



MODULE B: FITNESS MANAGEMENT

Specific Learning Outcomes

Introduction

Lesson 1: Physical Activity for Optimal Health
and Fitness

Lesson 2: Changing Physical Activity Behaviour

Lesson 3: Understanding Your Personal Motivation for
Physical Activity

Lesson 4: Addressing Barriers to Physical Activity

Lesson 5: Making Physical Activity a Habit

Lesson 6: Planning for Physical Fitness

MODULE B: FITNESS MANAGEMENT

Specific Learning Outcomes

- 11.FM.1** Evaluate the benefits of selected types of physical activities in the development of fitness and in the prevention of disease at various stages of life.
Examples: relationship between aerobic activity and cardiovascular disease, breast cancer, type 2 diabetes, mental health; relationship between weight-bearing activities and osteoporosis
- 11.FM.2** Examine factors that have an impact on the development and implementation of and adherence to a personal physical activity plan.
Examples: motivation, barriers, changing lifestyle, values and attitudes, social benefits, finances, medical conditions, incentives, readiness for change
- 11.FM.3** Examine and evaluate factors that affect fitness and activity choices.
Examples: intrinsic and extrinsic motivation, personal interests, personal health, family history, environment, finances, culture, level of risk
- 11.FM.4** Demonstrate an understanding of the concepts and principles related to the development and implementation of a personal physical activity plan.
Examples: cardiorespiratory endurance/aerobic fitness, musculoskeletal fitness, training principles, FITT (frequency, intensity, time, type) principle
- 11.FM.5** Design, implement, evaluate, and revise an exercise routine that contributes to the health-related fitness components.
Examples: resistance training, walking, running programs

MODULE B: FITNESS MANAGEMENT

Introduction

People need to be physically active to attain and maintain good health. Our fast-paced modern lifestyle with all its conveniences has made us progressively more inactive, and that is dangerous for our health. Sitting in front of the TV or computer screen, riding in the car, and using elevators all contribute to our inactivity. Physical inactivity is as dangerous to our health as smoking (Public Health Agency of Canada, “Why Should I Be Active?”).

Numerous health risks are associated with physical inactivity, including osteoporosis, type 2 diabetes, cancer, heart attack, and stroke. Conversely, being active has many benefits, such as improved self-esteem, increased work capacity, and better pain tolerance. Simply being aware of these risks and benefits has not been enough to make us adopt active lifestyles. To adopt active healthy lifestyles, people require a change in attitude, along with motivation to practise new active behaviours.

The Public Health Agency of Canada states that youth should accumulate 90 minutes of physical activity every day, of which 30 minutes should be of vigorous intensity and 60 minutes should be of moderate intensity, to stay healthy or to improve health (*Canada's Physical Activity Guide for Youth 2*). This does not have to come from one bout of exercise, but can be accumulated from brief intervals of activity throughout the day, such as climbing stairs, riding bike, and so on. The majority of Canadians are not physically active enough in their leisure time to reap any health benefits.

REFERENCES



For additional information, refer to the following guides:

Public Health Agency of Canada. *Canada's Physical Activity Guide for Youth*. Ottawa, ON: Public Health Agency of Canada, 2002. Available online at <www.phac-aspc.gc.ca/pau-uap/fitness/downloads.html>.

---. “Why Should I Be Active?” *Canada's Physical Activity Guide to Healthy Active Living for Older Adults*. 8 Oct. 2003. <www.phac-aspc.gc.ca/pau-uap/paguide/older/why.html>.

For website updates, please visit Websites to Support the Grades 11 and 12 Curriculum at <www.edu.gov.mb.ca/k12/cur/physhlth/>.

In this module students examine ways of changing physical activity behaviour, discuss the barriers to physical activity and some of the ways to overcome them, and learn how to adhere to a physical activity program once started.

Module B: Fitness Management contains six lessons:

- Lesson 1: Physical Activity for Optimal Health and Fitness
- Lesson 2: Changing Physical Activity Behaviour
- Lesson 3: Understanding Your Personal Motivation for Physical Activity
- Lesson 4: Addressing Barriers to Physical Activity
- Lesson 5: Making Physical Activity a Habit
- Lesson 6: Planning for Physical Fitness

Resource Masters to support the lessons are provided at the end of most lessons.

Lesson 1: Physical Activity for Optimal Health and Fitness

“Lack of activity destroys the good condition of every human being, while movement and methodical physical exercise save it and preserve it.”

– Plato (427–347 BCE)

Introduction

Participating in physical activity and exercise are important health maintenance strategies for people of all ages – children, youth, adults, and seniors. If being physically active is to become a part of a person’s lifestyle, it will be important to make a positive emotional connection to the activities of choice. In other words, there needs to be a feeling that physical activity is enjoyable and fun. Part of feeling that physical activity/exercise is fun is achieved by simply making it a habit.

This lesson focuses on the many benefits of physical activity and exercise. The benefits are organized into three categories: physical fitness, health, and mental-emotional benefits.



Specific Learning Outcome

11.FM.1 Evaluate the benefits of selected types of physical activities in the development of fitness and in the prevention of disease at various stages of life.

Examples: relationship between aerobic activity and cardiovascular disease, breast cancer, type 2 diabetes, mental health; relationship between weight-bearing activities and osteoporosis



Key Understandings

- Physical activity contributes to fitness, health, and mental-emotional benefits.
- Specific benefits are associated with selected physical activities.
- There are key benefits of physical activities at various life stages.



Essential Questions

1. What are the health benefits of fitness that affect five systems of the body?
 2. Why are the effects of exercise referred to as systemic effects?
 3. What benefits of exercise affect the mental-emotional health of an individual?
 4. What benefits of physical activity may be different or the same for specific age groups?
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Suggestion for Instruction / Assessment

Benefits of Physical Activity and Exercise

To help students think about and identify the numerous benefits of physical activity and exercise, have them reflect on the following:

- What makes or would make being physically active or exercising fun for you?
- List as many benefits of physical activity and exercise as you can.

Once students have had an opportunity to list the benefits individually, have them work in groups to compile a group list. Ask students to discuss and sort the identified benefits into three categories: fitness, health, and mental-emotional benefits. Discuss any identified benefits that do not fit into any of the three categories and have students create their own category.



Background Information

Fitness Benefits of Physical Activity

Regular physical activity increases the body's capacity and efficiency for work (performing movement), reduces the risk of injury and disease, and positively affects body composition (increased muscle mass, increased bone mass, and decreased fat mass). Movement places increased demands on the cardiovascular, respiratory, muscular, skeletal, and nervous systems of the body. Each system benefits from an activity plan that has consistent and progressive increases in the level of work intensity (activities that are harder to do and take longer to complete). The body's systems adapt to the increasing load, resulting in greater efficiency in these systems and thereby resulting in an increased ability to perform work. In other words, the body is able work longer and harder than it was able to before. After a person has achieved a new level of fitness, everyday tasks are no longer as difficult as they once were.

We do not have to spend hours in a gymnasium to gain the fitness benefits of physical activity. Every time we throw a ball, swim a lap, or climb a flight of stairs, our five main body systems are adapting. If these activities are consistent enough, our overall fitness will improve.

The human body responds well to consistent and progressive physical activity. Substantial improvements may be anticipated in cardiovascular and respiratory (heart, circulatory, and lung) function, muscular strength and endurance, flexibility, body composition, and the ability to respond to psychological stress.

Some of the more noticeable changes resulting from physical activity may include

- increased heart and circulatory function and endurance, seen as a lower heart rate for a given activity and a lower resting heart rate
- increased muscular strength, seen as an ability to lift heavier loads or an increased ease in lifting lighter loads
- increased muscular endurance, seen as the ability to execute more repetitions without rest
- increased bone strength, seen as a decreased risk of fracture or injury
- increased joint range of motion or flexibility, seen as an ability to reach or move into body positions impossible to attain previously
- increased physical work capacity, seen as an ability to complete more work in a single bout (e.g., shovelling a driveway with lower risk of injury or adverse effect)
- improved body composition (more muscle, stronger bones, and less body fat)

Health Benefits of Physical Activity

The health benefits of physical activity and exercise are well researched and documented. In addition to benefiting the cardiovascular, respiratory, muscular, skeletal, and nervous systems, physical activity and exercise also have a positive effect on the endocrine (hormonal responses) and immune (ability to defend against infection) systems. Because physical activity and exercise have such a wide-ranging effect on all the body's systems they have been referred to as having a systemic effect. *Systemic* means system wide – across all body systems.

Evidence shows that regular physical activity and exercise can reduce the risk of many diseases and conditions, as well as having many other health benefits:

- Physical activity and exercise reduce the risk of diseases and conditions such as
 - heart attack or heart disease
 - second heart attack
 - stroke
 - colon, lung, breast, prostate, and many other cancers
 - high cholesterol and triglycerides (fats)
 - high blood pressure (hypertension)
 - abnormal blood sugar levels
 - type 2 diabetes
 - osteoporosis (reduced bone density)
 - pain
 - arthritis and total hip or knee replacements
 - depression and anxiety
 - sleep apnea
- Physical activity and exercise can also result in benefits such as
 - improved pain tolerance
 - improved self-esteem
 - improved immune system
 - better posture and balance
 - decreased incidence of unintended falls
 - greater energy
 - improved sleeping habits
 - faster recovery from injury or surgery
 - increased high-density lipoproteins (HDL, or the “good” cholesterol)
 - increased potential to achieve and maintain a healthy body weight by burning calories
 - improved work capacity
 - improved nervous system (better neurons)

Mental-Emotional Benefits of Physical Activity

Physical activity participation provides children and youth with opportunities for growth and development far beyond the obvious health benefits. Participation in sport, exercise, and physical activity also helps individuals

- develop social skills, such as sharing, taking turns, cooperating, and learning about winning and losing
- develop physical skills (e.g., coordination, posture, balance), locomotor skills (e.g., running), and manipulation skills (e.g., using a racquet or hockey stick), which contribute to a person's self-efficacy
- develop a sense of belonging (when doing things with others, either in casual or organized activities and sports)
- develop family relationships (when parents play and exercise with their children and support their children's sports)
- achieve academically in school
- prevent or control risky behaviours, such as the use of tobacco, alcohol, or other substances, unhealthy diets, or violence
- develop increased self-discipline, greater self-esteem, and a healthier body image
- increase opportunities to take on leadership roles, deal with adversity, and develop the ability to manage time



Suggestion for Instruction / Assessment

Benefits of Physical Activities/Sports for Different Age Groups

Divide the class into six teams. Ask two teams (each team working independently of the other) to identify at least five common physical activities/sports in which **children** take part. Two different teams identify the same for **adolescents**, and two for **adults**.

Have each team share its list of common physical activities/sports with the other team assigned to the same age group. From the combined list, the two teams

- select the top five physical activities/sports for a given age group
- identify (on chart paper or the chalk board) the key health and fitness benefits of each of the top five physical activities/sports as it relates to a given age group

Each pair of teams then shares with the class the physical activities/sports that could have the greatest health and fitness benefits for a specific age group (children, adolescents, adults), and provides reasons for its decisions. Finally, have a class discussion to identify the common physical activities/sports that could have the greatest health and fitness benefits among the three age groups.

Lesson 2: Changing Physical Activity Behaviour

Introduction

This lesson focuses on the Stages of Change model, which has been used to help people adopt new healthy behaviours and dispense with unhealthy behaviours. Identifying where we are along the Stages of Change continuum can assist us in making desired change. The learning experiences in this lesson will help students understand their own stage of change in relation to physical activity and the processes they have used or could use to facilitate their desired change.



Specific Learning Outcomes

11.FM.2 Examine factors that have an impact on the development and implementation of and adherence to a personal physical activity plan.

Examples: motivation, barriers, changing lifestyle, values and attitudes, social benefits, finances, medical conditions, incentives, readiness for change

11.FM.3 Examine and evaluate factors that affect fitness and activity choices.

Examples: intrinsic and extrinsic motivation, personal interests, personal health, family history, environment, finances, culture, level of risk



Key Understandings

- People progress along a continuum known as the Stages of Change when changing their behaviour.
 - Each stage of change is associated with specific characteristics.
 - There are specific approaches to assisting individuals with adopting healthy behaviours, depending upon where they are along the Stages of Change continuum.
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Essential Questions

1. What are the stages in the Stages of Change model, and how can you move from one stage to the next?
 2. In the processes of change, what two cues can be used to move from one stage of change to another? Why are these cues important?
 3. How do the processes of change support the Stages of Change model?
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Background Information

Physical Activity and Exercise Behaviour

We are all born with a need and a desire to be physically active. This need and desire are kept alive through successful participation in physical activity, the freedom to explore various movement experiences, and having fun. Staying active will do more than promote the essential fitness behaviours that have been shown to add years to life. Staying active will maintain the physical vitality that adds life to the years.

Unfortunately, many changes have taken place in our society, such as increased consumerism, conveniences, and wealth orientation, which have reduced the necessity to move or to be active. Along with the movement toward relative inactivity come the increased risks of illnesses and diseases. This general trend toward inactive (sedentary) and other unhealthy lifestyles (e.g., over-consumption of food) has led to a crisis in the health care system, an increase in personal health-related tragedies, and an “obesity epidemic.” There is an urgent need to address this trend. In other words, we need to change our attitudes, giving higher priority to physical activity and exercise behaviours in our lives. We must move physical activity from a “want to do” to a “must do.”

Stages of Change

Changing our attitudes and behaviours is a process that occurs over time, and we are all at different stages of readiness to change. The Stages of Change model, as outlined by Prochaska, Norcross, and DiClemente, provides a framework for explaining how behaviour change occurs in people. The stages of change have been applied as a model of how people change in relation to a variety of problem behaviours (e.g., related to substance addictions, eating habits, disease prevention). The model helps identify where people are along the continuum of change and provides specific approaches or types of assistance for each stage of change to facilitate individuals in moving through the stages.

The Stages of Change model consists of five stages, which can help determine where individuals are in the process of changing their attitudes and behaviours related, for example, to increasing physical activity:

1. **Pre-contemplation:** People in this stage are not thinking about changing their inactive or sedentary behaviour and are not aware of their problem. They have not considered changing.
2. **Contemplation:** People in this stage have thought about their problem, can identify that they are inactive, and have devoted some thought to changing. They have not taken action to change, or they may be beginning to consider options for change.
3. **Preparation/decision:** People in this stage have begun the process of change by examining possibilities and options, such as considering a gym membership, looking at new exercise clothing, wanting to start using a pedometer, or contemplating a noon-hour walking program.

4. **Action:** People in this stage have taken steps to overcome their sedentary lifestyle by modifying their behaviour, experiences, or environment in order to overcome their problem. Action involves the most overt behavioural changes and requires a commitment of time and energy. Early indicators of the action stage include steps such as evaluating different exercise facilities and costs, purchasing a gym membership, purchasing exercise equipment, joining a walking group, and using exercise equipment for physical activity rather than as “furniture.”
5. **Maintenance:** People in this stage consolidate the gains attained as a result of initial action through sustained involvement in the new behaviour, in this case an active lifestyle (or avoidance of the old behaviour – physical inactivity). Adoption of the new behaviour usually requires a period of many weeks to months.

With this model, behaviour change is viewed as a process. An individual’s readiness for change is related to how far along the person is in the Stages of Change continuum. People can enter and exit a stage at any point, and some people may repeat a stage several times. They can move both forward and backward between the stages. Generally, the goal is to have a person move along each stage from pre-contemplation to maintenance (the new behaviour). Once a person is identified as being at a specific stage for a certain behaviour (e.g., increasing physical activity or decreasing sedentary behaviour), an approach is adopted to aid the person, specific to that stage.

Example

A sedentary individual is disgusted with the rise in diabetes in society and the associated health care costs, but he does not realize that his own inactivity is leading to increased health risks, including the development of diabetes. He sees the problem in others but not in himself (*pre-contemplation*).

Recently he applied for long-term disability insurance, and his insurance broker told him he needed a medical check-up to get the preferred customer discount. His doctor informed him of his high blood pressure, high triglycerides, and high blood sugars (pre-diabetic). He was declined insurance. He realized it was time for a change and recognized that he was part of the problem and needed to get his life in order for himself and for his family’s future (*contemplation*).

