

# Physical Education 10

Implementation Draft  
November 2009

### **Website References**

Website references contained within this document are provided solely as a convenience and do not constitute an endorsement by the Department of Education of the content, policies, or products of the referenced website. The department does not control the referenced websites and is not responsible for the accuracy, legality, or content of the referenced websites or for that of subsequent links. Referenced website content may change without notice.

School boards and educators are required under the department's Public School Programs' Network Access and Use Policy to preview and evaluate sites before recommending them for student use. If an outdated or inappropriate site is found, please report it to [links@EDnet.ns.ca](mailto:links@EDnet.ns.ca).

Physical Education 10

© Crown Copyright, Province of Nova Scotia 2009

Prepared by the Department of Education

Contents of this publication may be reproduced in whole or in part provided the intended use is for non-commercial purposes and full acknowledgement is given to the Nova Scotia Department of Education.

Cataloguing-in-Publication Data

Main entry under title.

Physical Education 10 / Nova Scotia.

Department of Education. English Program Services.

ISBN:

1. Curriculum planning – Nova Scotia. 2. Physical Education – Study and teaching – Nova Scotia. I. Nova Scotia. Department of Education. English Program Services. 2009

# Acknowledgments

---

The Nova Scotia Department of Education gratefully acknowledges the contribution of the following individuals toward the development of this Physical Education 10 curriculum guide.

- Arnel Boudreau, Conseil Scolaire Acadien Provincial
- Jim Bryan, Avon View High School
- Jody Conrad, Nova Scotia Department of Health Promotion and Protection
- Dr. Frank Covey, Nova Scotia Department of Education
- Dr. Andrew Foran, St. Francis Xavier University
- Scott Hudson, St. Mary's Academy
- Lisa Kierstead, Advocate District School
- Joel LeBlanc, Sydney Academy
- Dean McDow, Park View Education Centre
- Peggy Ray, Auburn High School
- Michelle Ripley, Amherst High School
- Mike Scott, Barrington Municipal High School
- Ted Scrutton, Nova Scotia Department of Health Promotion and Protection



# Contents

## Outdoor Pursuits

- Introduction.....1
- Components of Outdoor Pursuits .....2
- Team Building.....4
- The Outdoor Environment.....6
- Outdoor Adventures.....8

## Excercise Science

- Introduction.....13
- Human Anatomy .....14
- Nutrition and Performance .....17
- Career Opportunities.....19

## Personal Fitness

- Introduction.....21
- Components of Fitness.....22
- Guidelines for Safe and Effective Training.....24
- Principles of Training.....26
- Fitness Assessment and Goals.....28

## Leadership

- Introduction.....31
- Defining Leadership .....33
- Communication.....35
- Teamwork.....37

## Appendices

- Appendix A: Outdoor Pursuits Material
  - Appendix A.1: Team Building .....41
  - Appendix A.2: The Outdoor Environment Materials .....57
  - Appendix A.3: Trip Planning .....61
  - Appendix A.4: Skills Component.....65
- Appendix B: Excercise Science Material
  - Appendix B.1: Motor Learning Control.....69

Appendix C: Personal Fitness Material

- Appendix C.1: Components of Fitness Material.....71
- Appendix C.2: Guidelines for Safe and Effective Training .....77
- Appendix C.3: Principles of Training.....81
- Appendix C.4: Fitness Assessment and Goals.....85

Appendix D: Leadership Material

- Appendix D.1: Defining Leadership .....89
- Appendix D.2: Communication.....91
- Appendix D.3: Skills in Action .....95

# Outdoor Pursuits

---

## Introduction

The grade 10 Outdoor Pursuits module focuses on the acquisition of various outdoor, interpersonal, and technical skills through a variety of learning experiences both teacher directed and student directed. Teachers are encouraged to consult with and engage students in choosing the kinds of outdoor pursuits to explore.

This guide is intended to provide teachers with the outcomes framework for the course. It includes suggestions for learning and teaching, assessment, and notes and resources. Sample learning experiences are provided to expand on suggestions for learning and teaching, including explanations of terms and references.

