjoy social interactions.

Click Student Info ▶ Topic 5.7



Fitness for Life: Middle School

Each chapter has a **Moving Together** feature that helps you learn how to have fun with others in many different kinds of activities.

Each Moving Together presents a **situation** in which teens have to deal with a certain problem.

Questions let you come up with ways for the teens to solve the problem.

Moving Together: Full Participation

Can you remember a time when you were the leader of a group in a physical activity setting? How did you perform as a leader? Were you successful at getting all members of your group to participate? What strategies did you use to promote participation? How do you feel when people don't pay attention to you? How do you feel when some members of a group do less work than others?

Jimmy and Molly were in physical education class. The class was doing an exercise routine that required them to try several different skills and then do them to music. They were assigned to a group to read about a skill and then show the class how to do it properly. Molly was the group leader. She read the directions for the skill, showed the group a picture of it, and asked all group members to try it.

When it was her group's turn, Molly was going to read the class a description of the skill and have all group members demonstrate at the same time. But some group members didn't pay attention. Two group members were talking about other things. Jimmy just quietly stood to the side.

Discussion Questions

1. What could Molly do to get all group members to participate in the activity?
2. How could Jimmy help Molly to keep the group working together?
3. What other suggestions do you have to help the group complete its assignment?
4. Are there any other questions we should ask?

Guidelines for Full Participation

Everybody learns faster and better when all members of a group are actively involved in the group activity. Two kinds of guidelines can help the group to have full participation: group leader guidelines and group member guidelines.

Click Student Info ▶ Topic 2.4

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Callout 1: If you're the leader of a group, follow these guidelines.

- ▶ **Use basic leadership skills.** These include things such as speaking with a strong voice, maintaining eye contact when you talk to other group members, and showing enthusiasm for what you're doing.
- ▶ **Ask questions of the group members.** By asking questions of others in the group, you increase the participation by all group members.
- ▶ **Ask group members to help demonstrate skills.** You can show your enthusiasm by demonstrating some of the skills yourself, but you can also involve others in the group by asking them to demonstrate skills.

Callout 2: If you're asked to participate as a member of a group, follow these guidelines.

- ▶ **Help the leader by participating.** In this class all students will get a chance to be a group leader. When you're the leader, you'll want the help of other students, so giving your help when you're a group member will help get the cooperation of others when you're the leader.
- ▶ **Avoid talking when the leader is talking.** This is one of the best ways to help the leader. Also, paying close attention to the leader will help you learn the skill the leader is teaching.
- ▶ **Give your best effort in all activities.** Effort is one of the most important factors in learning. Most people don't succeed the first time. If you get the habit of working hard at first, you can do all skills hard at first.

Callout 3: **Guidelines for problem solving** offer suggestions for helping teens.

“Bio” comes from “biology,” and “mechanical” is a word that describes machines. So the **Biomechanical Principles** feature in each chapter helps you learn to use your body—the human machine—in physical activity.

The bold sentence summarizes the **key point** of the principle.

Study and **apply the principle** described in the feature.

Follow these suggestions to put the **principle in practice** and see how it works for you.

Biomechanical Principles: Energy, Force, and Movement

Energy and force are necessary for producing human movement.

Energy means “available power.” We use electric power to provide energy to light our houses and to power appliances such as television sets and washing machines. Electric companies provide the energy using coal, gas, oil, wind, or nuclear sources. The food you eat provides the energy that allows your muscles to contract. When your muscles contract, they produce **force** that causes the bones to move, creating movement of body parts and total body movement. For example, when the muscles of your legs contract, your legs move. Leg movement allows you to move the whole body, such as when you walk.

You move most efficiently when the force produced by the muscles is applied in the direction in which you want to move. For example, when you throw a ball, it’s best to apply force to the ball by moving your arm in the direction you want the ball to go. The more force the muscles apply, the farther the ball will travel. Also, the longer the force is applied, the more force you can apply. If you reach back a long way before throwing the ball, you can apply force forward for a longer time, and you can throw the ball farther. When you walk or run and do other movements, the same rules apply.

Sir Isaac Newton is credited with developing three laws of motion. These laws are related to force and how it’s used to create and regulate motion. Much of the information provided here is based on Newton’s laws. For more information about force and Newton’s laws relating to force, visit the *Fitness for Life: Middle School* Web site.

Click Student Info ▶ Topic 1.8

Applying the Principle

To move well, you need to know how to use force efficiently and effectively. In walking and running, for example, it’s best to apply force in line with the direction of movement. Experts have discovered several rules that will help you use the force that your legs produce when pushing off the ground.

- ▶ Point your feet and toes straight ahead (see photo below left), not to the side (see photo below right). This allows the force from your legs and feet to keep you moving forward and doesn’t waste force to one side or the other.
- ▶ Swing your arms in line with the direction of the intended movement to avoid wasting force. Swinging your arms to the side reduces the forward force that you can produce with your legs.
- ▶ Avoid twisting your body. Keep your trunk (hips, belly, and chest) facing the direction you are walking or running.
- ▶ Apply force for the full time that your foot is on the ground. When you are in the air (such as in running) no force can be applied and so you can’t increase your speed.
- ▶ To move faster, apply more force. Fast walking and running will require you to apply more force than slow walking.

