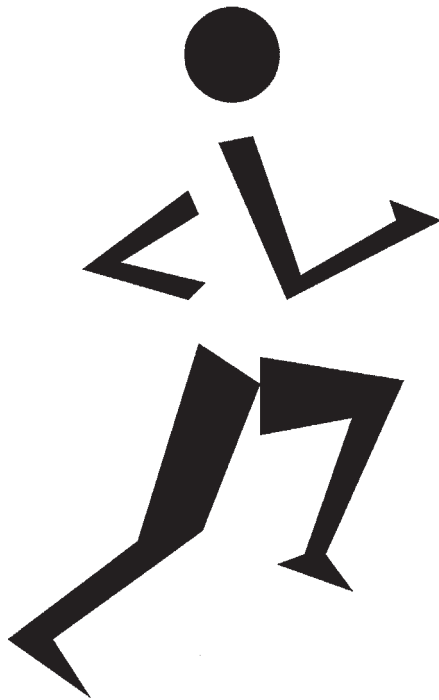




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# Senior 2

## 2. Fitness Management

The student will demonstrate the ability to develop and follow a personal fitness plan for lifelong physical activity and well-being.



PRESCRIBED LEARNING OUTCOMES	SUGGESTIONS FOR INSTRUCTION
<p><i>Students will...</i></p> <p><input type="checkbox"/> <b>K.2.S2.A.1 Evaluate the contribution</b> (i.e., associated fitness component, muscle/muscle groups, type of benefit) <b>of selected physical activities and/or exercises to physical fitness</b> (e.g., push-ups can develop muscular strength of arm muscles, which contributes to health-related fitness...).</p>	<p>◆ <b>A Carousel of Fitness Contributions</b></p> <p>Prepare four charts, each identifying one of the following major fitness components:</p> <ul style="list-style-type: none"> <li>• cardiovascular endurance</li> <li>• flexibility</li> <li>• muscular endurance</li> <li>• muscular strength</li> </ul> <p>Place a chart at each corner of the room. Students move from chart to chart (within a specified time), recording a physical activity or exercise that would contribute to the development of each selected fitness component. They continue to add suggestions until they have listed at least 10 different physical activities or exercises for each fitness component. (This process is sometimes called Carousel Brainstorming.)</p> <p> Refer to Carousel Brainstorming in RM G–2: Active Learning Strategies.</p> <p>◆ <b>Fitness As a Way of Life</b></p> <p>Using a chart provided, students identify the muscle or muscle group, the major fitness component(s), and the daily active living contribution associated with a variety of physical activities or exercises.</p> <p> Refer to BLM S2–3: Fitness As a Way of Life.</p>



## TEACHER NOTES

## SUGGESTIONS FOR ASSESSMENT

### Glossary


- cardiovascular endurance
- flexibility
- muscular endurance
- muscular strength

### Tips


- Students review the skeletal muscles of the body.
- Examples of activities or exercises that contribute to the development of the major fitness components:
  - **cardiovascular endurance:** cycling, skating, swimming laps, walking
  - **flexibility:** Tai Chi, yoga, Pilates, curling
  - **muscular endurance:** gardening, golfing, group fitness classes, tennis
  - **muscular strength:** chopping wood, training with weights, lifting and carrying groceries, shovelling snow

### Resources

#### *Blackline Masters*

- BLM S2–3: Fitness As a Way of Life 
- BLM G–1a and G–1b: Skeletal Muscles: Anterior View and Posterior View (Unlabelled and Labelled)

#### *Resource Master*

- RM G–2: Active Learning Strategies 





### ◆ Paper and Pencil Task: Fitness As a Way of Life

Peer Assessment: Inventory

Students complete their assigned charts, compare their work with that of others, and discuss it as a class.



Refer to BLM S2–3: Fitness As a Way of Life.

PRESCRIBED LEARNING OUTCOMES	SUGGESTIONS FOR INSTRUCTION
<p><i>Students will...</i></p>	
<p><input type="checkbox"/> <b>K.2.S2.B.1 Investigate the contribution</b> (e.g., strength, endurance, energy expenditure, elasticity, longevity, healthy weight...) <b>of exercise/physical activity to optimal health and the prevention of disease</b> (e.g., cardiovascular disease, breast cancer, type II diabetes, osteoporosis...).</p>	<p>◆ <b>Contributions to Health and Disease Prevention</b></p> <p>Prepare four charts, each identifying one of the following contributions/benefits of exercise/physical activity to health and disease prevention:</p> <ul style="list-style-type: none"> <li>• development of strength</li> <li>• endurance</li> <li>• energy expenditure</li> <li>• healthy weight</li> </ul> <p>Place a chart in each corner of the room. Students move from chart to chart (as in Carousel Brainstorming) and add a health benefit or disease-prevention benefit that could result from each of the selected contributions. They continue rotating until the lists are “exhausted.”</p> <p> Refer to Carousel Brainstorming in RM G–2: Active Learning Strategies.</p> <p>◆ <b>Health Benefits of Physical Activity</b></p> <p>Working in pairs, students identify health benefits resulting from exercises and physical activities listed on a BLM provided.</p> <p> Refer to BLM S2–4: Health Benefits of Physical Activity: Match-Up and Answer Key.</p> <p>◆ <b>Finding Supporting Evidence</b></p> <p>Using various modes of research (e.g., print, the Internet), students find evidence that supports the contribution of exercise and physical activity to optimal health and prevention of disease. Arrange students in groups of three or four and have each group prepare a presentation on their research, choosing their own method of presentation (e.g., poster, skit, song, PowerPoint slides). Indicate that the group presentations will be assessed in the following areas:</p> <ul style="list-style-type: none"> <li>• research process</li> <li>• organization and sequence</li> <li>• presentation</li> <li>• creativity</li> </ul>