He looked into many options and decided to sign up with a certified exercise physiologist at a private gym (*decision*). He paid for a one-year membership, bought exercise gear, and met his trainer for the first session (*action*). Despite advice from the trainer, he now tries to change his life too quickly by setting unrealistic goals and relapses after a week, but then realizes that the effective way to change takes work and patience (*contemplation and action*). With encouragement from his family and a new training partner he met at the gym in the same circumstance, he keeps his personal activity plan and nutrition plan (*decision*). After eight weeks, his body has changed and he has a new life, with activity every day (*maintenance*). He knows that winter is coming, and he and his trainer have established a new winter routine (*prevent relapse*).

REFERENCES



For additional information, refer to the following resources:

Prochaska, James O., John C. Norcross, and Carlo C. DiClemente. *Changing for Good: A Revolutionary Six-Stage Program for Overcoming Bad Habits and Moving Your Life Positively Forward*. New York, NY: Avon Books Inc., 1994.

Spencer, Leslie, Troy B. Adams, Sarah Malone, Lindsey Roy, and Elizabeth Yost. "Applying the Transtheoretical Model to Exercise: A Systematic and Comprehensive Review of the Literature." *Health Promotion Practice* 7.4 (Oct. 2006): 428–43.



Suggestion for Instruction / Assessment

Physical Activity Stages of Change—Questionnaire

Using the Think-Pair-Share strategy (see Appendix E), have students consider which stage of change they are currently in as it relates to their own physical activity:

- Working individually, students complete the questionnaire provided in RM 1–FM. They then use their results on the questionnaire and the information and examples from this lesson to forecast what steps or strategies they could apply to advance along the Stages of Change continuum toward the *maintenance* stage.
- Students then discuss their results and ideas with someone else who is currently in the same stage as they are.
- Finally, the student pairs share their ideas with the class.



Refer to RM 1–FM: Physical Activity Stages of Change – Questionnaire.



Background Information

Processes of Change

Moving through the Stages of Change model is a process that requires both cognitive and behavioural changes, such as

- changes in attitude and awareness of one’s circumstances (cognitive – the way one thinks)
- changes in actions to decrease the occurrence of undesirable activities, such as overeating, and actions to engage in new, desirable activities (behaviour – the way one acts)

Both cognitive and behavioural aspects are necessary for people to change from one stage to another.

The Stages of Change model works simultaneously on multiple attitudes and behaviours; that is, a person could be in one stage for one behaviour and in a different stage for another. Seeking and maintaining a healthy lifestyle involves many behaviours, and it is unlikely that we will be in the maintenance phase for all healthy behaviours. We may have a particular problem behaviour, or we may wander in and out (e.g., from maintenance to relapse to maintenance) of a certain behaviour. For healthy lifestyles, being physically active and having a nutritious diet are both key behaviours. It is quite common to have someone doing well in one area, but not in the other. Very active athletes, for example, can have a poor diet, even though they “know better.” Some inactive people may think that all they need to do to be healthy is to eat well. To live healthy, active lives, we all need a tailored approach to keep us in a given stage or to shift us to another stage.

The two cognitive keys to shifting through the Stages of Change continuum successfully are motivation and self-esteem:

- **Motivation** is a state of readiness or eagerness to change, which may fluctuate from one time or situation to another. This state can be strongly influenced by internal and external factors. Motivation is the likelihood that a person will enter into, continue, and adhere to a strategy of change.
- **Self-esteem** can be defined as the likelihood to see oneself as competent to cope with life’s challenges and to be deserving of happiness. To improve self-esteem, a person must experience success relative to expectations. Specifically, the more realistic the expectation or goal is, the higher the degree of success will be. This success, in turn, leads to an improved self-esteem in a shorter amount of time.

A Tailored Approach to Change

Successful approaches to the change process adhere to the following principles:

- Tailor your approach to each stage of change.
- Move one stage at a time.
- Be patient and allow time to change.

Tailoring our approach to each stage of change requires specific cognitive and behavioural cues, which are outlined in RM 2-FM. Specific approaches can be used to assist individuals with adopting healthy behaviours, depending upon where they are along the Stages of Change continuum.



Refer to RM 2-FM: Process of Change: Tailoring Your Approach.



Suggestion for Instruction / Assessment

Role Playing Stages of Change

Have students work in pairs to role play the stages of change. One student adopts a particular stage of change using his or her own circumstances (as identified in RM 1-FM) and the other student attempts to use appropriate behavioural and cognitive cues to move the partner along the Stages of Change continuum. Have students role play each stage of change, record methods that were suitable for assisting in each stage and circumstance, and explain the rationale for each method.

NOTE TO TEACHER

If there are any concerns about how particular students may feel about using their personal circumstances in the role play, teachers may want to provide the students with a scenario of a given stage of change rather than having them use their own circumstances.

Students may consider using the cognitive and behavioural cues from RM 2-FM to formulate their questions or to guide their discussion.



Refer to RM 1-FM: Physical Activity Stages of Change – Questionnaire and RM 2-FM: Process of Change: Tailoring Your Approach.

RM 1–FM: Physical Activity Stages of Change—Questionnaire*

For each of the following questions, please circle **Yes** or **No**. Be sure to follow the instructions carefully.

Physical activity or exercise includes activities such as walking briskly, jogging, bicycling, swimming, or any other activity in which the exertion is at least as intense as these activities.

	No	Yes
1. I am currently physically active.	0	1
2. I intend to become more physically active in the next six months.	0	1

For activity to be *regular*, it must add up to a *total* of 30 minutes or more per day and be done at least five days per week. For example, you could take one 30-minute walk or take three 10-minute walks for a total of 30 minutes.

	No	Yes
3. I currently engage in <i>regular</i> physical activity.	0	1
4. I have been <i>regularly</i> physically active for the past six months.	0	1

SCORING

If question 1 = 0 and question 2 = 0, then you are at stage 1 (*Pre-contemplation*).

If question 1 = 0 and question 2 = 1, then you are at stage 2 (*Contemplation*).

If question 1 = 1 and question 3 = 0, then you are at stage 3 (*Preparation*).

If question 1 = 1, question 3 = 1, and question 4 = 0, then you are at stage 4 (*Decision/action*).

If question 1 = 1, question 3 = 1, and question 4 = 1, then you are at stage 5 (*Maintenance*).

* Source: Adapted, with permission, from B. H. Marcus and L. H. Forsyth, 2003, *Motivating People to Be Physically Active*, (Champaign, IL: Human Kinetics), page 21.

RM 2–FM: Process of Change: Tailoring Your Approach

Stage of Change	Cognitive and Behavioural Cues (with Explanatory Notes)
Pre-contemplation	<ul style="list-style-type: none"> ▪ “Raise doubt” about resistance to physical activity. <ul style="list-style-type: none"> ▪ Raise doubt about people’s resistance to changing physical behaviour by providing information and explaining why it is wise to adopt an active lifestyle. Simply providing pamphlets is not enough. People need to understand the real risks of being sedentary and that the risks apply to them personally, not only to others. ▪ Many people think they don’t have the time or the finances to become active. Cast doubt on the lack-of-time excuse by “talking a person through” a weekly schedule or calendar. With patience, a few hours will be found in almost everyone’s schedule for physical activity. When financial problems are cited as the reason for inactivity, it may be possible to illustrate either that someone does have the funds (e.g., by spending money on physical activities rather than on luxuries such as a new TV, car stereo, or game system) or that becoming active may not require a large amount of money. ▪ When people feel helpless, they may give up trying to be active. Support them by helping them to understand how they could do things they might enjoy by becoming active. Raise doubt about their helplessness by helping them to realize that they <i>can</i> change and that although it may take time to change, the benefits will be almost immediate. ▪ In providing information, be as factual and unbiased as possible, and encourage people to seek more information. ▪ Increase awareness of risks and problems of inactivity. ▪ Keep in mind that tolerance and patience are needed when resistance to change is high.
Contemplation	<ul style="list-style-type: none"> ▪ Provide additional reasons to change. <ul style="list-style-type: none"> ▪ People often focus on one reason to make a change (e.g., “I’m going on a vacation and I want to drop 5 kg.” or “I want to run my first marathon.”). When people add other reasons why a change may be beneficial, they don’t need to rely on only one outcome to gauge success. Adding other reasons to engage in physical activity (e.g., strengthen bones, improve ability to do work or to keep up with others, learn to play a sport) can help individuals create new process goals (e.g., buy new running shoes, get a gym membership) or performance goals (e.g., keep a daily step-count log), which often aids them in feeling successful. Simply listing additional benefits of change is OK, but finding benefits that individuals “buy into” is important. ▪ Discover reasons for ambivalence to change. <ul style="list-style-type: none"> ▪ The feeling that “something is holding one back” from acting derives from the coexistence of positive and negative feelings toward a new behaviour. To help someone move forward, it is important to discover what the holdback is and to identify whether there are enough positive feelings to outweigh negative ones (e.g., a concern about not having the right clothing is a common negative that can be overcome). ▪ Weigh the pros and cons. <ul style="list-style-type: none"> ▪ There are always positive and negative aspects to any new behaviour. It is important to recognize that negatives exist and that the positives, once weighed, will likely outweigh the negatives. Simply listing and discussing the pros and cons is helpful. ▪ Recognize when intent is high but desire to work is low. <ul style="list-style-type: none"> ▪ Clearly, exercise is work. However, people almost invariably feel much better when they work out, and especially afterwards. As small increments in exercise or physical activity intensity and duration are recommended, encourage individuals to start small and work their way up (e.g., a 10% increase per week accumulates quickly).

Continued

RM 2–FM: Process of Change: Tailoring Your Approach *(Continued)*

Stage of Change	Cognitive and Behavioural Cues (with Explanatory Notes)
Preparation/ Decision	<ul style="list-style-type: none"> ▪ Assist in selecting the best options. ▪ Create a realistic action plan. <ul style="list-style-type: none"> ▪ Make sure that goal setting is not simply based on outcomes (e.g., time in a race, placement in an event, weight loss). Establish process or performance goals (e.g., change in step counts per week, distance run, consistency in training). ▪ Plan for “blips” in the change process. <ul style="list-style-type: none"> ▪ Deviations in plans often occur due to external and internal factors, so it is best to anticipate and plan for them before they occur, thereby minimizing the coping required (e.g., control the emotional reaction to the possibility of not succeeding at a goal). Blips in plans for physical activity may occur due to changes in seasons (e.g., transition from summer to winter), holidays, illness, or heavy stress in school. Set up activity goals that have minimums, normal values, and maximums (e.g., one workout a week is maintenance, two or three is very good, and four or more is excellent). Setting up “contingency plans” is as important as setting up the action plan.
Action	<ul style="list-style-type: none"> ▪ Support decisions by eliminating doubt in actions. <ul style="list-style-type: none"> ▪ All of us have likely felt uncertainty about decisions we’ve made. When individuals experience doubt about their decision on a course of action, assure them that they “have done the right thing” and remind them of the future benefits of following this path. ▪ Establish goals using the SMART (specific, measurable, attainable, realistic, and time-framed) goal approach. ▪ Establish a means of providing feedback on how something is working. <ul style="list-style-type: none"> ▪ Self-monitoring is often a key to success. Set up accountability frameworks such as pedometer log sheets where individuals can record and identify process or performance changes. They can evaluate their log sheets and possibly report their progress. The act of reporting makes individuals accountable and indicates the importance of their physical activities. Other useful self-monitoring tools include training diaries, calendars, and exercise logs. ▪ Reinforce overt behavioural changes. <ul style="list-style-type: none"> ▪ Use prompts to initiate a behaviour change (e.g., put up signs or posters at home as reminders to exercise). These prompts remind individuals to engage in the new activity and to work at it for some time before the effect of the prompts fades. ▪ Consider getting a training partner to help with reinforcement of and adherence to a physical activity plan. A training partner can be a person or a group, an animal (e.g., a dog), or a device (e.g., a pedometer). ▪ Having a close friend or family member “buy into” and help reinforce a change is also important. ▪ Find ways to make the activity experience a joy rather than a burden or a chore. ▪ Rewards or incentives can be helpful, if needed.
Maintenance	<ul style="list-style-type: none"> ▪ Support new behaviours. <ul style="list-style-type: none"> ▪ Continued support through this time can help people avoid going back to thinking, “I don’t have enough time” and “I have more important things to attend to.” Remind people what their health is worth and that the steps they are taking are important. ▪ Diversify behaviours and explore new ones. <ul style="list-style-type: none"> ▪ Adding to the repertoire of activities can be helpful so that a person is not entirely dependent upon one form of exercise (e.g., combining stationary cycling with bicycling outdoors adds a new dimension and the possibility of cycling through the change of seasons). ▪ Although structured physical activity plans are important, some variety in workouts can make the exercise more enjoyable and decrease boredom. ▪ Provide accountability frameworks. <ul style="list-style-type: none"> ▪ Some form of continued self-monitoring is important. Individuals can change the self-monitoring tool they use (e.g., from a calendar to a diary to an exercise log). This form of feedback helps reinforce behaviour. ▪ Realistically examine the outcome goals (e.g., weight loss). Unrealistic expectations in terms of a rapid change in outcome can sabotage success at this stage.

Lesson 3: Understanding Your Personal Motivation for Physical Activity

Introduction

In this lesson students learn about intrinsic and extrinsic motivation and apply that understanding to their own physical activity motivation. The suggested learning experiences reinforce students' understanding of the different types of motivation and provide them with opportunities to assess their own motivation related to physical activity and exercise.



Specific Learning Outcomes

11.FM.2 Examine factors that have an impact on the development and implementation of and adherence to a personal physical activity plan.

Examples: motivation, barriers, changing lifestyle, values and attitudes, social benefits, finances, medical conditions, incentives, readiness for change

11.FM.3 Examine and evaluate factors that affect fitness and activity choices.

Examples: intrinsic and extrinsic motivation, personal interests, personal health, family history, environment, finances, culture, level of risk



Key Understandings

- Motivation can be classified as intrinsic or extrinsic motivation.
 - Physical activity participation is affected by different motivational factors.
 - Awareness of personal motivation helps to strengthen, regulate, or change a person's behaviour.
-



Essential Question

1. What intrinsic and extrinsic factors motivate you to exercise and to be active?
-



Background Information

Understanding Motivation for Physical Activity

Self-regulation (or self-control) is an important concept for understanding why individuals are motivated to exercise or to be physically active. Factors that influence self-control can be organized into two categories: intrinsic motivators and extrinsic motivators. Intrinsic motivation represents our internal drive toward behaviour, while extrinsic motivation includes factors such as rewards or punishment. Understanding what best motivates individuals requires awareness of both the intrinsic and extrinsic factors that regulate behaviour. Both intrinsic and extrinsic regulators of motivation are important to consider when attempting to achieve or maintain an active healthy lifestyle.

Intrinsic Motivation

Internal motivators produce a long-lasting commitment to exercise. Making exercise or physical activity more internally motivating might be a practical way of enhancing persistence to exercise. There are many intrinsic motivators to exercise, such as improved health, enhanced personal skill and ability, increased energy, and decreased stress.

People who successfully maintain a physical activity plan learn to shift their focus from long-term external outcomes, such as losing weight, to more positive internal experiences that occur in the short term, such as feeling good or performing better. Intrinsically motivated exercisers, by being physically active, have discovered things that hold true value for them. While some individuals may be exercising because they enjoy the actual movement, others may find that each exercise session holds a personal challenge for them. Whatever the reasoning behind the motivation to exercise, it must come from within a person for true meaning to be attached to it.

People who are intrinsically motivated do physical activity for its own sake and because they want to. They like the positive feelings of success and enjoyment that come from doing it well.

Extrinsic Motivation

Many people begin an exercise or physical activity plan because they are motivated by extrinsic factors, such as a desire to lose weight or to get in better shape. Unfortunately, body-related motives are not usually sufficient to sustain regular exercise programs, and, therefore, should not be made the most important reasons for engaging in exercise.

Examples of extrinsically motivated exercisers could be those who are inspired to begin an exercise program by the promise that it will help them lose weight. Those focusing on the goal of losing weight will likely be excited and motivated by the early results. They may experience significant weight loss early in the exercise program, largely due to water loss. With continued exercise, however, they will not continue to see the same degree of weight loss as their bodies become accustomed to the new activity. Individuals will often become unmotivated and drop out of an exercise program because they are no longer seeing the reward (weight loss) for their effort.