Professional learning networks of physical education teachers are encouraged to create lists/references to local organizations who can partner with schools to share expertise and resources and foster learning in the area of outdoor pursuits. Some provincial organizations are referenced under notes and resources; however, each region around the province will have its own community resources that should not be overlooked.

## Background

---

We are living in a time as no other when our children are the first generation in history not expected to outlive their parents (Fegal, Graubard, and Williamson, 2005). Students today are more likely to have become accustomed to a sedentary lifestyle in which a disconnect from the natural world around them has occurred with little notice when compared to past generations. Outdoor Pursuits is an attempt to introduce or rekindle curiosity, and enthusiasm for activities in the natural world, reconnecting students with their surrounding environment, creating a greater sense of stewardship for the earth, and resulting in healthier habits for life.

## Aim

---

With the goal of students learning how to create and participate in safe, enjoyable outdoor pursuits, the components of this module are created in sequential order to foster cumulative skills to enhance individual as well as team success. It is suggested that teachers connect with local organizations to build partnerships that will encourage and extend outdoor pursuits beyond the classroom and school life into the community.

## Components of Outdoor Pursuits

### Team Building

Establishing a positive and inclusive community is an essential beginning for all outdoor pursuits. Through multi-levelled trust, communication, and teamwork challenges, students will develop an appreciation of the varying strengths that individuals bring to the team. The result will be a stronger team, creating safer practices for the outdoor pursuits.

The debrief section after each learning experience will inspire students to examine different leadership styles, participation, attitudes, and to minimize the risk of incident due to poor team dynamics. Teachers may continuously draw connections from team challenges to their specific choice of outdoor pursuit in the form of questions, pre-activity predictions, and post-challenge debriefings.

### The Outdoor Environment

Although past marketing campaigns have attempted to educate society on the practice of urban recycling, much less education has occurred related to effective practices by wilderness enthusiasts. Thus, human waste disposal and best practices in the wilderness must be taught to our students. It should not be assumed that students are aware of or have learned to value the personal role they play practising ethical adventures. In this module, students will reflect upon and analyse their impact on the natural world and how they can create minimal impact experiences with easy-to-use techniques. It is suggested that students practise the theory highlighted in this module for fun, short practice sessions in preparation for a longer outdoor pursuit, while learning appreciation for the history, culture, and wildlife of the outdoor environment they will inhabit.

### Outdoor Adventures

This module introduces preventative measures to create low-risk outdoor adventures, focussing first on equipment use. The planning and preparation phase of any outdoor pursuit will mean all the difference in safety, enjoyment, and the degree of learning that takes place in a wilderness setting. The Outdoor Adventures section can also be considered a valuable assessment piece for instructors as student behaviours can highlight potential risks, as well as dependable leaders, long before heading into the wilderness. It is suggested that teachers approach each of the planning outcomes using SMART goals: (specific, measurable, achievable, realistic, time bound). The Haddon Matrix is a tool promoted by local organizations such as the Red Cross and is encouraged for the planning of each out trip. It is suggested to allow flexibility in timing of the lessons, as dialogue and further teachable moments may arise as the trip begins to take on a reality.

## Skills Component

---

It has been suggested that 90% of all injuries are both predictable and preventable. In a world of convenience, it is sometimes difficult to remember that with the appeal an outdoor adventure holds, there is also the risk of injury and potential fatality simply due to a lack of immediate available aid that accompanies a remote wilderness setting. This component has been developed as a helpful guide and reference for teachers to identify the basic skills needed for a wilderness adventure including emergency procedures. By providing students with proper resources and training you will increase prevention of incidents by maximizing skills that minimize risk.

Teachers are encouraged to involve grandparents or community elders who have had years of wilderness experience, enhancing the connection to past generations and deepening the value of their experience. It is suggested to take every opportunity possible to teach wilderness concepts in the outdoor setting to cultivate a realistic attitude of outdoor pursuits. Included in the appendix are local resources to enhance your program and facilitate teaching. Be sure to check with your school board's policy on the use of first-aid supplies. Before using, teachers will need to familiarize themselves with medication preparation and administration related to outdoor learning experiences (for example, use of EpiPen or Benedryl). Refer to school board policies.