## TEACHER NOTES

### Resources

#### Publication

- Ogasawara, Sherry, *et al.*  
“Nutrition & Wellness Specialist  
Certification Manual”  
Can-Fit-Pro publisher, July 2002.

#### Blackline Master

- BLM S2–4: Health Benefits  
of Physical Activity:  
Match-Up and Answer Key



#### Resource Masters

- RM S2–2: Scoring Rubric  
for Group Presentation
- RM G–2: Active Learning  
Strategies



## SUGGESTIONS FOR ASSESSMENT

### ◆ Paper and Pencil Task: Health Benefits of Physical Activity

Self-Assessment: Inventory

After students have completed the health benefits match-up, they assess their own responses, using the answer key provided.



Refer to BLM S2–4: Health Benefits of Physical Activity: Match-Up and Answer Key.

### ◆ Performance Task: Finding Supporting Evidence

Peer/Teacher Assessment: Scoring Rubric

After students have completed their research and made their presentations, assess their work based on pre-established criteria.



Refer to RM S2–2: Scoring Rubric for Group Presentation.

**PRESCRIBED LEARNING OUTCOMES**

*Students will...*

**K.2.S2.C.1a Investigate the body’s response** (e.g., stimulation of autonomic nervous system, endocrine response, respiration response, oxygen utilization...) **to increased activity levels.**

**SUGGESTIONS FOR INSTRUCTION**

◆ **Search the Response to Increased Activity**

Prepare a set of cards/posters, each identifying one term or phrase pertaining to the structure, function, or response to increased activity of the following four body systems:

- autonomic nervous system
- circulatory system
- endocrine system
- respiratory system

Scatter the cards/posters throughout the room.

Students move to each card/poster (as in a Scavenger Hunt), read the information, and record it in the appropriate column of a chart such as the following.

<b>The Body’s Response to Increased Activity</b>			
<b>Body System</b>	<b>Structure</b>	<b>Function</b>	<b>Body’s Response to Activity Increase</b>
<b>Autonomic Nervous System</b>			
<b>Circulatory System</b> (Cardiovascular and Lymphatic)			
<b>Endocrine System</b>			
<b>Respiratory System</b>			

Once students have completed this task, they discuss their search results with the class and compare their findings with information on a posted answer key.



Refer to Scavenger Hunt in RM G–2: Active Learning Strategies.



**TEACHER NOTES**

**Review**

- autonomic nervous system
- circulatory system
- endocrine system
- respiratory system

**Resource**

*Resource Master*

- RM G–2: Active Learning Strategies




**SUGGESTIONS FOR ASSESSMENT**

◆ **Paper and Pencil Task: Search the Response to Increased Activity**

Self-Assessment: Inventory

Students compare their search results to the information found in the answer key provided.

<b>The Body's Response to Increased Activity: Answer Key</b>			
<b>Body System</b>	<b>Structure</b>	<b>Function</b>	<b>Body's Response to Activity Increase</b>
<b>Autonomic Nervous System</b>	<ul style="list-style-type: none"> <li>• motor neurons that control smooth muscles, cardiac muscles, and sweat glands</li> </ul>	<ul style="list-style-type: none"> <li>• monitors visceral organs and blood vessels in response to changes in external and internal environments</li> </ul>	<ul style="list-style-type: none"> <li>• increases stimulation to sweat glands, thereby releasing heat from the body</li> </ul>
<b>Circulatory System (Cardiovascular and Lymphatic)</b>	<ul style="list-style-type: none"> <li>• heart, blood, blood vessels, and lymphatic vessels</li> </ul>	<ul style="list-style-type: none"> <li>• transports oxygen to the working muscles</li> <li>• provides drainage for ridding the body of its wastes</li> </ul>	<ul style="list-style-type: none"> <li>• increases volume of blood pumped, thereby supplying an increased volume of oxygen</li> </ul>
<b>Endocrine System</b>	<ul style="list-style-type: none"> <li>• thyroid gland, adrenal glands, and pancreas</li> </ul>	<ul style="list-style-type: none"> <li>• secretes hormones into the bloodstream (e.g., insulin, glucagon)</li> <li>• regulates the body's salt-water balance</li> </ul>	<ul style="list-style-type: none"> <li>• increases secretion of insulin (to decrease blood glucose levels) and glucagon (to increase blood glucose levels), thereby adapting to the need for extra fuel during activity</li> </ul>
<b>Respiratory System</b>	<ul style="list-style-type: none"> <li>• pharynx, larynx, trachea, bronchi, and lungs</li> </ul>	<ul style="list-style-type: none"> <li>• obtains oxygen from the atmosphere</li> <li>• removes carbon dioxide from the body</li> </ul>	<ul style="list-style-type: none"> <li>• increases efficiency of oxygen use within the body</li> </ul>