Suggestion for Instruction / Assessment

Types of Motivation: Mini-Biographies

Have students read the mini-biographies of fictitious individuals in RM 3-FM. Then ask students to decide which type of motivation is regulating each person's behaviour and explain their decision.



Refer to RM 3-FM: Mini-Biographies.



Suggestion for Instruction / Assessment

Motivation Questionnaires

To help students find out what motivates them to participate in physical activity, have them complete the questionnaires provided in RM 4-FM. After students have completed the questionnaires, have a class discussion to examine possible strategies that could be used to move a person from extrinsic motivation to intrinsic motivation.



Refer to RM 4-FM: Motivation for Physical Activity and Exercise/Working Out—Questionnaires (available in Word and Excel formats).

RM 3–FM: Mini-Biographies*

Read the following fictitious mini-biographies. Each mini-biography illustrates a different form of motivation (i.e., intrinsic or extrinsic) for behaviour in an exercise context. Identify the motivation shown by each individual and give reasons for your choice.

Beth

Beth is a high school student. She has not taken any regular exercise since Grade 10 and has unhappy memories of cold, wet, and windy days on the school playing field. She feels that exercising would have little effect on her fitness and health, and so sees no point in taking it up now. Beth says: "I think I am pretty fit for my age, anyway. And I've never had any serious health problems. I don't smoke or drink and I eat well. I think those things are far more important than exercise as far as health is concerned. In any case, you hear all the time about these fitness fanatics who are always in the gym or jogging or something and then they drop down dead in their thirties from a heart attack. I think exercising is likely to do you more harm than good."

Continued

* Source: Markland, David. "The Behavioural Regulation in Exercise Questionnaire—The Theory." *Exercise Motivation Measurement*. 2007. <www.bangor.ac.uk/~pes004/exercise_motivation/breq/theory.htm>. Adapted with permission.

RM 3–FM: Mini-Biographies *(Continued)*

Paul

Paul is a recent high school graduate who has just reluctantly signed up for a workout program at his local gym. He passed his basic paramedic training, but two weeks ago had to take a fitness test before he could proceed to the next stage. Unfortunately, he failed the test. He does not see himself as a sporty type and has never done much exercise except when he had to in his school days. After the fitness test, the station commander called him into his office and told him in no uncertain terms that if he fails to pass the test within three months he will be out. Paul is not too happy about it: “I really don’t see why you have to be all that fit to be a paramedic. Alright, the job can be physically demanding at times, lugging patients up and down stairs and things, but I think I am well capable of handling it as I am. I mean, it’s not as if I’m training for the Olympics, is it? Still, I have no choice really but to do as I am told.”

Continued

RM 3–FM: Mini-Biographies (Continued)

Hans

Hans is a civil engineer in his forties. He works out at a local gym a couple of times a week and is trying, fairly successfully, to go jogging regularly. He has two young children. Hans has a family history of heart disease and this has been weighing heavily on his mind in recent years. Although he was quite physically active in his youth, as an adult he did little exercise for many years until the children came along. He gave up smoking at around the same time. Hans says: “My father, uncle, and grandfather all died of heart disease in their early sixties. I can’t afford to let it happen to me, what with a wife and two young kids to worry about. So I exercise as much as I reasonably can. I can’t say I particularly enjoy it, and I usually have to push myself to go. But if I feel like skipping a session, I just think about the kids and what would happen if I had a heart attack. That makes me feel really bad if don’t go, like I’m guilty of letting them down.”

Continued

RM 3–FM: Mini-Biographies (*Continued*)

David

David had a hard time socially as a child and as an adolescent. He was timid, small, and skinny and was frequently bullied. Although he liked sports in school, he never got the chance to participate outside of compulsory physical education lessons because the school coaches didn't consider him to be capable enough. He always looked up to his older brother, who was a competitive weightlifter and wrestler. On graduating from high school a few years ago, David was taken to a gym a few times by his brother, and he also became interested in bodybuilding. He now trains hard and regularly and his social life has been transformed from his high school days. He has lots of friends, both male and female, and seems to others to be a very confident and self-assured young man. David says: "I hated it as a youngster, being smaller than everyone and never being taken seriously. Now I'm strong and, well, I think I look good and I'm proud of that. It's important to me to look fit and strong and have a good physique. People give me respect and sort of look up to me now like they never did before. When I was a kid it was like I wanted to be someone else all the time. You know, to be like one of the bigger boys who was good at sports and popular and all that. Now it's other people who look at me and say to themselves, 'Hey, look at him, I wish I could look like that.' I would never have come to feel so good about myself if it weren't for the bodybuilding."

Continued

RM 3–FM: Mini-Biographies *(Continued)*

Darlene

Darlene is a Grade 12 student who also works part time after school and on weekends. Despite her busy work schedule, she finds time to exercise for half an hour on most days, either in the school’s fitness centre or at the local YMCA. Darlene feels it is absolutely vital for her to keep fit and sees this as an essential ingredient in the success of her future career: “For me, keeping fit is so important. It’s tough, you know, making time to get to the gym every day. But in my last year at school, with the long hours, I have to keep as sharp as I can, and exercising regularly helps me to do that. I really don’t think I would have gotten to where I am today without it.”

Continued

RM 3–FM: Mini-Biographies *(Continued)*

Sheila

Sheila was a teacher but retrained a few years ago as a fitness instructor. She runs classes every evening and on weekends and also trains in the gym most days. She is highly committed to exercise and sees it as the centre point of her lifestyle: “For years, working as a teacher, I used to exercise as much as I possibly could but never felt I was doing enough. So that’s why I gave up teaching and got into this new career. I know what you’re thinking, but it’s definitely not that I am addicted to exercise or obsessive about it or anything like that. It’s just that, well, it’s hard to explain, but being an exerciser, being a fit person, is a big part of who I am, if you see what I mean. If I had to stop tomorrow, it wouldn’t exactly be the end of the world but it would mean that I’d have to do some serious thinking about my life and I’d find it difficult to readjust. It sounds silly, but it’d be a bit like losing my name or something. I wouldn’t know who I was any more.”

Continued

RM 3–FM: Mini-Biographies (Continued)

Lenin

Lenin is a construction worker. He loves physical activity of all sorts. He usually plays basketball or racquetball once a week, runs often (he takes part in his city’s annual 10 km fun run every year). “I’ve always been into sport and exercise,” he says. “It’s not as if I’m really all that good at it. I mean, I never had any illusions about playing professionally or anything like that. It’s just great to go out and kick a ball around or run in the park or whatever, have a laugh with your friends, and just forget about work and everything for a bit. I love it.” When asked if he thinks exercising is good for your health, he says: “Well, yeah, I suppose it must be. But that’s not what it’s all about for me, to be honest. I don’t worry too much about the future and all that, you know. I just like having a good time. I mean, if I started thinking like, ‘Oh, this’ll stop me from getting a heart attack,’ or whatever, I think it would end up being just like work. I’d hate to get all obsessed about it like some people. It wouldn’t be any fun then, would it?”

RM 3–FM: Mini-Biographies* (Answer Key)

Regulatory Behaviours Reflected in the Mini-Biographies

Clearly, the people featured in the mini-biographies all have very different feelings and beliefs about exercise. Apart from Beth, they are all engaging in exercise but the motivational forces driving their behaviour differ markedly. In other words, their exercise behaviour (or lack of it) is regulated in quite diverse ways.

Beth lacks intrinsic motivation to change. Beth is said to be *amotivated*, a completely non-self-determined form of regulation. This is a state of lacking any intention to engage in a behaviour. It results from not valuing the activity, not feeling competent to engage in it, and/or not feeling that it will produce any desired outcomes. Beth's school history probably left her feeling incompetent with regard to exercise. She does not believe that she would benefit from exercising and, in fact, she thinks that it might actually be harmful to her health. Consequently, it is not surprising that she does not value physical activity and chooses not to exercise at all.

Paul is extrinsically motivated. Paul has started to exercise, but it is very obvious that, like Beth, he does not value it as a worthwhile activity. His exercise behaviour can be described as *externally regulated* and is also not self-determined. He is exercising simply because he has been told by someone in authority that he has to, even though he thinks that it is not necessary. When regulated in this way, people may be motivated to comply with the external pressure to act but they do so unwillingly, even resentfully, and are unlikely to continue with the activity if the external pressures are relaxed.

Hans has extrinsic motivation and some intrinsic motivation. Hans is not exercising because of externally imposed pressures but because he is putting the pressure on himself. Thus, his behavioural regulation is somewhat internalized and can be said to be *introjected*. He acts because of his anxieties about heart disease and an anticipated sense of guilt that if he does become ill he will be letting down his young family. Thus, although Hans is internally driven, his behaviour is only somewhat self-determined.

David has strong intrinsic motivation. David's story demonstrates how *introjection* can also manifest itself as a need to engage in an activity in order to demonstrate one's ability or worth and maintain one's sense of self-esteem. David believes that bodybuilding has changed his life and given him the popularity with his peers that he always wanted, but only because it has made him look good. So, although he now has a strong sense of self-worth, it is highly dependent on his bodybuilding activities. If he were unable to continue with this activity for some reason, it seems likely that his self-esteem would soon begin to suffer.

Continued

* Source: Markland, David. "The Behavioural Regulation in Exercise Questionnaire—The Theory." *Exercise Motivation Measurement*. 2007. <www.bangor.ac.uk/~pes004/exercise_motivation/breq/theory.htm>. Adapted with permission.

RM 3–FM: Mini-Biographies: Answer Key (Continued)

Darlene has strong intrinsic motivation. Darlene’s exercise behaviour is less controlled and shows much greater self-determination. Her behavioural regulation is *identified*. Identification involves a conscious acceptance of the behaviour as being important in order to achieve personally valued outcomes. The importance of the outcomes provides a strong incentive that overrides any difficulties or obstacles to the behaviour. Thus, Darlene manages to find time to exercise regularly even though she finds it difficult to fit it into her busy school and work life.

Sheila has strong intrinsic motivation. Sheila is obviously a very committed exerciser—so much so that she changed careers in order to be able to exercise more. Her regulation can be described as *integrated*. Integration involves the internalization of identified regulation so that engaging in the behaviour matches one’s sense of self and who one is. Integration is similar to intrinsic regulation in that the behaviour is engaged in willingly, with no sense of coercion, and is therefore fully self-determined. However, it differs from intrinsic regulation because the behaviour is still engaged in for separable outcomes rather than for the enjoyment inherent in the activity itself. Note the subtle difference between Sheila’s feelings about why she exercises and David’s feelings about his exercising. Although exercising is so important to Sheila’s sense of who she is, her self-esteem is not on the line in the way that it is for David.

Lenin has strong intrinsic motivation. Lenin’s motivation for exercise is purely *intrinsic* and fully self-determined. Although he recognizes the health benefits of exercise, he is not concerned about such extrinsic outcomes of exercising; he just loves doing it as a social and aesthetic experience. Notice also that his competence in physical activities is not a big issue for him. The immediate rewards of taking part in exercise are the only important factors, and if exercising were to become a chore or like work, as he puts it, there would no longer be any point in doing it.

RM 4–FM: Motivation for Physical Activity and Exercise/ Working Out—Questionnaires*



Motivation for Physical Activity*

People are active regularly for a variety of reasons. Using the rating scale provided below, please indicate how true each of the following reasons is for why you are, or would like to be, active regularly.

Rating Scale	1	2	3	4	5	6	7
	not at all true			somewhat true			very true

I try, or would like to try, to be physically active regularly	Rating
1. because I would feel bad about myself if I did not	
2. because others would be angry at me if I did not	
3. because I enjoy physical activities	
4. because I would feel like a failure if I did not	
5. because I feel as if it's the best way to help myself	
6. because people would think I'm a weak person if I did not	
7. because I feel as if I have no choice about being active; others make me do it	
8. because it is a challenge to accomplish my goal	
9. because I believe physical activity helps me feel better	
10. because it's fun	
11. because I worry that I would get into trouble with others if I did not	
12. because it feels important to me personally to accomplish this goal	
13. because I feel guilty if I am not regularly active	
14. because I want others to acknowledge that I am doing what I have been told I should do	
15. because it is interesting to see my own improvement	
16. because feeling healthier is an important value for me	

Example	
Extrinsically Motivated	Intrinsically Motivated
2	6
6	2
3	7
6	2
3	5
7	1
6	1
2	6
3	6
3	6
6	2
3	5
5	5
6	2
3	6
3	7

External Regulation: Questions 2, 7, 11, 14	
Introjected Regulation: Questions 1, 4, 6, 13	
Identified Regulation: Questions 5, 9, 12, 16	
Intrinsic Motivation: Questions 3, 8, 10, 15	
Relative Autonomy Index	

6.0	1.8
5.0	3.5
3.0	5.8
2.8	6.3
-8.5	11.3

Autonomy index indicates the relative impact of intrinsic and extrinsic factors in your motivation to be active.

- Negative numbers reflect that you are extrinsically motivated for change; that is, external factors are important in regulating your behaviour.
- Positive numbers reflect that intrinsic motivation is primarily involved in your behaviour.

Continued

* Source: Deci, Edward L., and Richard M. Ryan. "Exercise Self-Regulation Questionnaires." *Self-Determination Theory: An Approach to Human Motivation and Personality—The Self-Regulation Questionnaires*. 2004. <www.psych.rochester.edu/SDT/measures/selfreg_exer.html>. Adapted with permission.

RM 4–FM: Motivation for Physical Activity and Exercise/ Working Out—Questionnaires* (Continued)



Motivation for Exercise/Working Out*

People exercise/work out for a variety of reasons. Using the rating scale provided below, please indicate how true each of the following reasons is for why you work out or would like to work out.

Rating Scale	1	2	3	4	5	6	7
	not at all true			somewhat true			very true

I exercise/work out (or would like to work out)	Rating
1. because I simply enjoy working out	
2. because working out is important and beneficial for my health and lifestyle	
3. because I would feel bad about myself if I didn't do it	
4. because it is fun and interesting	
5. because others like me better when I am in shape	
6. because I'd be afraid of falling too far out of shape if I didn't	
7. because it helps my image	
8. because it is personally important to me to work out	
9. because I feel pressured to work out	
10. because I have a strong value for being active and healthy	
11. because I find pleasure in discovering and mastering new training techniques	
12. because I want others to see me as physically fit	

Example	
Extrinsically Motivated	Intrinsically Motivated
2	7
2	6
4	4
2	6
5	2
2	3
5	2
2	6
5	2
2	7
2	6
6	3

External Regulation: 5, 7, 12	
Introjected Regulation: 3, 6, 9	
Identified Regulation: 2, 8, 10	
Intrinsic Motivation: 1, 4, 11	
Relative Autonomy Index	

5.3	2.3
3.7	3.0
2.0	6.3
2.0	6.3
-8.3	11.3

Autonomy index indicates the relative impact of intrinsic and extrinsic factors in your motivation to be active.

- Negative numbers reflect that you are extrinsically motivated for change; that is, external factors are important in regulating your behaviour.
- Positive numbers reflect that intrinsic motivation is primarily involved in your behaviour.

* Source: Deci, Edward L., and Richard M. Ryan. "Exercise Self-Regulation Questionnaires." *Self-Determination Theory: An Approach to Human Motivation and Personality—The Self-Regulation Questionnaires*. 2004.
<www.psych.rochester.edu/SDT/measures/selfreg_exer.html>. Adapted with permission.

Lesson 4: Addressing Barriers to Physical Activity

Introduction

Given the health benefits of regular physical activity, we might ask why two-thirds of Canadians are not active at recommended levels. According to the Public Health Agency of Canada, “Two-thirds of Canadians are inactive, a serious threat to their health and a burden on the public health care system” (*Canada’s Physical Activity Guide to Healthy Active Living, “What Is It?”*). This reality clearly points to the need to help Canadians become more physically active. There are barriers that keep Canadians from being, or becoming, physically active regularly. Understanding common barriers to physical activity and creating strategies to overcome them may help make physical activity part of daily life.