**Students will be expected to demonstrate effective interpersonal and communication skills through cooperative activities in group settings**

**Students will be expected to understand how poor group cohesion can increase chance of incidents during outdoor pursuits**

## Team Building

### Suggestions for Learning and Teaching

The following questions can be discussed as a class to provoke thought and serve as an interactive introduction to team dynamics: The number one reason in Nova Scotia for search and rescue incidents is team dynamics. What do you think this means? Have you ever had a trip ruined due to poor group attitudes, arguing, or lack of role clarity? What are some of the factors that can lead to creating tension in a group?

- Once students have shared their opinions, they can move to an open space for full participation in various experiential components of team building.
- Over the course of a couple of classes, introduce Team Challenges suggested in the following order, found in Warp Speed, Human Ladder, Team Barometer, Trust Walk, and Mine Field.
- Dialogue and create a list of ways to transfer the learning from experiential challenges to outdoor pursuit trip expectations, roles, and responsibilities amongst a team of new and/or familiar participants? Post the list. Add to the list as new ideas evolve from learning experience and debrief?
- Give specific examples of different levels of ability and how you would incorporate individuals to be equally involved in an outdoor pursuit. For example, fear of heights, physical disabilities, minimal risk confidence, lack of experience, etc.
- Introduce the term Challenge by Choice. Discuss the meaning and value of this concept and analyse how it affects the dynamics of group development.
- Discuss the meaning of a Full Value Contract and create one together as a class.
- Introduce students to the Tuckman's Theory of Group Development (Forming, Storming, Norming, and Performing)

### Suggestions for Assessment Notes and Resources

- Students will actively participate in team challenges to authentically assess their ability to effectively communicate and display trust amongst the group, as well as in confidence in their own contributions to team challenges.
- Students can write an essay/journal entry from the point of view of an observer, highlighting the changing dynamics of the team during the team challenges, how did they change?
- Student can submit a write up on what students have learned firsthand about team dynamics with regards to Tuckman's Theory of Group Development then describe the importance of understanding these dynamics in an outdoor pursuit and how this insight may also extend to everyday life situations.
- Have students design trust activities in small groups, for the rest of the class, with the purpose of overcoming a challenge by working together as a team.

- Student can read and analyse a high-risk trip situation that was entirely preventable, identifying what could have been done differently around roles, responsibilities, and team standards.
- Have students research and analyse a successful team and report findings to class, highlighting the stages of group development and strategies used for defining expectations and individual roles and responsibilities. (Sir Edmund Hilary and his Everest expedition).
- Students can create a full value contract for a specific outdoor pursuit in your group.

## Notes and Resources

---

- *40 Years in the Gym: Favorite Physical Education Activities* (18253)
- *Interdisciplinary Teaching through Outdoor Education* (18258)
- *Essentials of Team Building: principles and Practices* (18590)
- *Adventure Education: Theory and Applications* (24994)
- *Adventure Curriculum for Physical Education*

**Students will be expected to demonstrate an appreciation for the outdoor environment by utilizing effective minimal impact techniques.**

## The Outdoor Environment

### Suggestions for Learning and Teaching

- Provide background information about the area students will inhabit during their outdoor pursuit, a research project to introduce the historical, cultural, first inhabitants, environmental past, wildlife etc.
- Use visual aids (powerpoints, photocopies, videos) to teach the seven principles of “Leave No Trace—Outdoor Skills and Ethics” principles (See Appendix A2).
- Identify and list, in small groups, the many ways humans impact the natural environment through outdoor pursuits, such as remote wilderness hiking, ocean kayaking, mountain biking, letting dogs run off leash in the woods, and use of all-terrain vehicles. Individually rate the “personal Ethics” List from least offensive to most offensive and compare and contrast individual choices.
- Research an outdoor activity in your community and debate the benefits and drawbacks of this activity in regards to its impact on the environment. For example, dog walking on dirt trail systems, mountain biking in the forest, or using all-terrain vehicles on beaches.
- Research and debate the role of eco-tourism on the Nova Scotia economy versus environmental impacts.
- Identify proper tools and procedures for making minimal impact latrines or “catholes” for wilderness adventure and practise making them in an outdoor environment (See Appendix A2).
- Go on a scavenger hunt; hike a local trail and make a list of ways human contact has changed the trail over the course of time (use Leave No Trace principles as your guide). For example, trail may be widened from hikers avoiding puddles, there may be a visible lack of historical artifacts from this area, or trees may be worn down from serving as handles in rough areas.
- Practise making carry-in mound fires (See Appendix A2) in the outdoors with the goal of boiling water.
- Complete a personal journal with reflections on how they connect with or impact the natural world around them. Teachers may provide class time for journal preparation or decoration and ensure that the reflection time is done in a natural wilderness environment or on a SOLO (See Appendix A2).
- Research project: Minimal impact principles in large organizations such as the National Parks, Sierra Club, Provincial Parks, YMCA, etc.
- Project on Environmental Leaders in History: Aldo Leopold, Henry David Thorough, David Suzuki; encourage students to find female leaders.
- Interview an elder from the community who spent time in the outdoors during their childhood. Compare and contrast land formation, wildlife, and survival techniques from past to present day, including First Nations.