PRESCRIBED LEARNING OUTCOMES	SUGGESTIONS FOR INSTRUCTION
<i>Students will...</i>	
<p><input type="checkbox"/> <b>K.2.S2.C.1b Explain how exercise of different intensities</b> (e.g., mild, moderate, vigorous, intermittent, continuous, aerobic, anaerobic...) <b>affects the structure and function of the cardiovascular and respiratory systems</b> (e.g., lowers resting heart rate, blood pressure; increases heart size, stroke volume, blood volume...) <b>in the context of healthy living and the prevention of disease.</b></p>	
<p><b>Curricular Connections</b> <b>PE/HE:</b> S.2.S1.A.1b K.2.S2.C.1a</p>	
	<p>◆ <b>Walk, Jog, Sprint</b></p> <p>Using a 400-metre track (or a similar measured distance), students walk one lap, jog one lap, and then sprint one lap. After a period of rest (the length depending on each student’s fitness level), students move around the track again, but this time they do three laps, alternating between walking and sprinting at half-lap intervals.</p> <p>Following the activity or as part of a cool-down, students form an Opinion Line in the centre of a teaching space (room, gym, blacktop), with one side of the space representing “Agree,” another side representing “Disagree,” and the third side representing “Unsure.” Ask questions (to which students can agree, disagree, or indicate uncertainty) related to how exercise of different intensities affects the cardiovascular and respiratory systems structurally and functionally. Students respond to the questions by moving in the direction of their opinion. Students return to the centre line after every response.</p> <p> Refer to Opinion Line in RM G-2: Active Learning Strategies.</p>





## TEACHER NOTES

## SUGGESTIONS FOR ASSESSMENT

### Glossary

- aerobic
- anaerobic
- blood pressure
- stroke volume

### Tips

- In this learning activity, students experience exercise of different intensities (mild, moderate, and vigorous), as well as continuous versus intermittent schedules of exercise.
- For descriptions of mild, moderate, and vigorous intensity levels, refer to RM G–6: Heart-Rate Zone Levels.

### Resources

#### Publications

- Kirkpatrick, Beth, and Burton H. Birnbaum. *Lessons from the Heart: Individualizing Physical Education with Heart Rate Monitors*. Windsor, ON: Human Kinetics, 1997.
- McArdle, William D., Frank I. Katch, and Victor L. Katch. *Exercise Physiology: Energy, Nutrition, and Human Performance*. 5<sup>th</sup> ed. Philadelphia, PA: Lippincott, Williams, and Wilkins, 2001.

#### Resource Masters

- RM G–2: Active Learning Strategies
- RM G–6: Heart-Rate Zone Levels
- RM G–7: Heart-Rate Zone Formula



### ◆ Journal/Reflection: Walk, Jog, Sprint

Teacher Assessment: Anecdotal Notes

After students have participated in the Walk, Jog, Sprint activity, they respond to the following questions in their journals:

1. What did it feel like to move from mild to vigorous exercise?
2. What occurred with your breathing?
3. Which schedule of exercise was easier: the continuous or the intermittent? Explain.
4. What changes will have occurred in your cardiovascular system while completing these tasks? Explain.
5. In what activities do you currently participate? Are these examples of mild, moderate, and/or vigorous activities? Do you perform them on continuous and intermittent schedules? Explain.
6. What diseases could you be helping to prevent by participating in the various intensities and schedules of exercise? Explain.