In this lesson students examine the common barriers to physical activity and determine which barriers are holding them back from being physically active. Students also determine ways to overcome those barriers.

REFERENCES



For additional information, refer to the following websites:

Centers for Disease Control and Prevention. “Overcoming Barriers to Physical Activity.” *Physical Activity for Everyone*. 22 May 2007.

<www.cdc.gov/nccdphp/dnpa/physical/life/overcome.htm>.

Public Health Agency of Canada. *Canada’s Physical Activity Guide for Youth*. Ottawa, ON: Public Health Agency of Canada, 2002. Available online at <www.phac-aspc.gc.ca/pau-uap/fitness/downloads.html>.

---. *Canada’s Physical Activity Guide to Healthy Active Living*. Ottawa, ON: Public Health Agency of Canada, 2004. Available online at <www.phac-aspc.gc.ca/pau-uap/fitness/downloads.html>.

---. “What Is It?” *Canada’s Physical Activity Guide to Healthy Active Living*. 15 Dec. 2003. <www.phac-aspc.gc.ca/pau-uap/paguide/intro.html>.

For website updates, please visit Websites to Support the Grades 11 and 12 Curriculum at <www.edu.gov.mb.ca/k12/cur/physlth/>.



Specific Learning Outcomes

11.FM.2 Examine factors that have an impact on the development and implementation of and adherence to a personal physical activity plan.

Examples: motivation, barriers, changing lifestyle, values and attitudes, social benefits, finances, medical conditions, incentives, readiness for change

11.FM.3 Examine and evaluate factors that affect fitness and activity choices.

Examples: intrinsic and extrinsic motivation, personal interests, personal health, family history, environment, finances, culture, level of risk



Key Understandings

- People encounter many personal and environmental barriers to physical activity.
 - It is necessary to develop self-understanding of own barriers to physical activity.
 - There are ways to overcome common barriers to physical activity.
-



Essential Questions

1. What are the differences between personal and environmental barriers?
 2. What strategies worked best in overcoming your own barriers to becoming more physically active?
-



Background Information

Barriers to Physical Activity*

People experience a variety of personal and environmental barriers to engaging in regular physical activity.

- **Personal barriers:** With technological advances and conveniences, people's lives have in many ways become increasingly easier, as well as less active. In addition, people have many personal reasons or explanations for being inactive. Some common explanations (barriers) that people cite for resistance to exercise are (Sallis and Hovell; Sallis, Hovell, and Hofstetter)
 - insufficient time to exercise
 - inconvenience of exercise
 - lack of self-motivation
 - non-enjoyment of exercise
 - boredom with exercise
 - lack of confidence in their ability to be physically active (low self-efficacy)
 - fear of being injured or having been injured recently
 - lack of self-management skills, such as the ability to set personal goals, monitor progress, or reward progress toward such goals
 - lack of encouragement, support, or companionship from family and friends
 - non-availability of parks, sidewalks, bicycle trails, or safe and pleasant walking paths close to home or the workplace

* Source: Centers for Disease Control and Prevention. "Overcoming Barriers to Physical Activity." *Physical Activity for Everyone*. 22 May 2007. <www.cdc.gov/nccdphp/dnpa/physical/life/overcome.htm>. Adapted with permission.

The top three barriers to engaging in physical activity across the adult lifespan are

- time
- energy
- motivation

Other barriers include

- cost
 - facilities
 - illness or injury
 - transportation
 - partner issues
 - skill
 - safety considerations
 - child care
 - uneasiness with change
 - unsuitable programs
- **Environmental barriers:** The environment in which we live has a great influence on our level of physical activity. Many factors in our environment affect us. Obvious factors include the accessibility of walking paths, cycling trails, and recreation facilities. Factors such as traffic, availability of public transportation, crime, and pollution may also have an effect. Other environmental factors include our social environment, such as support from family and friends, and community spirit.

It is possible to make changes in our environment through campaigns to support active transportation, legislation for safer communities, and the creation of new recreation facilities.

REFERENCES



For additional information, refer to the following resources:

Centers for Disease Control and Prevention. "Overcoming Barriers to Physical Activity." *Physical Activity for Everyone*. 22 May 2007. <www.cdc.gov/nccdphp/dnpa/physical/life/overcome.htm>.

Sallis, J. F., and M. F. Hovell. "Determinants of Exercise Behavior." *Exercise and Sport Science Reviews* 18 (1990): 307–30.

Sallis, J. F., M. F. Hovell, and C. R. Hofstetter. "Predictors of Adoption and Maintenance of Vigorous Physical Activity in Men and Women." *Preventive Medicine* 21.2 (1992): 237–51.

For website updates, please visit Websites to Support the Grades 11 and 12 Curriculum at <www.edu.gov.mb.ca/k12/cur/physlth/>.



Suggestion for Instruction / Assessment

Barriers to Being Active Quiz

To help students identify the types of physical activity barriers that are undermining their own ability to make regular physical activity a part of their lives, have them complete RM 5-FM.

Once students have completed the quiz, ask them to analyze their results and determine the key barriers to their physical activity participation. Also encourage students to identify personal barriers that are not part of the quiz. To give the class a visual representation of responses, have students list and discuss all the barriers they identified.



Refer to RM 5-FM: Barriers to Being Active Quiz (available in Word and Excel formats).

REFERENCE



For another sample questionnaire, refer to the following website:

Cederberg, Michelle. "Barriers to Physical Activity Q." *Live Out Loud!*
<<http://liveoutloud.ca/pdf/BarriersQ.pdf>>.

For website updates, please visit Websites to Support the Grades 11 and 12 Curriculum at
<www.edu.gov.mb.ca/k12/cur/physhlth/>.



Suggestion for Instruction / Assessment

Overcoming Barriers to Physical Activity

Have students brainstorm realistic ways of overcoming barriers to physical activity. This could be done by assigning certain barriers to small groups of students. As a class, discuss students' suggestions of the various ways to address the barriers.

As a follow-up, have students make a journal entry responding to the following question:

What strategies have worked best for you in overcoming your own barriers to become more physically active?

Use the following suggestions for overcoming physical activity barriers to assist with strengthening students' suggestions.

Suggestions for Overcoming Physical Activity Barriers*	
Barriers	Suggestions for Overcoming Barriers
Lack of time	<ul style="list-style-type: none"> ▪ Identify the available time slots or create time slots during which you are willing to give up a sedentary activity (e.g., watching television). Monitor your daily activities for one week. Identify at least three 30-minute time slots you could use for physical activity. ▪ Add physical activity to your daily routine (e.g., walk or ride your bike to school or work or shopping, organize school activities around physical activity, walk the dog, exercise while you watch TV, park farther away from your destination). ▪ Make time for physical activity (e.g., walk, jog, or swim during your lunch hour, take fitness breaks while you study, walk up and down stairs between classes). ▪ Select activities requiring minimal time, such as walking, jogging, or stair climbing.
Social influence	<ul style="list-style-type: none"> ▪ Explain your interest in physical activity to friends and family. Ask them to support your efforts. ▪ Invite friends and family members to exercise with you. Plan social activities involving exercise. ▪ Develop new friendships with physically active people. Join a group (e.g., hiking or cycling club).
Lack of energy	<ul style="list-style-type: none"> ▪ Schedule physical activity for times in the day or week when you feel energetic. ▪ Convince yourself that if you give it a chance, physical activity will increase your energy level; then, try it.
Lack of motivation	<ul style="list-style-type: none"> ▪ Plan ahead and make the commitment. Make physical activity a regular part of your daily or weekly schedule and write it on your calendar. ▪ Invite a friend to exercise with you on a regular basis and write it on both your calendars. ▪ Join an exercise group or class.
Fear of injury	<ul style="list-style-type: none"> ▪ Learn how to warm up and cool down to prevent injury. ▪ Learn how to exercise appropriately, considering your age, fitness level, skill level, and health status. ▪ Choose activities involving minimum risk.
Lack of skill	<ul style="list-style-type: none"> ▪ Select activities requiring no new skills, such as walking, climbing stairs, or jogging. ▪ Exercise with friends who are at the same skill level as you are. ▪ Find a friend who is willing to teach you some new skills. ▪ Take a class to develop new skills.
Lack of resources	<ul style="list-style-type: none"> ▪ Select activities that require minimal facilities or equipment, such as walking, jogging, jumping rope, or calisthenics. ▪ Identify inexpensive, convenient resources available in your community (e.g., community education programs, park and recreation programs, worksite programs).
Weather conditions	<ul style="list-style-type: none"> ▪ Develop a set of regular activities that are always available regardless of weather (e.g., indoor cycling, aerobic dance, indoor swimming, calisthenics, stair climbing, rope skipping, mall walking, dancing, gymnasium games). ▪ Look on outdoor activities that depend on weather conditions (e.g., cross-country skiing, snowshoeing, skating, outdoor swimming, outdoor tennis) as “bonuses”—extra activities possible when weather and circumstances permit.
Travel	<ul style="list-style-type: none"> ▪ Put a jump rope in your suitcase and jump rope. ▪ Walk the halls and climb the stairs in hotels. ▪ Stay in places with swimming pools or exercise facilities. ▪ Join the YMCA or YWCA (ask about reciprocal membership agreement). ▪ During gas station stops, take exercise breaks. ▪ Bring your favourite music that motivates you.
Family involvement	<ul style="list-style-type: none"> ▪ Exercise with your brother or sister when babysitting (e.g., go for a walk together, play tag or other running games, get an aerobic dance DVD for kids and exercise together). You can spend time together and still get your exercise. ▪ Find ways to be active around your home with others (e.g., shoot hoops on the driveway, play tennis at a nearby tennis court, go for a bicycle ride with a friend, play with siblings, do household chores such as mowing the lawn).

* Source: Centers for Disease Control and Prevention. “Overcoming Barriers to Physical Activity.” *Physical Activity for Everyone*. 22 May 2007. <www.cdc.gov/nccdphp/dnpa/physical/life/overcome.htm>. Adapted with permission.

RM 5–FM: Barriers to Being Active Quiz*

What Keeps You from Being More Active?

Listed below are reasons that people give to describe why they do not get as much physical activity as they think they should. Please read each statement and indicate how likely you are to say each of the following statements. (Circle the applicable number for each statement.)

How likely are you to say?	Very Likely	Somewhat Likely	Somewhat Unlikely	Very Unlikely
1. My day is so busy now, I just don't think I can make the time to include physical activity in my regular schedule.	3	2	1	0
2. None of my family members or friends likes to do anything active, so I don't have a chance to exercise.	3	2	1	0
3. I'm just too tired after school or work to get any exercise.	3	2	1	0
4. I've been thinking about getting more exercise, but I just can't seem to get started.	3	2	1	0
5. Exercise can be risky.	3	2	1	0
6. I don't get enough exercise because I have never learned the skills for any sport.	3	2	1	0
7. I don't have access to jogging trails, swimming pools, bike paths, etc.	3	2	1	0
8. Physical activity takes too much time away from other commitments—time, work, family, etc.	3	2	1	0
9. I'm embarrassed about how I will look when I exercise with others.	3	2	1	0
10. I don't get enough sleep as it is. I just couldn't get up early or stay up late to get some exercise.	3	2	1	0
11. It's easier for me to find excuses not to exercise than to go out to do something.	3	2	1	0
12. I know of too many people who have hurt themselves by overdoing it with exercise.	3	2	1	0
13. I really can't see learning a new sport.	3	2	1	0
14. It's just too expensive. You have to take a class or join a club or buy the right equipment.	3	2	1	0
15. My free times during the day are too short to include exercise.	3	2	1	0
16. My usual social activities with family or friends do not include physical activity.	3	2	1	0
17. I'm too tired during the week and I need the weekend to catch up on my rest.	3	2	1	0

Continued

* Source: Centers for Disease Control and Prevention. "Barriers to Physical Activity Quiz." *Physical Activity for Everyone: Overcoming Barriers to Physical Activity*. <www.cdc.gov/nccdphp/dnpa/physical/life/barriers_quiz.pdf>. Adapted with permission.

RM 5–FM: Barriers to Being Active Quiz *(Continued)*

How likely are you to say?	Very Likely	Somewhat Likely	Somewhat Unlikely	Very Unlikely
18. I want to get more exercise, but I just can't seem to make myself stick to anything.	3	2	1	0
19. I'm afraid I might injure myself.	3	2	1	0
20. I'm not good enough at any physical activity to make it fun.	3	2	1	0
21. If we had exercise facilities and showers at school or at work, then I would be more likely to exercise.	3	2	1	0

Scoring

Follow these instructions to score yourself:

- In the spaces provided below, enter the number you circled for the applicable questions (on the quiz), recording the circled number for statement 1 on line 1, statement 2 on line 2, and so on.
- Add the three scores on each line. Your barriers to physical activity fall into one or more of seven categories: lack of time, social influences, lack of energy, lack of willpower, fear of injury, lack of skill, and lack of resources. A score of 5 or above in any category shows that this is an important barrier for you to overcome.

_____	+	_____	+	_____	=	_____
1		8		15		Lack of time
_____	+	_____	+	_____	=	_____
2		9		16		Social influence
_____	+	_____	+	_____	=	_____
3		10		17		Lack of energy
_____	+	_____	+	_____	=	_____
4		11		18		Lack of willpower
_____	+	_____	+	_____	=	_____
5		12		19		Fear of injury
_____	+	_____	+	_____	=	_____
6		13		20		Lack of skill
_____	+	_____	+	_____	=	_____
7		14		21		Lack of resources

Lesson 5: Making Physical Activity a Habit

Introduction

In this lesson students learn how a habit (the *maintenance* phase of the Stages of Change model addressed in Module B, Lesson 2) is created and take steps to creating their own exercise habit. In order for behaviours to become a habit, repetition is required. Adopting a new habit can take from a few weeks to many months. Students also investigate ways of addressing some of the factors that prevent people from making physical activity a habit.



Specific Learning Outcomes

11.FM.2 Examine factors that have an impact on the development and implementation of and adherence to a personal physical activity plan.

Examples: motivation, barriers, changing lifestyle, values and attitudes, social benefits, finances, medical conditions, incentives, readiness for change

11.FM.3 Examine and evaluate factors that affect fitness and activity choices.

Examples: intrinsic and extrinsic motivation, personal interests, personal health, family history, environment, finances, culture, level of risk

11.PA.1 Demonstrate appropriate critical thinking, planning, and decision-making skills in the development and implementation of a personal physical activity plan that is safe and ethical and contributes to health-related fitness goals.



Key Understandings

- Healthy lifestyle habits can be created.
 - There are factors that promote and detract from making physical activity and exercise a lifestyle habit.
 - Goal setting and personality awareness have an important influence on habit creation.
-



Essential Questions

1. What are some ways to create a new habit?
 2. What are some factors that affect a person's adherence to a personal activity plan, including an activity or exercise routine?
 3. Identify a personal goal as part of your physical activity plan using the goal-setting steps.
-



Background Information

Getting Beyond Just Getting Started

This course, and the physical activity practicum (see Module A) in particular, is intended to

- help students take greater ownership of their own physical fitness
- promote the discovery of physical activities suited to students' own interests
- encourage students to engage in active lifestyles that persist into their futures

To realize these goals, students need to form good habits so that they can adhere to their physical activity plan, meet the requirements for this course, and be active and healthy beyond graduation for a lifetime.

Forming a Habit

The formation of a habit (good or bad) typically depends on two things, time and repetition. We all tend to have some habits that we are not particularly fond of or perhaps not even aware of. Some of these habits may not be overt or may not have a major impact on our day-to-day living; however, the lack of "healthy" habits can and will have long-term effects. The good news is that while taking the first step to forming a new habit may be difficult, subsequent steps can be relatively easy. Many of us take that first step as a result of some external motivator, such as a personal encounter with an undesirable outcome (e.g., a heart attack, clothes don't fit) or a health warning from a doctor. While these examples tend not to catch the attention of adolescents, it is essential to begin the formation of good exercise habits as early in life as possible because these habits then become part of who we are and what we do, thereby eliminating the excuse, "I don't have time."

All good things in life, including exercise habits, take time to develop. Once we decide to begin regular physical activity, it is important to take things slowly. We need to be cautious about not taking on more than we can handle, making sure that our activity plan "fits" us and that we will be able to carry on beyond the first week, month, and so on.