- Create a visual storyboard to demonstrate the responsibility humans have on a specific wilderness area in order to preserve it and ensure the sustainability of plants and animals.
- Research and debate policy and legislation regarding use by industry of Nova Scotia land for the purpose of economic growth and its lasting effects.

### **Suggestions for Assessment**

---

- Teachers can authentically assess student application of Leave No Trace principles during outdoor pursuits.
- Assess students' performance on how they researched and prepared a group debate on a current human impact issue.
- Make a minimal impact latrine or cathole during an outdoor pursuit for assessment.
- Boil water on a mound fire during an outdoor pursuit for assessment.
- Authentically assess students' ability to complete a low impact adventure in a wilderness area.
- Assess students' wilderness journal, asking them to reflect on connections between themselves and the natural environment, showing an appreciation for low impact principles.

### **Notes and Resources**

---

- *Leave No Trace Resources*
- *Interdisciplinary Teaching Through Outdoor Education (18258)*

**Students will be expected to demonstrate proficient skills and techniques necessary for outdoor adventures taught**

**Students will be expected to demonstrate proficiency utilizing both traditional and current equipment during several outdoor adventures**

**Students will be expected to demonstrate proficiency in a variety of wilderness adventures, using both traditional and current techniques while applying smart risk practices**

## Outdoor Adventures

### Suggestions for Learning and Teaching

#### EQUIPMENT

- Students identify and choose from a pile of various pieces of equipment in a circle, something that serves as a metaphor for their personality. Suggestions include camp stove, compass, stuffed backpack, matches, and sleeping bag. Have students reflect on and describe their choice in a circle setting. For example, a student may choose a compass and describe their personality as being clear on their direction, goal oriented, and able to take the steps required to get there.
- Identify and understand the basic function of a variety of outdoor equipment through a skill swap (students teach each other). In small groups, students will present outdoor activity equipment of their choice from a master list. Teacher will ensure that resources are available and that a variety of outdoor adventures are included. For example, cross-country skis, mountain bike, climbing equipment, geocaching equipment, nordic walking equipment, and surfing equipment. Students may teach from their own experience or research for the purpose of a short presentation.
- Facilitate “If you could bring five things.” Provide students with a list of 30 pieces of outdoor equipment. In small groups, have students decide which five equipment items they would choose to take on a multi-day outdoor pursuit. Allow time to generate dialogue as students share their choices of wilderness equipment for competencies in an outdoor pursuit. Encourage discussion, debate, and allow for team development cycle. Present final lists to other groups. Compare and contrast.
- Research a variety of outdoor pursuit equipment such as tents, sleeping bags, stoves and cooking utensils, backpacks, clothing and footwear, and water purification devices. Students may prepare a fashion runway-show, presenting their items in a runway-style presentation or display the item with written work around the class in a gallery style. Themes may vary seasonally, based on activity and environment (water sports, biking on trails, climbing, camping, snow shoeing, etc.).
  - Research effective techniques associated with equipment chosen above and share these techniques with the group.
  - Research and present how modifications to equipment results in modifications to techniques for skills used in outdoor adventures chosen by the teacher.