PRESCRIBED LEARNING OUTCOMES	SUGGESTIONS FOR INSTRUCTION	
<i>Students will...</i>		
<input type="checkbox"/> <b>K.2.S2.C.2 Explain and apply the principles of training and conditioning for specific fitness components</b> (e.g., develop a stretching program for improved flexibility...).	<p>◆ <b>Putting Principles into Action</b></p> <p>Arrange students in groups of four and have each group select one of the four fitness components: cardiovascular endurance, muscular endurance, muscular strength, and flexibility. (Ensure that all four components are selected.) Students research and develop a six-week program that would be appropriate for their age group and the selected fitness component. Groups present their results to the class, including</p> <ul style="list-style-type: none"><li>• a description and application of the principles of training and conditioning for the selected fitness component, with specific reference to the FITT principle</li><li>• visuals and/or graphics that support the program content</li><li>• a template for a daily and/or weekly log schedule of the plan for action</li></ul> <p>◆ <b>Warm-up/Cool-down Routines</b></p> <p>Divide students into small groups. One student in each group</p> <ul style="list-style-type: none"><li>• leads the warm-up or cool-down exercises for a specific fitness component</li><li>• explains the principles of training and conditioning as students are performing the exercises</li><li>• corrects group members if they are doing the exercises incorrectly</li></ul> <p>Designate new leaders for each class.</p>	
<table border="1"><tr><td><b>Curricular Connections</b> <b>PE/HE:</b> K.2.S1.C.2</td></tr></table>	<b>Curricular Connections</b> <b>PE/HE:</b> K.2.S1.C.2	
<b>Curricular Connections</b> <b>PE/HE:</b> K.2.S1.C.2		



**TEACHER NOTES**

**Review**

- cardiovascular endurance
- flexibility
- muscular endurance
- muscular strength

**Resources**

**Publications**

- Manitoba Education, Citizenship and Youth. *Guidelines for Fitness Assessment in Manitoba Schools: A Resource for Physical Education/Health Education*. Winnipeg, MB: Manitoba Education, Citizenship and Youth, 2004.
- Manitoba Fitness Council. *Active Healthy People: Fitness Theory Manual*. Winnipeg, MB: Manitoba Fitness Council, n.d.
- ---. *Resistance Training Manual*. Winnipeg, MB: Manitoba Fitness Council, n.d.
- Temertzoglou, Ted, and Paul Challen. *Exercise Science: An Introduction to Health and Physical Education*. Toronto, ON: Thompson Educational Publishing, Inc., 2003.

**Resource Masters**

- RM G–4: Principles of Training and Conditioning for Physical Activities
- RM G–5: FITT Principle Guidelines



**SUGGESTIONS FOR ASSESSMENT**

◆ **Performance Task: Putting Principles into Action**

Group/Teacher Assessment: Rating Scale

Assess group presentations according to pre-established criteria, using the following rating scale.

<b>Rating Scale for Putting Principles into Action</b>			
<b>Criteria</b>	<b>3 Accomplished</b>	<b>2 Satisfactory</b>	<b>1 Limited</b>
The student/group			
<ul style="list-style-type: none"> <li>• describes and applies training and conditioning principles, with specific reference to the FITT principle</li> </ul>			
<ul style="list-style-type: none"> <li>• uses visual and/or graphic aids that support the program content</li> </ul>			
<ul style="list-style-type: none"> <li>• uses a template for a daily and/or weekly log of the plan for action</li> </ul>			

PRESCRIBED LEARNING OUTCOMES	SUGGESTIONS FOR INSTRUCTION
<i>Students will...</i>	
<p><input type="checkbox"/> <b>K.2.S2.C.3 Design and implement effective warm-up and cool-down routines for specific individual/dual-type physical activities</b> (e.g., running, table tennis, cycling...).</p> <div data-bbox="113 569 554 680" style="border: 1px solid black; padding: 5px;"><p><b>Curricular Connections</b> <b>PE/HE:</b> K.2.S1.C.3</p></div>	<p>◆ <b>Design and Lead Warm-up and Cool-down Routines</b></p> <p>The class brainstorms and lists individual physical activities and dual-type physical activities. Working in pairs, students</p> <ul style="list-style-type: none"><li>• select a physical activity from each list</li><li>• design and demonstrate effective warm-up and cool-down routines for their chosen activities</li><li>• explain their choice of routines for their selected activities</li></ul>



**TEACHER NOTES**

**SUGGESTIONS FOR ASSESSMENT**

**Review**

- Review proper stretching techniques and the importance of warm-up and cool-down activities and exercises.

**Tips**

- Encourage students to lead warm-up and cool-down activities at all times during the school year, not only for this learning outcome.
- Have students connect with learning outcome K.2.S2.C.2 and explain principles of training and conditioning where applicable.

**Resources**

**Publications**

- Anderson, Bob. *Stretching*. 20<sup>th</sup> anniversary rev. ed. Illus. Jean Anderson. Bolinas, CA: Shelter Publications, 2000.
- Heyward, Vivian H. *Advanced Fitness Assessment and Exercise Prescription*. 4<sup>th</sup> ed. Champaign, IL: Human Kinetics, 2002.
- Manitoba Fitness Council. *Active Healthy People: Fitness Theory Manual*. Winnipeg, MB: Manitoba Fitness Council, n.d.
- . *Resistance Training Manual*. Winnipeg, MB: Manitoba Fitness Council, n.d.
- Stark, Steven D. *The Stark Reality of Stretching: An Informed Approach for All Activities and Every Sport*. 4<sup>th</sup> ed. Richmond, BC: Stark Reality Corp., 1999.