Motivation is an underlying theme in the Stages of Change model, from contemplation to maintenance. It is generally accepted that intrinsic motivation is necessary for maintenance and that extrinsic motivators are useful to commence change and to reinforce it later on through the stages of change.

NOTE TO TEACHER

To help students make physical activity a habit, especially those who are inactive, it is important to include the information in this lesson in class lectures or discussions, as well as in student-teacher conferences. Be considerate of different starting points or activity levels of students (e.g., inactive, active, very active).

"Those who think they have not time for bodily exercise will sooner or later have to find time for illness."

— Edward Stanley, Earl of Derby, 1873

Being Physically Active Is a Habit

Our physical activity experiences should be founded on a desire to engage in activities we enjoy, while also providing the benefits of a formal exercise program. Our interests should guide our activity experiences. If we don't have any obvious interests, we need to find someone who can expose us to new activities in a safe environment so that we can try them and find out what we like to do.

Once we find an activity to our liking, we need to make it a regular occurrence in our lives in a realistic manner (i.e., not approaching it too aggressively and not going overboard by doing it all at once). If we have not been physically active regularly for a while, we need to start gradually and ease into a small number of activities of differing intensities. Over time, as some features of boredom creep in, we can explore new activities, keeping in mind that variety will enhance adherence to exercise.

Generally, people tend to give up on activity programs because they don't see the desired results as quickly as they had wished for. When we begin exercising regularly, gradually increasing the demands of our exercise program, we need to be patient and trust that things are happening. We need to understand that our bodies are changing, making adjustments to circulation, respiration, the heart, lungs, liver, blood vessels, hormones, glands, and the immune system, even the blood supply itself. Changes are happening, even if we cannot see or measure them.

It is essential to take on realistic performance goals in personal physical activity plans. Measuring or logging performance can be helpful. Even a change in the frequency of exercise per week is a success. For example, someone who has a plan for walking at every lunch hour (five times a week) can set a minimum successful level of two times in the first week. In this way, the individual will experience success, and then attempt to add more the next week. Unrealistic goals result in feelings of failure and decrease self-esteem, leading to avoidance of activity or relapse to inactivity.

While incorporating physical activity strategies into daily life (e.g., taking stairs instead of using elevators, parking farther out in the parking lot) should not be confused with exercise programs, these efforts may well be ways to ease into an exercise program or to begin building the basics of an exercise habit. Every little bit helps. Before long, these efforts are no longer seen as a chore. Taking the stairs instead of the elevator (or escalator) each day for as little as three weeks can make this activity a lifelong habit. (It is a general belief that it takes 20 to 30 days of repetition to form a new habit.) After a while, we will ask ourselves, "Why didn't I do that in the first place?"

It is said that variety is the spice of life. However, if we are just beginning a physical activity plan, we need to choose one activity that appeals to us, and get started. When we have incorporated this activity as part of our routine, we can try to do it more frequently. Once we are feeling comfortable with an activity, it is time to consider other activities that interest us. We might want to try different activities we had previously only thought about but now have the motivation to try, to explore what we really enjoy, and to find out what will fit into

our lifestyle and schedule. Those who enjoy the company of others may choose to join a team or find an exercise partner (e.g., a person, pet, pedometer, training log). In fact, doing a number of activities is a great way of incorporating variety into a physical activity program. We don't have to do the same exercise every day to get the health and fitness benefits.

With a gradual beginning and small incremental increases in duration or intensity, we soon see and feel positive results from physical activities. Once our chosen activities become a habit, we will not want to miss our workouts. Then we are on a solid pathway to health.

REFERENCES



For additional information, refer to the following websites:

Baldwin, Donovan. "Health as Habit: Nutrition, Exercise, and Weight Loss." *Nutrition-Weight Loss-Alternative Medicine*. Dietneeds.com. <www.dietneeds.com/Health-As-Habit-Nutrition-Exercise-And-Weight-Loss.php>.

Quinn, Elizabeth. "Getting Started and Sticking with Exercise." *Sports Medicine*. About.com. 14 Jul. 2004. <<http://sportsmedicine.about.com/od/tipsandtricks/a/gettingstarted.htm>>.

For website updates, please visit Websites to Support the Grades 11 and 12 Curriculum at <www.edu.gov.mb.ca/k12/cur/physhlth/>.



Suggestion for Instruction / Assessment

New Physical Activity Habit

Have students track their progress in forming new physical activity habits, using the Six Steps to New Habits identified in RM 6-FM.



Refer to RM 6-FM: New Habit Chart (available in Word and Excel formats).



Background Information

Commitment and Exercise Adherence

It is generally understood that exercise is good for us, yet a high percentage of the people who begin exercise programs drop out within the first six months. Even people who are active or seriously training for a sport can have difficulty adhering to their training programs. The most commonly cited reasons for dropping out of an exercise program include "lack of time, inconvenience, expense, physical discomfort, embarrassment, poor instruction, inadequate support, and loss of interest" (Doyle). Clearly, these reasons are closely linked to the barriers to exercise (addressed in Module B, Lesson 4). Encourage

students to take ownership of their personal physical activity plan, as ownership instills commitment. This is their new life.

The factors that affect exercise adherence and motivation can be organized into two categories: situation factors and personal factors. These factors are examined in the discussion that follows.

REFERENCES



For additional information, refer to the following websites:

Doyle, J. Andrew. "Exercise Adherence." *The Exercise and Physical Fitness Page*. 1999. <<http://www2.gsu.edu/~wwwfit/adherence.html>>.

Public Health Agency of Canada. "Activity Guidelines." *Canada's Physical Activity Guide to Healthy Active Living*. 20 Sept. 2002. <www.phac-aspc.gc.ca/pau-uap/paguide/child_youth/youth/guidelines.html>.

For website updates, please visit Websites to Support the Grades 11 and 12 Curriculum at <www.edu.gov.mb.ca/k12/cur/physhlth/>.

Situation Factors Affecting Exercise Adherence*

The factors that affect our commitment or adherence to physical activity or exercise are similar to those that act as barriers to commencing physical activity for the first time.

By knowing the situations or environments in which we enjoy exercise, we can put ourselves into those situations as often as possible. The following factors must be considered to maximize exercise commitment:

- time
- money
- energy
- other commitments
- social support
- exercising with others
- facilities
- climate
- physical discomfort

A discussion of these situation factors follows.

* Source: Doyle, J. Andrew. "Exercise Adherence." *The Exercise and Physical Fitness Page*. <<http://www2.gsu.edu/~wwwfit/adherence.html>>. © Board of Regents of the University System of Georgia by Georgia State University (1999). Adapted with permission.

Time

Finding time to exercise is of vital importance if we are to adhere to an exercise program. According to the “Activity Guidelines” set out in *Canada’s Physical Activity Guide to Healthy Active Living* (Public Health Agency of Canada), individuals should aim to exercise 60 minutes or more on most days of the week. This increase in time may be accumulated throughout the day and should include activities of moderate to vigorous intensity.

In scheduling workout time, allow for other factors before and after the workout (e.g., travelling, changing clothes, showering). Incorporate these considerations into the overall time set aside for exercise. If we are not relaxed or if we feel hurried when working out, we are less likely to enjoy a workout and so will be less likely to adhere to an exercise program in the future. The exercise program can’t be squeezed in – it must be a well-placed, intentional part of our schedule. Getting support from friends and family to “keep this personal time” can be valuable. Working with an exercise partner can also increase commitment to an exercise schedule.

It is a good idea to plan for exercise time to avoid any possible time conflicts. Getting into a weekly exercise routine with which we feel comfortable will aid in exercise adherence. Keep in mind that “blips” in the routine can happen due to a variety of reasons (e.g., illness, special family occasions, examination stress). These are not failures.

Money

We all make decisions based on our current situation. This includes being able to do things in life based on our personal financial resources.

Many people feel that getting “fit” or becoming physically active requires joining a gym or a health club or enrolling in some type of exercise program. While these options may be possible for some, they are not possible for others due to their financial situation.

Lack of finances need not be a reason for inactivity, however. Many activities (e.g., walking, running) cost little or no money and can be done without having to purchase expensive equipment (e.g., consider borrowing equipment). Correct instruction for some activities can be obtained from a physical education teacher or from books, videos, or DVDs available at school or at a local library. Many affordable public sports facilities and community clubs have trained individuals who can assist people in designing an appropriate exercise program. In general, physical activity choices must align with one’s personal income and budget, just like other choices in life. However, being active does not have to require money. There are many ways to be active at no cost or at minimal cost to the individual.

Energy

Lack of energy is a common excuse for not exercising. This excuse is ironic, given that we actually feel energized by working out. There will be occasions when we will not feel like

exercising due to tiredness, lack of energy, illness, and so on. During these times it is important to try to do at least parts of our exercise program, or run through a workout at a lower intensity level. Doing something is always better than doing nothing.

We typically have more energy at certain times of the day than at others. Make a note of these “up” times and schedule workouts at these times.

Nutrition or healthy eating also plays an important part in exercise. A meal plan should include sufficient complex carbohydrates to make the proper fuel available to the body during exercise.

Finally, sleep is a key to energy for exercise. Many young people do not sleep enough, making it easy for them to yield to the temptation not to exercise due to tiredness. Rest, recovery, and sleep are as vital to a regular physical activity plan as the activity itself.

Other Commitments

Naturally, we all have responsibilities and commitments (e.g., homework, work, family) that may affect our adherence to a regular exercise plan. All these commitments require time and energy. Therefore, scheduling and prioritizing our commitments is essential, and this includes exercising. Incorporating exercise into other commitments may help us to meet our responsibilities to ourselves, as well as to others (e.g., walk, run, or cycle to and from school or work, include play time in babysitting).

If we are serious about adhering to an exercise program it may be necessary to forgo other activities to make time for exercise. We have to identify where our priorities lie and be prepared to make sacrifices (e.g., instead of spending money on conveniences and consumer-oriented purchases such as a new TV, car, or stereo, choose to spend the money on health). We need to ask ourselves, “What is our health worth?”

Social Support

Ongoing social support is important all along the Stages of Change continuum. Gaining and maintaining the support of family and friends is critical if we are going to remain faithful to our exercise program. We need to demonstrate to family and friends, and help them understand, how important our physical activity is to us. This will make it easier for all involved to support our efforts. Once our social supports are in place, others will try to avoid scheduling events that may interfere with our exercise time.

Exercising with Others

For some individuals, exercising with a group or a partner can greatly improve exercise adherence. By exercising with others, we are more likely to keep than to neglect our commitment to an exercise plan. Knowing that we will let others down, in addition to ourselves, by missing an exercise session, can sometimes be good motivation to continue exercising.

The same is true if we are part of a team or a group exercise class or program. If we miss a practice or class we generally have to explain the reason for our absence to others. The fear of this embarrassment is often enough to maintain high exercise adherence, which is the desired outcome. Managing this is important, as fear of missing an obligation itself is not a good motivator alone to continue with exercise. Once we miss one session, we may establish a sense of failure, and then it may be hard to get back to the group.

Facilities

Affordability and location are key considerations in choosing the right facilities or space in which to exercise. When deciding on the proper place for exercise (indoors or outdoors), consider an easily accessible location close to home, school, and/or the workplace. Giving strong consideration to these factors in choosing facilities increases the likelihood of adherence to exercise.

Feeling comfortable with our surroundings during exercise is vital. We can increase our sense of ease and safety by understanding how to use the facilities, where everything is located, and where to get assistance if required. We benefit if we find the staff of the facilities friendly, approachable, and sensitive to our needs. Those who prefer to exercise when the facilities are less crowded could try to find out when the best time is and see whether it fits into their weekly schedule. When exercising outdoors, safety and access to a phone may be a consideration.

Climate

Climate is especially relevant to outdoor exercises, such as running and cycling, and outdoor team sports. Having an alternate exercise plan in the event of bad weather will help keep us on track.

The weather, be it too hot or too cold, too dry or too wet, can make some facilities unusable. Exercising in inclement weather may also compromise health. Individuals with allergies to pollen may not be able to exercise outdoors during some seasons. Those with asthma may be unable to exercise comfortably in cold, dry conditions. Exercising in cold, wet weather may cause the onset of common colds and respiratory infections.

Manitoba's climate provides opportunities for a tremendous variety of physical activities and sports in every season. Being able to maintain a regular exercise routine, regardless of the weather or season, can ensure high exercise adherence. Planning for a change in seasons is a critical component of a successful personal activity plan. Someone who begins a physical activity plan in fall or winter should also plan activities for the spring and summer, and vice versa. Putting all our effort into one type of activity is risky.

Physical Discomfort

Physical discomfort from exercise can be a deterring factor to our pattern of activity. Not everyone enjoys intense physical activity, or finds it easy. The belief that the “fat-burning zone” is the only right place to be for exercise intensity is a misconception. We are able to realize significant health and fitness benefits from activities of very low intensity. If we are capable of exercising at a higher intensity, however, then we should progress. We will burn more calories with vigorous activity.

Although we can expect to experience discomfort with vigorous exercise, we gain significant benefits from exercising at this level. It is important to be able to distinguish between pain and discomfort, as any pain experienced may indicate that something is wrong and may warrant a visit to a physician. Nonetheless, a little discomfort is normal, and it is up to each of us to do what we can to minimize it. Once exercise is part of a normal routine, the level of discomfort experienced from vigorous exercise will diminish. Keep in mind that exercise should still be fun.

The following are a few tips for minimizing discomfort with exercise:

- It is normal to experience “delayed onset muscle soreness” after starting a new exercise program, or even when changing exercises. This soreness (or stiffness) develops after 24 hours and will diminish over the next few days. The benefit is that the second time we do an exercise we won’t be nearly as sore. So, staying active is a key to minimizing discomfort.
- Always include warm-up and cool-down sessions in exercise. When beginning a new exercise program, start off slowly and gradually make increases in frequency, intensity, and time. The body needs time to adapt to new stresses.
- Expect to sweat and breathe harder when increasing work intensity. Learn to distinguish between normal breathing during exercise and shortness of breath or hyperventilation.

Personal Factors Affecting Exercise Adherence and Motivation*

By understanding more about ourselves, we can more successfully handle the inevitable difficult situations when they arise. Therefore, in addition to paying attention to the situation factors affecting our exercise program, we need to devote attention to personal factors and capabilities such as

- awareness of personality
- goal setting

A discussion of the personal factors affecting exercise adherence and motivation follows.

* Source: Doyle, J. Andrew. “Exercise Adherence.” *The Exercise and Physical Fitness Page*. <<http://www2.gsu.edu/~wwwfit/adherence.html>>. © Board of Regents of the University System of Georgia by Georgia State University (1999). Adapted with permission.

Awareness of Personality

Personality is an interrelated combination of a person's body, thoughts, and behaviours. How individuals explain, or to what they attribute, their successes and failures may say something about their personalities.

To increase awareness of how personality affects exercise adherence and motivation, it is helpful to consider the following three questions:

- Do you tend to see your exercise habit, or lack thereof, as permanent or as changeable?
- Do you attribute your habit, or lack thereof, to things primarily within or outside your control?
- Do you attribute your habit, or lack thereof, to internal characteristics or external circumstances?

Explaining a lack of adherence or motivation to exercise as permanent and beyond our control diminishes our expectations, perhaps to the point of feeling helpless. Attributing failures to internal characteristics may result in feelings of guilt or shame; attributing failures to external circumstances may provide a way to avoid such feelings.

Alternatively, explaining a lack of adherence or motivation as changeable and within our control provides a sense of empowerment, increasing the expectation of success. Attributing successes to internal characteristics may lead to feelings of pride, self-worth, or a sense of accomplishment; attributing successes to external circumstances may bring a sense of luck or humility.

Analyzing expectations can reveal something about personalities. An individual with expectations of success is often referred to as having a high degree of self-confidence or self-efficacy; an individual with expectations of failure is often referred to as having a low degree of self-confidence or self-efficacy.

It is important to establish our expectations regarding the exercise program we are considering starting or have just started. At least four things can help improve our self-confidence with regard to an exercise program:

- prior successes and achievements
- role models and success stories
- verbal encouragement and persuasion
- awareness and control of emotional responses to exercise

Goal Setting

Setting goals is an effective way to enhance motivation for physical activity and to improve the likelihood of developing the habit of exercise. To be most effective, our physical activity goals should be SMART: specific, measurable, attainable, realistic, and time framed.