Principle in Practice

Correct application of force is important for efficient and effective movement in normal daily activities and in physical activities of all kinds. Work with a partner to see if you’re applying force properly when walking and running. Have your partner watch your arms and legs to see whether your movements are straight ahead or to the sides. If your movements include motion to the sides, try to change the way you walk or run to be more efficient.

Chapter 1 Introduction to Physical Activity and Fitness **11**

Each chapter has a **Take It Home** feature that provides opportunities to be active outside of school with your family and friends. Your teacher will provide worksheets.

Do I Need Supplements?

Teens who want to build muscle fitness sometimes want fast results. They may think that the answer is to take **supplements** with long names that promise to build fitness and increase performance. The Food and Drug Administration (FDA), a government agency that regulates foods and drugs, defines a supplement as "a product taken by mouth that contains a 'dietary ingredient' intended to supplement the diet." Supplements are different from medicines. Medicines must be approved by the FDA before they can be sold, but the FDA doesn't have to test and approve supplements. Supplements include vitamins, minerals, herbs, proteins, and many other substances. They're found in many forms such as tablets, capsules, gels, liquids, or powders and bars that look similar to candy bars.

Eating good food and performing regular muscle fitness exercise is the best way to build muscle fitness. Supplements are costly and unnecessary, and they might contain substances other than what are listed on the package. Because supplements aren't regulated by the government, there's no guarantee that you're getting what you think you're getting when you buy a supplement. You should also know that supplements can cause side effects or unwanted negative problems including headaches, dehydration, changes in heartbeat, and allergies. The people who advertise supplements rarely warn you of the side effects. You should consider supplements only when your doctor has recommended them and your parent or guardian approves.



Holding the body still before the start of a race requires isometric strength.



Take It Home

Building Muscle and Character

Strength can be displayed in many ways. Physical strength is needed for rock climbing and cheerleading. In this chapter you learned how to build muscles to improve physical strength. Mental strength is tested during a chess match. You learn how to improve mental strength in many of the classes you take in school.

Strength of character is another kind of strength. It's tested daily, and it defines you as a person. Are you honest? Do you play fair? Do you take responsibility for your own actions? Do you stand up for others even when it's the unpopular thing to do? Do you respect others regardless of their age, gender, and ethnic background? Are you a caring person? Are you a good citizen in your class, neighborhood, community, and country? Your answers to these and other questions indicate your strength of character.

Use the worksheet supplied by your teacher to show how you can demonstrate strength of character in physical education.

Lesson Review

- ▶ What is muscle fitness?
- ▶ Describe the overload principle and the principle of progression, and explain how they're important to muscle fitness development.
- ▶ Define the terms isotonic exercise and isometric exercise, and give examples of each type of exercise.
- ▶ Describe the FIT formulas for building strength and muscular endurance.
- ▶ Describe several guidelines for performing muscle fitness exercises safely.
- ▶ Do you need supplements to build muscle fitness?
- ▶ Describe some guidelines for preventing bullying in physical activities.

Lesson review questions help you remember what you've learned.

The **Chapter Review** section at the end of each chapter helps you reinforce what you've learned.

6

Chapter Review

Number your paper from 1 to 5. Read each question. After the number for the question, write a word or a phrase that best answers the question. The page number where you can find the answer is listed after the question.



1. What term describes the amount of movement in a joint? (page 65)
2. What word describes tissue that connects bone to bone? (page 66)
3. What is another word used in this chapter to describe static or nonmoving? (page 66)
4. How many seconds should you hold each static stretch of a muscle to get the best benefits? (page 70)
5. What health problem associated with poor flexibility do many adults at some time in their lives? (page 71)

Number your paper from 6 to 10. Next to each number, write the best answer.

6. gravity
 7. tendon
 8. back-saver sit-and-reach
 9. strain
 10. hypermobility
- a. one aid in producing motion
 - b. an injury to a muscle
 - c. tissue that connects muscles to bones
 - d. a test of flexibility
 - e. too much range of motion

Number your paper from 11 to 15. Follow the directions for each question or statement.

11. Explain the difference between a static stretch and PNF stretching.
12. Give three or more examples of static stretching exercises.
13. Give three or more examples of guidelines for feeling more comfortable in physical activity.
14. Give three or more examples of the health benefits of good flexibility.
15. Give examples of the normal range of motion for two different joints.

A **Unit Review** is provided at the end of each group of three chapters. After you complete each unit, visit the Web site to review what you've learned and try to solve a puzzle of fitness terms.

If you have questions about what you've learned in each chapter, you can **Ask the Authors** at the *Fitness for Life: Middle School* Web site.

Ask the Authors

When is the best time to do stretching exercises to improve flexibility?
Get the answer and ask your own questions at the *Fitness for Life: Middle School* Web site.

Click Student Info ▶ Topic 6.10

Unit Review on the Web

You can find unit II review materials on the *Fitness for Life: Middle School* Web site.

Click Student Info ▶ Topic 6.11

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