**Resource Master**

- RM G–3: Exercise Do’s and Don’ts



◆ **Performance Task: Design and Lead Warm-up and Cool-down Routines**  
 Peer Assessment: Rating Scale  
 Students assess the demonstration and explanation of each pair of students, using the criteria and rating scale provided.

Scoring Rubric for Warm-up and Cool-down Routines			
Score	Relevant Content	Demonstration	Justification
The student/group			
<b>4 Exemplary</b>	<ul style="list-style-type: none"> <li>identified a variety of specific exercises</li> </ul>	<ul style="list-style-type: none"> <li>gave clear and thorough demonstrations</li> </ul>	<ul style="list-style-type: none"> <li>provided clear and thorough justification for choice of exercises relating to selected activities</li> </ul>
<b>3 Accomplished</b>	<ul style="list-style-type: none"> <li>identified some specific exercises</li> </ul>	<ul style="list-style-type: none"> <li>gave brief demonstrations</li> </ul>	<ul style="list-style-type: none"> <li>provided justification for choice of exercises relating to selected activities</li> </ul>
<b>2 Developing</b>	<ul style="list-style-type: none"> <li>identified a few specific exercises</li> </ul>	<ul style="list-style-type: none"> <li>gave somewhat confusing demonstrations</li> </ul>	<ul style="list-style-type: none"> <li>provided limited justification for choice of exercises relating to selected activities</li> </ul>
<b>1 Beginning</b>	<ul style="list-style-type: none"> <li>identified very few specific exercises</li> </ul>	<ul style="list-style-type: none"> <li>gave incomplete demonstrations</li> </ul>	<ul style="list-style-type: none"> <li>provided little, if any, justification for choice of exercises relating to selected activities</li> </ul>

PRESCRIBED LEARNING OUTCOMES	SUGGESTIONS FOR INSTRUCTION
<i>Students will...</i>	
<p><input type="checkbox"/> <b>K.2.S2.C.4 Examine factors</b> (e.g., enjoyment, previous experiences, values and attitude, social benefits, financial commitment, medical conditions, incentives, stages of change...) <b>that have an impact on adherence to a personal fitness plan.</b></p> <div data-bbox="115 640 554 892" style="border: 1px solid black; padding: 5px;"><p><b>Curricular Connections</b> <b>PE/HE:</b> K.5.S2.B.2 S.5.S2.A.2 <b>SC (Biology):</b> S3B-3-18 Identify personal lifestyle choices that contribute to cardiovascular and respiratory wellness.</p></div>	<p>◆ <b>Factors That Motivate</b></p> <p>Each student lists factors that motivate him or her to participate in physical activities or personal fitness programs and shares the list with the class. As a class, students create a master list and discuss how these factors keep an individual focused on a personal fitness plan.</p> <p>◆ <b>Interview: Factors That Motivate Individuals</b></p> <p>Each student interviews two individuals of his or her choice: one who follows a fitness plan, and one who does not. Students compare the factors that enable the one person to adhere to a personal fitness plan, and the factors that cause the other not to adhere to a regular fitness plan.</p>

**TEACHER NOTES****SUGGESTIONS FOR ASSESSMENT****Tip**

Use the following terms to help lead discussion:

- enjoyment
- previous experiences
- values and attitude
- social benefits
- financial commitment
- medical issues
- incentives
- stages of change
- relaxation
- self-esteem
- appearance
- competition
- excitement derived from doing something risky
- health

**◆ Journal/Reflection: All Activities**

Teacher Assessment: Anecdotal Notes

Students reflect in their journals on the factors that affect their adherence to a personal fitness plan. They rank the factors in order of priority.

<b>PRESCRIBED LEARNING OUTCOMES</b>
<i>Students will...</i>
<input type="checkbox"/> <b>S.2.S2.A.1a Participate in different types of training and conditioning activities that contribute to personal fitness development.</b>
<p><b>Curricular Connections</b>  <b>PE/HE:</b>                  S.2.S1.A.1a                  S.2.S2.A.1b                  S.2.S2.A.2</p>

**SUGGESTIONS FOR INSTRUCTION**

◆ **My Personal Fitness-Development Program**

Students identify and create a master list of various physical training and conditioning activities that contribute to each of the major fitness components (e.g., for cardiovascular endurance—distance running; for flexibility—yoga; for muscular strength—weight training; for muscular endurance—bench-step class; for body composition—resistance training).

Each student selects a number of activities from the major fitness component categories. Students participate in the chosen activities and log them weekly, using the following chart as a guide.

<b>My Personal Fitness–Development Program</b>							
Date	Activity	Fitness Component (Check applicable column)					Personal Comments
		Cardiovascular Endurance	Muscular Endurance	Muscular Strength	Flexibility	Body Composition	
<i>Example:</i> Monday	<i>Example:</i> School team volleyball practice (1.5 hours)		✓	✓	✓	✓	<i>Example:</i> • Hard workout. • Enjoyed it.