Common reasons to start exercising include losing weight or body fat or getting into better condition. To improve the chances of success, goals need to be more specific (e.g., If you want to lose weight or body fat, how much do you want to lose and by when? Are there clothes you'd like to fit into by a certain date?). In any case, specific goals are measurable. Having specific goals will enable us, at a certain time in the future, to determine clearly and easily whether or not we have met our goals.

In addition to being specific and measurable, goals should be challenging, as well as attainable and realistic. If our goals require dramatic changes to well-established habits, we will be much less likely to succeed. Setting extreme goals may say something about an individual's personality. We increase our chances of success by attempting to make gradual changes. Those who have been relatively inactive for a while may wish to introduce exercise on three or four days a week. They could focus first on getting exercise on those days, and then gradually increase the duration and/or the intensity of exercise. Those who don't have the time or the inclination for an exercise program could set specific goals about incorporating greater physical activity into their daily routine.

Whether or not individuals reach a specific and realistic goal within an allotted period of time may, to some degree, be affected by circumstances beyond their control. To increase the chances of ultimate success, goals should state both the desired outcomes and the tasks. Tasks are the behaviours that an individual commits to doing to achieve goals. For example, a person's goal might involve losing a certain amount of weight in 12 weeks. The task goals might then include specific behaviours such as lifting weights or jogging for 30 minutes three or four times a week, taking the stairs instead of elevators, and maintaining an appropriate balanced diet.

Once we've set specific and realistic goals that include both outcomes and tasks, we might consider writing them down in an exercise contract. By writing them down, we promise to perform our tasks in order to achieve specific and realistic goals by a certain date. Alternatively, we might consider memorizing our goals and reminding ourselves of them daily. We can also promise ourselves that if we meet such goals we will give ourselves a specific reward.



Suggestion for Instruction / Assessment

Reflecting on Personal Exercise Habits

Ask students to reflect on the successes they have experienced in their physical activity habits, or on how they overcame challenges.

Have students respond to the following questions:

- What are the key factors that have allowed you to stay with an exercise program or a new physical activity plan?
- Do you know of others who have successfully added the habit of exercise to their lives? How do they maintain the activity?
- Are there others who can give you support and encouragement? Who could aid you in maintaining activity? How could these people help?
- Are you aware of your emotions related to physical activity or exercise? Do you feel worried or confidently under control, anxious or relaxed, excited or bored? Your awareness of and your ability to regulate such emotions can improve your self-confidence or self-efficacy and increase the likelihood that you will stick with your exercise program.

Have students individually

- assess their personal state of emotional response during exercise along a continuum ranging from boredom at one extreme to anxiety at the other extreme
- identify and appropriately place their emotions (e.g., relaxed, under control, worried, nervous) in between the two extremes of the emotional response continuum
- suggest ways of addressing the emotional states they experience during exercise

Examples:

- If I begin to feel bored, perhaps I could introduce new settings, new challenges, or different exercises.
- If I feel too anxious, I could try some techniques (e.g., progressive relaxation, deep breathing) that might help me regulate the level of emotional response and maintain appropriate focus. (Ultimately, one can learn to use such techniques as automatic, learned responses to feelings of stress or anxiety.)

NOTE TO TEACHER

If individuals begin to find their exercise program boring, or if they begin to worry too much about their exercise program, they decrease the likelihood of developing the habit of exercise.



Background Information

Time to Get Moving

In this module, students have learned about themselves and the ways in which they can take charge of their lifestyle. They have learned about their own motivation regarding physical activity, examined their perceived barriers and the ways to get past them, and explored techniques to “stick with” an exercise plan. It is now time for students to make a commitment to a personal physical activity plan.



Suggestion for Instruction / Assessment

A Personal Physical Activity Plan/Contract

To prepare students for establishing their own physical activity plan, have them review the SMART (specific, measurable, attainable, realistic, and time framed) goals.

SMART GOALS

- Specific:** What kind of exercise will you do? When will you do it?
- Measurable:** How many minutes? What is your target heart rate?
- Attainable:** Are your body and mind ready for and capable of these challenges?
- Realistic:** Have you created a schedule that works for you and that you can stick to?
- Time framed:** What will you do each week? each month? How long are you giving yourself to reach your goal?

Students should now be able to establish their personal physical activity goals and start or continue on the road to an active healthy lifestyle. Have each student complete RM 7-FM.



Refer to RM 7-FM: Physical Activity Contract.

Ask students to include their personal goals as part of their physical activity plan, for periodic review and amendment. Amending the contract is tantamount to success, as this means that students are constantly assessing their performance goals and outcomes. It is better to revise the contract than to use it as a means to identify failure.

The goal is to have students achieve and maintain a physically active lifestyle. So, in the next few weeks they will need to find the methods to succeed in their new physical activity plan, as opposed to assuming it will work. It might take two to five activity sessions to get physically active.

REFERENCES



For more information on goal setting, refer to the following documents provided by the Manitoba Physical Education Teachers Association:

- Goal Setting PowerPoint
- Goal Setting Worksheet
- Goal Setting: Personal Plan

These documents can be found on the following website:

Manitoba Physical Education Teachers Association (MPETA). *MPETA Resources to Support the Grades 11 and 12 Curriculum*. <www.mpeta.ca/resources.html>.

For website updates, please visit Websites to Support the Grades 11 and 12 Curriculum at <<http://www.edu.gov.mb.ca/k12/cur/physhlth/>>.

RM 6–FM: New Habit Chart

Three keys to forming new habits are consistency, rewards, and motivation. The recipe for a habit mixes together all three ingredients. A habit has to be something you want, done regularly for a decent period of time.

Think of something you can start today, something you’d like to turn into a habit. You could consider starting a walking program. Weight training is a popular activity for many. Forming a habit is all about building momentum, so start with something you are pretty sure you can succeed with. Then see how long you can keep it up. Make it fun and challenge yourself!

Six Steps to New Habits

1. Print this page. Hang it where you’ll see it every day (e.g., on the fridge, by your bed, over your desk).
2. Choose the habit you want to add/drop. If you’re looking to drop a bad habit, try to include a positive substitute.
3. Using two coloured markers, track your success by filling in the blocks in the chart. Red = Did it. Blue = Missed it.
4. Most habits take three to four weeks to really form. That’s why each row has 21 blocks. You can stop at the end of the first row and move on to another habit, or keep your streak alive and fill up the whole page (30 weeks)!
5. Don’t get discouraged if you don’t have 100% success. Keep trying and enjoy your progress.
6. Remember to reward yourself! Some good reward milestones are marked on the chart for you.

Paste a picture that represents your new habit or its benefits here!

Habit I want to add/drop: _____

Why I want to do this: _____

What will happen if I don’t: _____

																				Notes
																				21
																				30
																				50
																				75
																				100
																				150
																				200

* Source: Used with permission from SparkTeens.com. Visit SparkTeens.com for a free nutrition and fitness program.

RM 7–FM: Physical Activity Contract

I believe that routine physical activity and exercise may benefit me physically, mentally, socially, and emotionally.

I, _____, DO HEREBY PLEDGE TO THE FOLLOWING GOALS:

Specific and Realistic Goal #1 _____ By When? _____

Tasks to Accomplish Goal #1

Specific and Realistic Goal #2 _____ By When? _____

Tasks to Accomplish Goal #2

Specific and Realistic Goal #3 _____ By When? _____

Tasks to Accomplish Goal #3

PLEGGED BY _____ THIS _____ DAY OF _____, _____
(student) (day) (month) (year)

* Source: Doyle, J. Andrew. "Exercise Adherence." *The Exercise and Physical Fitness Page*. <<http://www2.gsu.edu/~wwwfit/adherence.html>>. © Board of Regents of the University System of Georgia by Georgia State University (1999). Adapted with permission.

Lesson 6: Planning for Physical Fitness

Introduction

In this lesson students review the basics of physical fitness, including

- definitions of physical fitness
- health- and skill-related fitness components
- principles of fitness development
- the FITT principle
- resistance training

At the completion of this lesson students develop and implement an exercise routine as part of their personal physical activity practicum (see Module A).



Specific Learning Outcomes

- 11.FM.4** Demonstrate an understanding of the concepts and principles related to the development and implementation of a personal physical activity plan.
Examples: cardiorespiratory endurance/aerobic fitness, musculoskeletal fitness, training principles, FITT (frequency, intensity, time, type) principle
- 11.FM.5** Design, implement, evaluate, and revise an exercise routine that contributes to the health-related fitness components.
Examples: resistance training, walking, running programs
-



Key Understandings

- Physical fitness is a complex concept related to the effects of physical activity on the human body.
 - Physical fitness comprises health- and skill-related components.
 - The development of physical fitness is governed by the FITT principle.
 - Planning is important for successful physical fitness development.
-



Essential Questions

1. What is the definition of *physical fitness*?
 2. How did the FITT principle help you to develop your exercise routine?
 3. Explain how your exercise routine contributed to the five health-related components of physical fitness.
 4. If you were helping someone begin a resistance training program, what guidelines and safety considerations would you provide?
-



Background Information

Understanding Physical Fitness

Physical fitness, in general terms, is a person's ability to meet the physical stresses and demands of a variety of physical activities efficiently and effectively. Physical fitness provides a person with the capacity to perform work safely in activities of daily living, including activities required for work at home and in the workplace, for leisure-time pursuits, and for sports.

The physical stresses and demands of daily living range, for example, from sitting, eating, standing, showering, and walking to the extreme physical demands of shovelling after a major snowstorm, marathon running, participating in a triathlon, and firefighting. Each of these activities requires varying degrees of cardiorespiratory endurance (CRE), muscular strength, muscular endurance, and flexibility to perform it well. Fortunately, the physical demands of showering or walking are not great, making it quite easy for most of us to engage in these physical activities. For a small percentage of the population these activities pose difficulty. Many people are faced with demanding tasks, such as lifting/carrying heavy objects, building, and snow shovelling, which can over-stress the body if it does not have an adequate level of physical fitness. Adequate preparation for these periodic tasks is essential to help minimize the risks of heart attack, stroke, and back injury.

On the other end of the physical activity continuum are the occupations and activities that fall outside the realm of possibility for most of us. These activities require physical fitness levels and skills that are beyond our contemplation or aspiration. They are performed by people who have been genetically gifted and have worked and trained for years to perform at the extreme levels required for these physical activities.



Suggestion for Instruction / Assessment

Fitness Rating of Common Activities

It is important for students to understand that a minimum level of physical fitness is required for all activities of daily living. One or more physical fitness components are required (or emphasized) in performing any type of activity well and safely.

As an activating strategy, have students rate the degree of fitness required (in relation to each of four health-related fitness components) for each of the activities listed in RM 8-FM. Students use a rating scale from 1 to 10, with 1 being little or no fitness requirement and 10 being the greatest fitness requirement.



Refer to RM 8-FM: Fitness Rating of Common Activities (available in Word and Excel formats).

Have students discuss the results of their fitness ratings in small groups, using the following questions to guide their discussion:

- For which activities was there the greatest agreement in fitness rating?
- For which activities was there the least agreement in fitness rating?
- Which activity would provide the greatest amount of fitness development? Explain.
- Which activity would provide the least amount of fitness development? Explain.
- Which occupation would require the greatest level of fitness? Why?



Background Information

Definitions of Physical Fitness

While many sources provide definitions of physical fitness (see sample definitions to the right), there is no universally agreed upon definition of physical fitness and of its components. Instructors are encouraged to use definitions from their own sources.

Physical fitness involves the integrated and efficient performance of all the major systems of the body, including the heart and lungs, the skeleton, the muscles, and the brain. The brain is an essential element, as it learns to control the muscles that move the bones, as well as controlling the heart and lungs to provide

DEFINITIONS

physical fitness

"A set of attributes that people have or achieve that relate to their ability to perform physical activity" (Howley and Franks).

"A set of attributes, primarily respiratory and cardiovascular, relating to the ability to perform tasks requiring expenditure of energy" (*Stedman's Concise Medical Dictionary for the Health Professions*).

"The ability to perform moderate to vigorous levels of physical activity without undue fatigue and the capability of maintaining such ability throughout life" (American College of Sports Medicine).

energy for the working muscles. Fitness also influences our psychological well-being, including mental alertness and emotional stability, because what we do with our bodies also affects our minds.

Physical fitness is an individual condition that varies from person to person. It is influenced by factors such as age, gender, heredity, personal health habits, amount and level of exercise, and eating practices. Making physical fitness a priority is important for a long and healthy life.

REFERENCE



For additional information, refer to the following resource:

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. 9. Available online at www.edu.gov.mb.ca/k12/cur/physhlth/curriculum.html.

Knowing the Basics of Physical Fitness

Physical fitness is more easily understood by examining its components, or parts. As students have learned in earlier grades, there are two categories of physical fitness components: health-related fitness components and skill-related fitness components:

- **Health-related fitness components** consist of
 - cardiorespiratory endurance
 - muscular strength
 - muscular endurance
 - flexibility
 - body composition
- **Skill-related fitness components** include
 - agility
 - balance
 - coordination
 - speed
 - power
 - reaction time

This lesson focuses on the health-related fitness components.

Health-Related Fitness Components

Health-related fitness components not only help the body to perform more efficiently, but also help prevent disease and improve overall health and well-being. Manitoba's combined physical education/health education curriculum emphasizes the health-related components of fitness—that is, the physical and physiological components of fitness that have a direct impact on health status.

DEFINITION

health-related fitness

"The state of physical and physiological characteristics that define the risk levels for the premature development of diseases or morbid conditions presenting a relationship with a sedentary mode of life" (Bouchard and Shephard).

The five health-related physical fitness components are cardiorespiratory endurance, muscular strength, muscular endurance, flexibility, and body composition:

- **Cardiorespiratory endurance (CRE)** is the ability of the cardiovascular system (heart, blood, blood vessels) and respiratory system (lungs, air passages) to deliver oxygen and other nutrients to the working muscles and to remove wastes. Tests that involve running (e.g., 20 m shuttle run test), cycling, and swimming can be used to measure this fitness component. *Aerobic power* (maximal oxygen consumption) and *aerobic capacity* are terms used to describe CRE fitness.

Activities vary in intensity level:

- **Light activities** are physical activities that involve large muscle groups. While engaging in light activities, people begin to notice their breathing, but they can still talk fairly easily.
- **Moderate activities** are physical activities that cause breathing and heart rate to increase. People engaging in moderate activities can hear themselves breathe, but they can still talk.
- **Vigorous activities** are physical activities that cause breathing and heart rate to increase to a higher level, making it difficult to talk.

NOTE TO TEACHER

While examples of activities can be categorized as typically light, moderate, or vigorous activities, an individual's response to physical activity, exercise, or workload is dependent upon his or her current level of fitness. In other words, two individuals who may appear to be quite similar (e.g., in age, height, body type) may, in fact, respond very differently physiologically to the same workload.

Note that an individual may be working at the moderate to vigorous intensity level while engaging in **muscular strength** activities and **muscular endurance** activities if performed in a circuit format.



For more information on exercise intensity, refer to RM 9-FM: Level of Exertion/Intensity.

For more information on cardiorespiratory endurance values for unfit and fit individuals, refer to RM 10-FM: Comparative Chart of Cardiorespiratory Endurance (CRE) for Unfit and Fit Individuals.

- **Muscular strength** is the ability of a muscle, or a group of muscles, to exert force for a brief period of time. Strength of different muscles can be measured by having a person perform weightlifting exercises and determining the maximum amount of weight the person can lift. A person's strength can be expressed as *absolute strength* (the actual weight lifted) or as *relative strength* (the weight lifted, divided by the person's body weight).
- **Muscular endurance** is the ability of a muscle, or a group of muscles, to sustain repeated contractions or to continue applying force against a fixed object. Push-ups and curl-ups are often used to test muscular endurance. The person's endurance is expressed as the number of repetitions completed without stopping for a set period of time (often one minute).
- **Flexibility** is the ability to move joints through their full range of motion. The sit-and-reach test is a good measure of flexibility of the lower back and the backs of the upper legs (hamstrings). A person's flexibility is usually expressed in how far a joint can be moved or the degrees through which a joint can be moved.
- **Body composition** refers to the makeup of the body in terms of lean mass (muscle, bone, vital tissue, and organs) and fat mass. Good body composition has strong bones, adequate skeletal muscle size, a strong heart, and a low amount of fat mass. Regular physical activity and exercise will help decrease body fat and increase or maintain muscle mass, increase bone mass, and improve heart function. Although body composition entails muscle, bone, and fat, it is often expressed only as percentage of body fat.