◆ **Fun and Fitness**

Students participate in a variety of fitness-related activities (e.g., resistance training circuits, walking, obstacle courses, paarlauf, scavenger hunts, step-bench activities, aerobics or group fitness classes). Following the activities, students indicate how each activity contributes to their personal fitness goals.





**TEACHER NOTES**

**Glossary**

- cross-training

**Tip**

- Discuss the significance of participating in a variety of activities (i.e., cross-training), as they contribute to personal fitness development.







**SUGGESTIONS FOR ASSESSMENT**

◆ **Performance Task: My Personal Fitness-Development Program**

Self-Assessment: Inventory

At the end of every week, students analyze their log sheets and assess their participation using the following prompts.

<b>My Personal Fitness–Development Program</b>			
<b>This week, I</b>	<b>Yes</b>	<b>No</b>	<b>Reflection</b>
<ul style="list-style-type: none"> <li>• participated in a variety of activities (cross-training)</li> </ul>			Explain:
<ul style="list-style-type: none"> <li>• participated in activities that addressed my personal fitness development</li> </ul>			Explain:
<ul style="list-style-type: none"> <li>• tried a new activity</li> </ul>			Specify:
<ul style="list-style-type: none"> <li>• felt good about my level of participation in fitness activities</li> </ul>			Comment:

PRESCRIBED LEARNING OUTCOMES	SUGGESTIONS FOR INSTRUCTION																											
<p><i>Students will...</i></p>																												
<p><input type="checkbox"/> <b>S.2.S2.A.1b Participate at a level consistent with planned and self-directed aerobic activities.</b></p>	<p>◆ <b>Aerobic Fitness Activity Log</b></p> <p>Using an Aerobic Fitness Activity Log such as the following, students record the time they spend participating in planned, self-directed aerobic activities (e.g., group fitness class, cross-country skiing, cycling, running, swimming continuously for a minimum of 20 minutes). These activities can be done either in class or outside of class.</p>																											
<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p><b>Curricular Connections</b></p> <p><b>PE/HE:</b> S.2.S1.A.1b S.2.S2.A.1a</p> </div>	<div style="border: 1px solid black; padding: 10px; margin-bottom: 10px;"> <p><b>Aerobic</b>  <b>FITNESS</b>   </p> <p>Activity Log</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">Date</th> <th style="width: 55%;">Activity</th> <th style="width: 30%;">Minutes of Active Time</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table> </div>	Date	Activity	Minutes of Active Time																								
Date	Activity	Minutes of Active Time																										



**TEACHER NOTES**

**Glossary**

- aerobic
- aerobic activities

**Tips**

- During open gym time, have students lead aerobic activities.
- Have students use heart-rate monitors to identify the appropriate intensity zone for aerobic conditioning.

**Resources**

**Publication**

- Borg, Gunnar. *Perceived Exertion and Pain Scales*. Windsor, ON: Human Kinetics, 1998.

**Resource Masters**

- RM G–6: Heart-Rate Zone Levels
- RM G–7: Heart-Rate Zone Formula



**SUGGESTIONS FOR ASSESSMENT**

◆ **Performance Task: Aerobic Fitness Activity Log**

Self-Assessment: Checklist

At the end of each week, students use a checklist such as the following to assess their participation in aerobic activities in class or outside of class.

<b>Aerobic Activity Participation Checklist</b>		
<b>This week, I participated in</b>	<b>Yes</b>	<b>No</b>
• a minimum of three aerobic activities		
• at least one planned aerobic activity		
• at least one self-directed aerobic activity		

**PRESCRIBED LEARNING OUTCOMES**

*Students will...*

**S.2.S2.A.2 Demonstrate use of heart-rate monitoring** (e.g., pulse points, heart monitors, software programs...) **in personal fitness training.**

**Curricular Connections**  
**PE/HE:**  
 S.2.S1.A.1b  
 S.2.S1.A.2

**SUGGESTIONS FOR INSTRUCTION**

◆ **“Strengthalon”: Using a Heart-Rate Monitor**

Using a heart-rate monitor (connected to a software program that generates a computer printout reading), students take their heart rates at the start and completion of each of the 10 tasks in a “Strengthalon” circuit and record results on the BLM provided.



Refer to BLM S2–5a: “Strengthalon.”

Students then plot their end-of-task heart rate using the heart-rate graph provided.




Refer to BLM S2–5b: “Strengthalon” Heart-Rate Graph.

◆ **Monitoring the Beat with a Heart-Rate Monitor**

Over the course of a semester or term, each student wears a heart-rate monitor when participating in a choice of five different physical activities/fitness-training programs. Interpreting the computer printout reading, students record their data for each selected activity, identifying the time spent

- above the target heart-rate zone
- within the target heart-rate zone
- below the target heart-rate zone

<b>Monitor the Beat</b>					
Record target heart-rate zone: _____					
Activity	Date		Time above Target Zone	Time within Target Zone	Time below Target Zone
	Month	Day			
1.					
2.					
3.					
4.					
5.					

Students may choose to set their heart-rate monitors for different intensity levels, depending on their selected activity, or use the American Council of Sport Medicine’s general recommendation of 50% to 85% of maximum heart rate (MHR) as their target heart-rate zone.



## TEACHER NOTES

### Review

- Review the use of heart-rate monitors and the corresponding computer analysis programs, as well as calculations of target heart-rate zones (refer to learning outcome S.2.S1.A.1b).
- Remind students that target heart-rate zone levels serve as guidelines, since determining one’s target heart rate is individual, depending on individual fitness levels, physical abilities, age, and so on.

### Tips



- The “Strengthalon” circuit of fitness training could be done once a month, with points scored and heart-rate comparisons made to determine whether any differences and/or improvements occurred from one assessment to the next.
- If heart-rate monitors are unavailable, students can use Borg’s scale of perceived exertion (see learning outcome S.2.S1.A.1b and RM G–6: Heart-Rate Zone Levels), and record heart rate using pulse points.

### Resources

#### Publication

- Borg, Gunnar. *Perceived Exertion and Pain Scales*. Windsor, ON: Human Kinetics, 1998.

#### Blackline Masters

- BLM S2–5a: “Strengthalon” 
- BLM S2–5b: “Strengthalon” Heart-Rate Graph 



## SUGGESTIONS FOR ASSESSMENT

### ◆ Questioning/Interview: “Strengthalon”: Using a Heart-Rate Monitor

Peer/Teacher Assessment: Inventory

Students demonstrate to a peer or teacher the use of heart-rate monitors, using the graph showing their heart rates at the completion of each task and the recorded heart rates.



Refer to BLM S2–5a: “Strengthalon” and BLM S2–5b: “Strengthalon” Heart-Rate Graph.


### ◆ Questioning/Interview: Monitoring the Beat with a Heart-Rate Monitor

Teacher Assessment: Inventory


Students demonstrate the use of heart-rate monitors by explaining their results, as recorded in the chart Monitor the Beat, and referring to the corresponding computer printout reading.

## TEACHER NOTES (continued)

### Resource Masters

- RM G–6: Heart-Rate Zone Levels 
- RM G–7: Heart-Rate Zone Formula 



PRESCRIBED LEARNING OUTCOMES	SUGGESTIONS FOR INSTRUCTION
<i>Students will...</i>	
<input type="checkbox"/> <b>S.2.S2.A.3a Assess current personal physical fitness levels using appropriate fitness tests and information technology</b> (e.g., stopwatches, heart-rate monitors, fitness-related software programs...).	<p>◆ <b>Where Do I Stand This Time?</b></p> <p>Students assess their current fitness levels by completing selected fitness tasks and recording their results on the BLMs provided.</p>  <p>Refer to BLM G–2: Skill-Related Physical Fitness Components and BLM G–3: Major Physical Fitness Components.</p>
<p><b>Curricular Connections</b></p> <p><b>PE/HE:</b></p> <p>S.2.S1.A.3a S.2.S1.A.3b S.2.S2.A.2 S.2.S2.A.3b</p>	<p>◆ <b>Racing: Charting the Improvement</b></p> <p>Set a course (e.g., a 1600-metre [one-mile] run, a 10-kilometre bike ride, a five-kilometre walk) that can be accessed two or three times throughout a school term/year. Students choose a particular target heart-rate zone, and, wearing heart-rate monitors, complete the course, recording their times. They complete the course a second and third time within the same target heart-rate zone and record their times.</p>



## TEACHER NOTES

## SUGGESTIONS FOR ASSESSMENT

### Tips

- To allow for individualized testing, set up stations through which students can rotate, recording their own scores. Provide alternative tasks at the stations for students who may not feel comfortable participating in a specific fitness-testing activity.
- Do not use fitness tests for grading purposes or for competition among students. Encourage self-assessment based on change (i.e., improvement).
- Refer to *Guidelines for Fitness Assessment in Manitoba Schools* (Manitoba Education, Citizenship and Youth) for selected tests that provide valid and reliable measures of fitness and for specific task instruction.
- It is recommended that the *FITNESSGRAM® 6.0. Test Kit*, (The Cooper Institute for Aerobics Research) be used only to help students determine personal fitness goals, progress, and achievement. Comparison of fitness data to norm-referenced data is discouraged.

### Resources

#### Publications

- The Cooper Institute for Aerobics Research. *FITNESSGRAM® 6.0. Test Kit*. 2<sup>nd</sup> ed. Windsor, ON: Human Kinetics, 1999.
- Manitoba Education, Citizenship and Youth. *Guidelines for Fitness Assessment in Manitoba Schools: A Resource for Physical Education/Health Education*. Winnipeg, MB: Manitoba Education, Citizenship and Youth, 2004.