NOTE TO TEACHER

Treat the topic of body composition with sensitivity. Be sensitive to issues related to self-esteem, body size, and weight. A key message is that a healthy body comes in all shapes and sizes.

For a discussion of body composition, refer to pages 37 to 42 of *Guidelines for Fitness Assessment in Manitoba Schools* (Manitoba Education, Citizenship and Youth).

Many types of tools can be used to assess body composition, including skinfold callipers, bioelectrical impedance analyzers (found in many weigh scales), body mass index (BMI), underwater weighing, and dual energy X-ray absorptiometry (the latest in tools).

REFERENCE



For more information and ideas on how to assess the health-related fitness components, refer to the following resource:

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. Available online at www.edu.gov.mb.ca/k12/cur/physhlth/curriculum.html.

Principles of Fitness Development

The keys to selecting the right kinds of exercises for developing and maintaining each of the basic components of fitness are found in the principles of specificity, overload, reversibility, progression, diminishing returns, and individual differences.

- **Specificity:** The type of training in which individuals engage should be directed specifically at improving their abilities in life. Therefore, choose the right kind of activities to improve each physical fitness component, and the right combination of physical fitness components to help in activities of daily living. Strength training results in increases in strength for the muscles being exercised but does little to improve cardiorespiratory endurance.

Also, train specifically for the specific activity of interest. For example, optimal running performance is best achieved when the muscles involved in running are trained for the movements required. It does not necessarily follow that a good swimmer is a good runner. Specificity also requires that one consider the speed of motion, the number of limbs moving, the direction in which they are moving, and the range over which the movement occurs.

- **Overload:** If a person works often (frequency) enough, hard (intensity) enough, and long (duration) enough to load the body above its resting level, physical fitness will improve. If this is done regularly over a period of time, the body will gradually adapt to the increase in demands. The term *overload* does not refer to the idea that one needs to overexert or exert at high intensities to obtain gains in fitness; it simply means that one needs to load the body more than it is usually accustomed to.
- **Reversibility:** Physical fitness or the effects of a physical activity program or an exercise program cannot be stored. If a person stops training for a period of time (three to five days, in some cases) a process of detraining will begin. The gains in fitness that were made begin to reverse themselves. If no exercise is done for a long enough period, fitness levels can revert to the original starting point. At least three balanced workouts a week (three hours minimum) are necessary to maintain a good level of fitness.
- **Progression:** Increasing the frequency, intensity, and/or duration of an activity over periods of time is necessary for continued improvement in physical fitness. Improvements in physical fitness are realized fairly rapidly at the onset of an exercise or training program. The rate of improvement will gradually slow down and level off (adaptation) if an overload is present (meaning that the load is increasing and that there is progress). At high levels of physical fitness it may even be necessary to change the type(s) of exercise(s) being performed.
- **Diminishing returns:** The fitter a person becomes, the more difficult it is to continue to become fitter at the same rate. Individuals who begin jogging can, over a relatively short time, improve the speed and duration of their runs. However, experienced distance runners may have to spend an entire training season to decrease their run time by just a few seconds.

- **Individual differences:** Every person has a unique physical and psychological makeup that requires a unique training program. Factors that may play a role are current fitness level, gender, age, heredity, susceptibility to injury, rest and recovery needs, and diet. Two people working out with the same program could experience completely different results.

Some activities can be used to fulfill more than one of a person's basic exercise requirements. For example, in addition to increasing cardiorespiratory endurance, running builds muscular endurance in the legs, and swimming develops the arm, shoulder, and chest muscles. If the proper physical activities are selected, it is possible to fit parts of a muscular endurance workout into a cardiorespiratory endurance workout and save time.

REFERENCE



For additional information, refer to the following resource:

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. 10-13. Available online at www.edu.gov.mb.ca/k12/cur/physhlth/curriculum.html.

The FITT Principle

A well-designed personal physical activity plan will outline how often (frequency), how long (time), and how hard (intensity) a person exercises, and what kinds of exercises (type) are selected. The exercise frequency, intensity, time, and type (FITT principle) are key components of any fitness plan or routine.

An individual's goals, present fitness level, age, health, skills, interest, and availability of time are among the factors to consider in developing a personal physical activity plan. In particular, every plan should have a schedule that progresses over time. Progression can take the form of changes in any of the FITT components, but not all at once. For example, an athlete training for high-level competition would follow a different program than would a person whose goals are to develop good health from a sedentary start. Regardless of the specific goals, both programs would be based upon the elements of the FITT principle.

Initially, a personal physical activity plan does not need to include all the health-related fitness components. The choice of which components to focus on initially should be based upon the likelihood of adopting the new behaviour and a consideration of whether the goals are SMART (specific, measurable, attainable, realistic, and time framed – see Module B, Lesson 5). Over the course of weeks or months, other components would be added. A common progression is to adopt a CRE program (three times a week, 20 minutes per session, moderate intensity) without specific muscular strength or muscular endurance elements. After each CRE session the cool-down would simply entail a few stretches for flexibility. After a few weeks of successful completion of the program, a new element could be added.



For additional information, refer to RM 11-FM: FITT Principle Guidelines.

Applying the FITT Principle

According to the FITT principle, an exercise routine should include exercises and activities that will improve the health-related fitness components:

- cardiorespiratory endurance
- muscular strength
- muscular endurance
- flexibility

NOTE TO TEACHER

Improving in these four health-related fitness areas will increase lean body mass (stronger bones and muscle) and decrease fat mass, and therefore significantly affect body composition. Improvements will also reduce risk of disease and improve work capacity.

Each workout or exercise session should begin with a warm-up and end with a cool-down. Generally, rest and recovery are as important to plan as the physical activity and exercise, and should be equally spaced between workouts. The more intense the exercise is, the longer the time required to recover. Likewise, the more novel the exercise is, the longer the time required to recover. Trying to adopt all aspects of health-related fitness at once may not be realistic. Begin with small realistic goals in one or two areas of health-related fitness and plan to introduce more as time progresses and new behaviours become habits.

The following guidelines are provided to identify the amount of activity or exercise necessary for the average healthy person to attain and/or maintain a minimum level of overall fitness. Included are examples of activities/exercises, as well as safety considerations for each health-related fitness component.

- **Warm-up:** Warm-up activities are crucial parts of any exercise routine or sports training to prepare the body and mind for movement. The importance of a structured warm-up routine should not be underestimated in relation to preventing injury, having optimal performance, and maximizing enjoyment. An effective warm-up increases both the respiratory rate and the heart rate. This helps increase the body's core temperature, while also increasing the body's muscle temperature through an increase in the delivery of oxygen and nutrients to the working muscles. Increasing muscle temperature helps make the muscles loose, supple, and pliable. Another reason why warm-up activities are important is that they provide the participant with an opportunity to prepare mentally for the upcoming exercise session.

A warm-up should consist of light physical activity for 5 to 10 minutes of exercise, such as walking, slow jogging, knee lifts, arm circles, or trunk rotations. Low-intensity movements that simulate movements to be used in the activity can also be included in the warm-up. Static stretching, per se, is not considered part of a warm-up routine. A warm-up can consist of a lower intensity form of the exercise about to commence.

- **Cardiorespiratory endurance (CRE):** At least three 20- to 30-minute bouts of aerobic (activity requiring oxygen) exercise each week are recommended. Popular aerobic conditioning activities include brisk walking, jogging, swimming, cycling, rope-jumping, rowing, cross-country skiing, and some continuous action games such as basketball and soccer. The type of activity suitable for a person to develop cardiorespiratory fitness is dependent upon the person's initial fitness. A jog may be intense for one individual and serve as a warm-up for another.

Safety Considerations

To ensure safety, the following need to be considered:

- Know how to calculate target heart-rate zone.
- Know how to monitor intensity (e.g., talk test, rate of perceived exertion, heart-rate monitors).
- When increasing the intensity (speed, incline, and/or resistance) or duration of exercise, keep in mind the **10 percent rule** (e.g., if a person is running continuously for 10 minutes per session in week 1, then in week 2 the maximum increase recommended would be to run continuously for 11 minutes per session).
- Include a variety of activities to avoid overuse injuries or to prevent boredom.
- Include a cardiorespiratory cool-down. To prevent post-exercise peril (e.g., dizziness, light-headedness, fainting), gradually reduce the heart rate, breathing rate, and body temperature before moving on to resistance training or flexibility training. This could be accomplished by simply walking slowly for 5 to 10 minutes.
- **Resistance training:** Resistance training is used primarily to develop muscular strength and muscular endurance, but can develop cardiorespiratory endurance if it is incorporated within a circuit-type workout.
 - **Muscular strength:** Two or three 20-minute sessions each week that include exercises for all the major muscle groups are required. Lifting weights is one of the most effective ways to increase strength. For sedentary people, as little as two workouts per week can be beneficial.
 - and/or
 - **Muscular endurance:** Two to three 30-minute sessions each week that include exercises such as calisthenics, push-ups, curl-ups, pull-ups, and light weight training for all the major muscle groups are required.

10 Percent Rule

Increase selected activity **no more** than 10 percent per week.

For a sedentary person, muscular strength and muscular endurance sessions can be combined and limited to two sessions per week. Then, as the behaviour is adopted (becomes a habit), additional sessions per week can be added.

Most of the skill-related components of fitness can also be developed with resistance training. Most people associate weightlifting with resistance training. Although lifting weights is one of the most effective forms of resistance training, it is not the only one. Other forms include the use of medicine balls, body balls, elastic bands, and calisthenics.

General Resistance Training Guidelines

When engaging in resistance training, exercises must be performed to the point of **fatigue** or **failure** (i.e., cannot complete one more repetition), regardless of whether one is training for strength or for endurance. If it feels as if four more repetitions could have been performed after the set is completed, then there was not sufficient overload.

Additional guidelines for resistance training include the following:

- **Sessions:** A minimum of 2 or 3 sessions per week are required to see change (2 for beginners, more than 2 for intermediate and advanced).
- **Muscle or muscle group:** Perform 1 to 3 exercises per muscle or muscle group (1 for beginners, 1 or 2 for intermediate, 1 to 3 for advanced). Change each exercise for each muscle group every one to two months to prevent injuries and boredom.
- **Sets:** Perform 1 to 3 sets per exercise (1 for beginners, 1 or 2 for intermediate, 1 to 3 for advanced).
- **Repetitions:** Do 6 to 20 repetitions (16 to 20 = endurance, 10 to 16 = strength/endurance, 6 to 10 = strength). Cycle through all three repetition ranges — first month for endurance, second month for strength/endurance, third month for strength, and so on. Allow 30 to 90 seconds for isometric/static activities.

Safety Considerations

To ensure safety, the following need to be considered:

- Seek guidance from the physical education instructor or weight room supervisor.
- Include a general warm-up prior to resistance training even if not engaging in any CRE workout.
- Make sure that a qualified instructor shows how to perform the exercises correctly. Good form reduces the risk of injury and leads to faster gains in muscle size and strength.
- Before using free weights, bars, and plates, beginners should consider using body weight exercises and cable machine exercises until they have learned proper technique and have established that they can stabilize their core effectively.
- Wear appropriate clothes and protective equipment. For example, gloves reduce the risk of blisters. Solid running shoes provide a stable base from which to exercise.
- Check all equipment before using it. Do not use a piece of equipment if it seems faulty. Inform the physical education instructor or weight room supervisor at once.
- Always secure weight plates with safety collars.

- Don't hold the breath while lifting weights. In general, breathe out on the exertion or when tightening the muscle, and breathe in when lowering the weight or returning to the start position.
 - Never completely straighten a joint.
 - Work big muscle groups before small ones.
 - Perform multi-joint exercises before single-joint exercises.
 - Train the core area last.
 - Never work the same muscle or muscle group two days in a row.
 - Stand on a non-slip surface to reduce the risk of slips and falls.
 - When in a situation where a "spotter" may be required, check with the physical education instructor or weight room supervisor regarding safety and proper technique.
 - Stop immediately if an injury occurs or if pain is felt, and consult a physician for diagnosis and treatment. Understanding the difference between pain and muscle fatigue/failure is important.
 - Always control the speed of the lifting and lowering. It is recommended that one repetition should take approximately 4 to 7 seconds to complete. Avoid jerky motion.
- **Flexibility:** At the end of every workout, perform 5 to 10 minutes of static stretching exercises. If a workout session includes a CRE session and a resistance training session, flexibility is best left to the end of the entire exercise routine.

Safety Considerations

To ensure safety, the following need to be considered:

- A stretch should feel like a gentle pull and should not be painful.
- Avoid bouncing.
- Work towards holding a stretch for 30 seconds.
- Remember to breathe normally.
- Be sure to stretch tight postural muscles (e.g., chest) as well as the muscle focused on in the workout.

Designing an Exercise Routine

In developing their exercise routine, students need to consider the general guidelines outlined earlier in this lesson in relation to the discussion of the FITT principle.

The definitions provided in the following table are intended to support individuals in determining where they are on the Stages of Change continuum and in selecting appropriate exercises for an exercise routine. Refer to this table when assisting students in the appropriate selection, sequencing, and planning of cardiorespiratory and resistance training exercises.

Defining Participant Experience			
Participant	Stage of Change	Resistance Training Recommendations	Muscular Endurance and Strength Training
Beginner Little or no previous experience	<ul style="list-style-type: none"> ▪ Pre-contemplation ▪ Contemplation ▪ Preparation/Decision 	1 exercise per body part 1 set per body part	Endurance training for first six weeks
Intermediate Limited experience but active within last three months	<ul style="list-style-type: none"> ▪ Action 	1 or 2 exercises per body part 1 or 2 sets per body part (As one becomes more experienced with resistance training, one will need to increase the sets and exercises to create overload and to challenge the body.)	Endurance and strength training
Advanced Prior experience and active for last six months	<ul style="list-style-type: none"> ▪ Maintenance 	1 to 3 exercises per body part 1 to 3 sets per body part (As one becomes more experienced with resistance training, one will need to increase the sets and exercises to create overload and to challenge the body.)	Endurance and strength training



Suggestion for Instruction / Assessment

Designing an Exercise Routine

As part of a personal physical activity practicum (see Module A), all students will create their own exercise routine and record their progress. To create an exercise routine, students should select activities that will improve their personal fitness level.

- **Beginners**

Beginners may start with a cardiorespiratory plan as the first step in developing their exercise routine. The following suggestions should be used in conjunction with the FITT principle:

- For some students, simply walking three times a week may be a start in their exercise routine. Their plan would then involve increasing the walking time (number of minutes of walking), increasing the speed of walking, or increasing the frequency of walking (e.g., from three to five times per week). These changes could take a month or so before any other fitness component was added.

- A pedometer program can be used for some students. All that is required is a pedometer and a monthly calendar. Students record the number of steps they take for the first week and then determine a goal for the total number of steps the next week using the 10 percent rule. Students record their daily step counts and use their weekly totals to observe change.

Step-Count Guidelines for ADULTS	
Steps per Day	Description
< 5000 steps/day	
5000 - 7,499 steps/day	typical or low active
> 7500 - 9,999 steps/day	somewhat active
> 10,000 steps/day	active
> 12,5000 steps/day	highly active
For Active CHILDREN	
12,000 – 16,000 steps/day	

- Beginners may consider incorporating resistance training once they have achieved a base of cardiorespiratory (aerobic) fitness, established the habit of being physically active, improved body awareness, and gained confidence.

- **Intermediate or Advanced**

- For students who already participate in cardiorespiratory activities (e.g., intermediate or advanced) it is suggested that they incorporate some resistance training in their exercise routine.
- Students who are advanced in their resistance training may simply continue with an existing plan, but will add new and different exercises. Be sure that these students make a plan for their cardiorespiratory fitness.