### ◆ Performance Task: Where Do I Stand This Time?

#### Self-Assessment: Inventory

Students regularly record and assess their current physical fitness levels, using the BLMs provided.



Refer to BLM G–2: Skill-Related Physical Fitness Components and BLM G–3: Major Physical Fitness Components.

## TEACHER NOTES (continued)

### Blackline Masters

- BLM G–2: Skill-Related Physical Fitness Components
- BLM G–3: Major Physical Fitness Components



PRESCRIBED LEARNING OUTCOMES	SUGGESTIONS FOR INSTRUCTION
<i>Students will...</i>	
<input type="checkbox"/> <b>S.2.S2.A.3b Analyze own fitness test results</b> (e.g., using information technology...) <b>and determine the factors that contributed to the results.</b>	<b>◆ Learning to Analyze Results</b> Students choose the appropriate fitness tasks for assessing their own fitness levels, as identified for previous learning outcomes. Once they have collected their personal data, they analyze their results, using available software programs.
<b>Curricular Connections</b> <b>PE/HE:</b> S.2.S1.A.3b S.2.S2.A.3a	





## TEACHER NOTES

### Tips

- To allow for individualized testing, set up stations through which students can rotate, recording their own scores. Provide alternative tasks at the stations for students who may not feel comfortable participating in a specific fitness-testing activity.
- Do not use fitness tests for grading purposes or for competition among students. Encourage self-assessment based on change (i.e., improvement).
- Refer to *Guidelines for Fitness Assessment in Manitoba Schools* (Manitoba Education, Citizenship and Youth) for selected tests that provide valid and reliable measures of fitness and for specific task instruction.

### Resource

#### Publication

- Manitoba Education, Citizenship and Youth. *Guidelines for Fitness Assessment in Manitoba Schools: A Resource for Physical Education/Health Education*. Winnipeg, MB: Manitoba Education, Citizenship and Youth, 2004.



## SUGGESTIONS FOR ASSESSMENT

### ◆ Journal/Reflection: Learning to Analyze Results

#### Self-Assessment: Inventory

After analyzing their fitness task results, students respond in their journals to the following questions:

1. The fitness components I feel good about are:  
\_\_\_\_\_
2. The fitness components I feel may need some improvement are: \_\_\_\_\_
3. The factors I believe contribute to my fitness results include:  
\_\_\_\_\_



## Fitness Management Outcomes: Senior 2



### Knowledge

### Skills

- K.2.S2.A.1 Evaluate the contribution** (i.e., associated fitness component, muscle/muscle groups, type of benefit) **of selected physical activities and/or exercises to physical fitness** (e.g., push-ups can develop muscular strength of arm muscles, which contributes to health-related fitness...).
- K.2.S2.B.1 Investigate the contribution** (e.g., strength, endurance, energy expenditure, elasticity, longevity, healthy weight...) **of exercise/physical activity to optimal health and the prevention of disease** (e.g., cardiovascular disease, breast cancer, type II diabetes, osteoporosis...).
- K.2.S2.C.1a Investigate the body's response** (e.g., stimulation of autonomic nervous system, endocrine response, respiration response, oxygen utilization...) **to increased activity levels.**
- K.2.S2.C.1b Explain how exercise of different intensities** (e.g., mild, moderate, vigorous, intermittent, continuous, aerobic, anaerobic...) **affects the structure and function of the cardiovascular and respiratory systems** (e.g., lowers resting heart rate, blood pressure; increases heart size, stroke volume, blood volume...) **in the context of healthy living and the prevention of disease.**
- K.2.S2.C.2 Explain and apply the principles of training and conditioning for specific fitness components** (e.g., develop a stretching program for improved flexibility...).
- K.2.S2.C.3 Design and implement effective warm-up and cool-down routines for specific individual/dual-type physical activities** (e.g., running, table tennis, cycling...).
- K.2.S2.C.4 Examine factors** (e.g., enjoyment, previous experiences, values and attitude, social benefits, financial commitment, medical conditions, incentives, stages of change...) **that have an impact on adherence to a personal fitness plan.**

- S.2.S2.A.1a Participate in different types of training and conditioning activities that contribute to personal fitness development.**
- S.2.S2.A.1b Participate at a level consistent with planned and self-directed aerobic activities.**
- S.2.S2.A.2 Demonstrate use of heart-rate monitoring** (e.g., pulse points, heart monitors, software programs...) **in personal fitness training.**
- S.2.S2.A.3a Assess current personal physical fitness levels using appropriate fitness tests and information technology** (e.g., stopwatches, heart-rate monitors, fitness-related software programs...).
- S.2.S2.A.3b Analyze own fitness test results** (e.g., using information technology...) **and determine the factors that contributed to the results.**

### Attitude Indicators

- 2.1 Show an interest in and responsibility for personal fitness.
- 2.2 Appreciate the role and contribution of regular participation in physical activity for health and fitness.
- 2.3 Show respect and acceptance for physical and performance limitations of self and others.