Regardless of their experience (beginner, intermediate, or advanced), students must

- include **exercises from the major muscle groups** (i.e., chest, back, shoulders, biceps, triceps, core, quadriceps, hamstrings) in their exercise routine
- identify the **safety procedures** they will use in executing their exercise routine

Refer to the discussion of Applying the FITT Principle earlier in this lesson.

There are a number of ways to design a resistance training routine with respect to the number of days to train and the muscle groups to include on a particular day. RM 12-FM provides examples of two-day, three-day, and four-day split routines to be considered when developing a resistance training routine. Also provided is an example of a total body resistance routine in two-day, three-day, and four-day formats.



Refer to RM 12-FM: Split Routines for Resistance Training.

Resistance Training Planner

A Resistance Training Planner is available to assist with planning an exercise routine. This tool contains over 250 exercises of the major muscle groups and provides information on how to perform these exercises correctly and safely. The planner also contains links to other websites for obtaining additional information.

NOTE TO TEACHER

If a student does not have access to this electronic planner, it could be printed off and used in paper format. Be sure to sort the activities alphabetically and by level of difficulty (beginner, intermediate, advanced).

The Resistance Training Planner (Excel spreadsheet) is available online at www.edu.gov.mb.ca/k12/cur/physhlth/curriculum.html.



To record or log resistance training sessions, refer to RM 13-FM: Resistance Training Log.

RM 8–FM: Fitness Rating of Common Activities

Rate the degree of fitness required (in relation to each of the four health-related fitness components) for each of the activities listed below. Use a rating scale from 1 to 10, with 1 being little or no fitness requirement and 10 being the greatest fitness requirement. (Highest possible overall score = 40.)

Activity	Fitness Rating for Health-Related Fitness Components				Overall Fitness Rating
	Cardiorespiratory Endurance	Muscular Strength	Muscular Endurance	Flexibility	
Sports					
Cross-Country Skiing					
Volleyball					
Bowling					
Step Aerobics					
Ice Hockey					
Other?					
Daily Activities					
Mowing the Lawn					
Vacuuming the House					
Shovelling Snow					
Other?					
Occupations					
Mail Carrier					
Flight Attendant					
Roofer / Shingler					
Waiter / Waitress					
Other?					

RM 9–FM: Level of Exertion/Intensity

Level of Exertion/Intensity				
Amount of Effort				Exertion Description
Rate of Perceived Exertion (RPE) Scale (Modified Borg Scale)	Intensity Descriptor	Heart-Rate Range* (Age Based) Maximum Heart Rate (MHR)	Exertion Descriptor	
1	LIGHT	50% – 65% of MHR	Resting	You are breathing normally. It is very easy to talk.
2			Somewhat Light	Your rate of breathing increases slightly, but it is still easy to talk.
3			Light	You notice your breathing. You can still talk fairly easily.
4	MODERATE	65% – 80% of MHR	Medium	You are breathing more heavily, but you do not hear yourself breathe.
5			Somewhat Hard	You can hear yourself breathe, but can still talk.
6			Medium Hard	It is getting difficult to talk.
7	VIGOROUS	80% – 100% of MHR	Hard	You are breathing heavily. It is difficult to talk.
8			Very Hard	Your breathing is laboured. It is very difficult to talk.
9			Gruelling	It is almost impossible to talk.
10			Maximum	You are breathing very heavily. You cannot talk. You may feel pain.

* The heart-rate range may vary, depending on the source of reference, age, physical abilities, individual fitness levels, and so on.

RM 10–FM: Comparative Chart of Cardiorespiratory Endurance (CRE) for Unfit and Fit Individuals

(Based on Performance on 20 m Beep Test)

Level of Fitness	Level Completed on 20m Beep Test	VO2 Max* mL/kg/min.	Moderate Intensity (60% of VO2 Max)	Vigorous Intensity (80% of VO2 Max)
Unfit—Low CRE	4	26	15.6	20.8
			walking fast	slow jog
			15 min./mile	
Very Fit—High CRE	14	60.64	36.384	48.512
			running at 6 mph	running at 8 mph
			10 min./mile	7.5 min./mile

* VO2 Max—the maximum amount of oxygen, in millilitres, one can use in one minute per kilogram of body weight.

Pace min./mile	Treadmill Speed mile/hr. (mph)	ACSM* Walk/Run Equations metres/min.		VO2 Max mL/kg/min.
30	2	53.6	0.1	8.86
20	3	80.4	0.1	11.54
15	4	107.2	0.1	14.22
12	5	134	0.2	30.3
10	6	160.8	0.2	35.66
8.571428571	7	187.6	0.2	41.02
7.5	8	214.4	0.2	46.38
6.666666667	9	241.2	0.2	51.74
6	10	268	0.2	57.1
5.454545455	11	294.8	0.2	62.46
5	12	321.6	0.2	67.82

*ACSM—American College of Sports Medicine.

Completed Level on 20 m Beep Test	Corresponding VO2 Max mL/kg/min.
4	26.04
5	29.5
6	32.95
7	36.42
8	39.88
9	43.3
10	46.8
11	50.26
12	53.7
13	57.2
14	60.64
15	64.1

RM 11–FM: FITT Principle Guidelines

Fitness and/or Health Benefit	Variables			
	F Frequency	I Intensity	T Time	T Type
Cardiorespiratory Endurance (CRE) (Aerobic)	<ul style="list-style-type: none"> ▪ 3 to 5 times per week 	<ul style="list-style-type: none"> ▪ moderate to vigorous intensity (60% to 85% of maximum heart rate) 	<ul style="list-style-type: none"> ▪ minimum of 20 minutes 	<ul style="list-style-type: none"> ▪ running ▪ cycling ▪ cross-country skiing (continuous motion of large muscle group[s])
Muscular Strength	<ul style="list-style-type: none"> ▪ 2 or 3 times per week, with rest days in between bouts 	<ul style="list-style-type: none"> ▪ high resistance (sets to maximum capability) 	<ul style="list-style-type: none"> ▪ minimum of 20 minutes per session ▪ 1 to 3 sets of 6 to 10 repetitions 	<ul style="list-style-type: none"> ▪ free weights ▪ universal gym ▪ tubing ▪ body weight
Muscular Endurance	<ul style="list-style-type: none"> ▪ 2 or 3 times per week, with rest days in between bouts 	<ul style="list-style-type: none"> ▪ low to moderate resistance 	<ul style="list-style-type: none"> ▪ minimum of 20 minutes per session ▪ 3 sets of 16 to 20 repetitions 	<ul style="list-style-type: none"> ▪ free weights ▪ universal gym ▪ tubing ▪ body weight
Flexibility	<ul style="list-style-type: none"> ▪ daily 	<ul style="list-style-type: none"> ▪ slow and controlled movement 	<ul style="list-style-type: none"> ▪ 10 to 12 minutes 	<ul style="list-style-type: none"> ▪ static ▪
Body Composition	<ul style="list-style-type: none"> ▪ 5 to 7 times per week 	<ul style="list-style-type: none"> ▪ combination of intensities 	<ul style="list-style-type: none"> ▪ dependent on intensity 	<ul style="list-style-type: none"> ▪ aerobic ▪ anaerobic ▪ resistance
Anaerobic	<ul style="list-style-type: none"> ▪ alternate days 2 or 3 times per week 	<ul style="list-style-type: none"> ▪ 90% of maximum heart rate 	<ul style="list-style-type: none"> ▪ 2 to 3 minutes per bout 	<ul style="list-style-type: none"> ▪ sprinting ▪ jumping
Active Daily Living / Health	<ul style="list-style-type: none"> ▪ daily 	<ul style="list-style-type: none"> ▪ low to moderate intensity 	<ul style="list-style-type: none"> ▪ 30 to 60 minutes 	<ul style="list-style-type: none"> ▪ gardening ▪ walking ▪ bowling

References:

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.

RM 12–FM: Split Routines for Resistance Training

The following page provides examples of routines to be considered when developing a resistance training routine:

- Two-Day Split Routine
- Three-Day Split Routine
- Four-Day Split Routine

Also provided is an example of a Total Body Resistance Routine in two-day, three-day, and four-day formats. Be sure to include at least one to two days of rest to allow for recovery.

To determine the appropriate number of sets and repetitions for resistance training, refer to the following table.

Defining Participant Experience			
Participant	Stage of Change	Resistance Training Recommendations	Muscular Endurance and Strength Training
Beginner Little or no previous experience	<ul style="list-style-type: none"> ▪ Pre-contemplation ▪ Contemplation ▪ Preparation/ Decision 	1 exercise per body part 1 set per body part	Endurance training for first six weeks
Intermediate Limited experience but active within last three months	<ul style="list-style-type: none"> ▪ Action 	1 or 2 exercises per body part 1 or 2 sets per body part (As one becomes more experienced with resistance training, one will need to increase the sets and exercises to create overload and to challenge the body.)	Endurance and strength training
Advanced Prior experience and active for last six months	<ul style="list-style-type: none"> ▪ Maintenance 	1 to 3 exercises per body part 1 to 3 sets per body part (As one becomes more experienced with resistance training, one will need to increase the sets and exercises to create overload and to challenge the body.)	Endurance and strength training

Continued

RM 12–FM: Split Routines for Resistance Training *(Continued)*

Two-Day Split Routine

Ideal for Beginner, Intermediate, and/or Advanced	Day 1	Legs	Back	Biceps	Core
	Day 2	Chest	Triceps	Shoulder	
	Day 3	Rest or go back to Day 1 and repeat.			

Three-Day Split Routine

For Intermediate or Advanced	Day 1	Chest	Triceps	Shoulders
	Day 2	Back	Biceps	Core
	Day 3	Quads	Hamstrings	Calves
	Day 4	Rest or go back to Day 1 and repeat.		

Four-Day Split Routine

For Intermediate or Advanced	Day 1	Chest	Triceps	Core
	Day 2	Quads	Hamstrings	
	Day 3	Back	Biceps	
	Day 4	Shoulders	Core	
	Day 5	Rest or go back to Day 1 and repeat.		

Total Body Resistance Routine

Ideal for Beginner, Intermediate, or Advanced	Day 1 Day 3 Day 5 Day 7 Day 1 (Rest) Day 2 Day 4 Day 6 Day 7 (Rest) Day 1 Repeat	Order of Exercises Chest Back Triceps Biceps Shoulders Legs Core
	Day 1 Day 3 Day 5 Repeat	Order of Exercises Chest Back Triceps Biceps Shoulders Legs Core
	Day 1 Day 5 Repeat	Order of Exercises Chest Back Triceps Biceps Shoulders Legs Core

RM 13–FM: Resistance Training Log

Name _____

Program Type _____ Program Day(s) _____



The time spent in workouts should be recorded in RM 7–PA: Physical Activity Log (Excel version) and used for the completion of the physical activity practicum (see Module A, Lesson 3).

Exercise	Day 1											
	Set 1 Beginner, Intermediate, Advanced			Set 2 Intermediate, Advanced			Set 3 Advanced					
	Wt.		Reps		Wt.		Reps		Wt.		Reps	
	Wt.		Reps		Wt.		Reps		Wt.		Reps	
	Wt.		Reps		Wt.		Reps		Wt.		Reps	
	Wt.		Reps		Wt.		Reps		Wt.		Reps	
	Wt.		Reps		Wt.		Reps		Wt.		Reps	
	Wt.		Reps		Wt.		Reps		Wt.		Reps	
	Wt.		Reps		Wt.		Reps		Wt.		Reps	
	Wt.		Reps		Wt.		Reps		Wt.		Reps	
	Wt.		Reps		Wt.		Reps		Wt.		Reps	
	Wt.		Reps		Wt.		Reps		Wt.		Reps	
	Wt.		Reps		Wt.		Reps		Wt.		Reps	
	Wt.		Reps		Wt.		Reps		Wt.		Reps	
	Wt.		Reps		Wt.		Reps		Wt.		Reps	
	Wt.		Reps		Wt.		Reps		Wt.		Reps	
	Wt.		Reps		Wt.		Reps		Wt.		Reps	
	Wt.		Reps		Wt.		Reps		Wt.		Reps	
	Wt.		Reps		Wt.		Reps		Wt.		Reps	
	Wt.		Reps		Wt.		Reps		Wt.		Reps	
	Wt.		Reps		Wt.		Reps		Wt.		Reps	
	Wt.		Reps		Wt.		Reps		Wt.		Reps	
	Wt.		Reps		Wt.		Reps		Wt.		Reps	
	Wt.		Reps		Wt.		Reps		Wt.		Reps	
	Wt.		Reps		Wt.		Reps		Wt.		Reps	
	Wt.		Reps		Wt.		Reps		Wt.		Reps	
	Wt.		Reps		Wt.		Reps		Wt.		Reps	
	Wt.		Reps		Wt.		Reps		Wt.		Reps	
	Wt.		Reps		Wt.		Reps		Wt.		Reps	
	Wt.		Reps		Wt.		Reps		Wt.		Reps	
	Wt.		Reps		Wt.		Reps		Wt.		Reps	
	Wt.		Reps		Wt.		Reps		Wt.		Reps	
	Wt.		Reps		Wt.		Reps		Wt.		Reps	
	Wt.		Reps		Wt.		Reps		Wt.		Reps	
	Wt.		Reps		Wt.		Reps		Wt.		Reps	
	Wt.		Reps		Wt.		Reps		Wt.		Reps	
	Wt.		Reps		Wt.		Reps		Wt.		Reps	
	Wt.		Reps		Wt.		Reps		Wt.		Reps	
	Wt.		Reps		Wt.		Reps		Wt.		Reps	
	Wt.		Reps		Wt.		Reps		Wt.		Reps	
	Wt.		Reps		Wt.		Reps		Wt.		Reps	
	Wt.		Reps		Wt.		Reps		Wt.		Reps	
	Wt.		Reps		Wt.		Reps		Wt.		Reps	
	Wt.		Reps		Wt.		Reps		Wt.		Reps	
	Wt.		Reps		Wt.		Reps		Wt.		Reps	
	Wt.		Reps		Wt.		Reps		Wt.		Reps	

Continued

RM 13–FM: Resistance Training Log *(Continued)*

Exercise	Day 2											
	Set 1 Beginner, Intermediate, Advanced				Set 2 Intermediate, Advanced				Set 3 Advanced			
	Wt.		Reps		Wt.		Reps		Wt.		Reps	
	Wt.		Reps		Wt.		Reps		Wt.		Reps	
	Wt.		Reps		Wt.		Reps		Wt.		Reps	
	Wt.		Reps		Wt.		Reps		Wt.		Reps	
	Wt.		Reps		Wt.		Reps		Wt.		Reps	
	Wt.		Reps		Wt.		Reps		Wt.		Reps	
	Wt.		Reps		Wt.		Reps		Wt.		Reps	
	Wt.		Reps		Wt.		Reps		Wt.		Reps	
	Wt.		Reps		Wt.		Reps		Wt.		Reps	
	Wt.		Reps		Wt.		Reps		Wt.		Reps	
	Wt.		Reps		Wt.		Reps		Wt.		Reps	
	Wt.		Reps		Wt.		Reps		Wt.		Reps	
	Wt.		Reps		Wt.		Reps		Wt.		Reps	
	Wt.		Reps		Wt.		Reps		Wt.		Reps	
	Wt.		Reps		Wt.		Reps		Wt.		Reps	
	Wt.		Reps		Wt.		Reps		Wt.		Reps	
	Wt.		Reps		Wt.		Reps		Wt.		Reps	
	Wt.		Reps		Wt.		Reps		Wt.		Reps	
	Wt.		Reps		Wt.		Reps		Wt.		Reps	
	Wt.		Reps		Wt.		Reps		Wt.		Reps	
	Wt.		Reps		Wt.		Reps		Wt.		Reps	
	Wt.		Reps		Wt.		Reps		Wt.		Reps	
	Wt.		Reps		Wt.		Reps		Wt.		Reps	
	Wt.		Reps		Wt.		Reps		Wt.		Reps	
	Wt.		Reps		Wt.		Reps		Wt.		Reps	
	Wt.		Reps		Wt.		Reps		Wt.		Reps	
	Wt.		Reps		Wt.		Reps		Wt.		Reps	