- Compare and contrast a present-day outdoor pursuit to that of its origins. For example, a student may choose to research the origin of cross-country skiing and compare and contrast it to modern day skate/ski inventions or the difference of snow shoes, past versus present.
- Students can create a brochure or poster of their choice of outdoor equipment, labelling the various components, parts, and functions.
- Invite a local guest to speak on technique and equipment in specialized activities. Some examples may be rock climbing, skateboarding, snowboarding, snowshoeing, paddlers, wilderness survival, divers, and surfers.

### TRIP PLANNING

- Using the Haddon Matrix (Appendix A2) students will choose an outdoor pursuit and demonstrate in pairs, the ability to plan and prepare a low risk excursion by completing a detailed matrix.
- Analyse and rewrite an individual trip plan (filled out by the teacher with very little detail) for potential high risk or need for emergency procedures, as found in Appendix A.
- Plan an appropriate menu for a multi-day adventure using the Canada Food Guide. For example, students would be discouraged from packing steak on a four-day remote hiking trip.
- In small groups, practice organizing and packing for an overnight excursion from a display of packaged food (or pictures of packaged food to save costs), camping equipment, and clothing items on a large tarp in the middle of the room. Students will need to repack food, or place images of food, in baggies for minimal impact and carrying, as well as make decisions about which items to bring. Debrief and discuss choices (repacking, heavy material packed higher versus lighter items on the bottom), demonstrating full participation amongst team members and environmental considerations.
- Design a class outdoor pursuit, dividing roles and responsibilities for organizing and planning a fun and safe adventure. Include “Leave no Trace” principles, gear lists and a Haddon Matrix. Have students plan and engage in a one or two day trip.

### ACTIVITY-SPECIFIC SKILLS

It is suggested that teachers seek out resources and instruction in as many of the following activity-specific skills as possible to increase the level of skill acquisition prior to an outdoor pursuit. Teachers can use the *Outdoor Pursuits Curriculum Supplement* to access various lessons and learning experiences of interest to their students.

- Teachers can invite an Aboriginal Elder to speak on primitive hunting techniques (bow and arrow, fishing, trapping), First Nations practices and animal appreciation or teachers can share this very important information with students themselves.
- Have students simulate a working primitive campsite versus present-day campsite. In two groups, students will create a real life primitive site, using rock outlines for firepits, branches for shelter building and other primitive skills versus current day sites with lamps, fire mounds, tents, and other materials. Compare and contrast work effort, environmental impact, and develop an appreciation for outdoor skills of past generations.

- As a whole class, create a list of wilderness activities students have been part of and identify and discuss potential risks and safety hazards involved in each of them. For example, snow camping risk of hypothermia, frostbite, or getting lost. Introduce and discuss the concept of uncontrollable variables in outdoor pursuits such as weather, animals, changed landscape, or accidents.
- Introduce the role and importance of emergency procedures. Identify the key safety practices and procedures for wilderness first aid by inviting a trainer from the resource list or “life smart” trained teacher to teach first aid. Students can build and create their own first aid kits.
- Read an article of an outdoor pursuit that turns into a high risk wilderness first-aid situation. Analyse what went wrong and what could have been prevented.
- Demonstrate an understanding of wilderness first aid by practicing in small groups scenarios in an outdoor setting. Fill out detailed notes using the Wilderness First Aid Survey Check List and Patient Assessment and Monitoring Report Form.
- Construct a wilderness first-aid kit and display, labelling the possible uses of each item in the kit. Kits may include suggested materials, as well as other creative items found in the woods to support their first-aid procedure. For example, a stick for a splint or a cold mud pack for cooling a sprain.
- Play matching game: In small groups, students will draw an injury/accident card, match the appropriate first aid tool required and explain procedure.
- Play “What’s essential” in partners: Have the contents of their first-aid kit plus extra supplies displayed on a table. Have students determine what is not essential in the kit to further familiarize themselves with their kits and to think through rationale for items they are choosing to keep in their kits.
- Develop a visual poster of basic first-aid techniques to teach elementary students or family members (the health education curriculum in grades 1, 2, 3, and 5 all have outcomes related to basic first-aid procedures).
- Simulate various realistic wilderness first aid scenarios in an outdoor setting. Use realistic props, student volunteers, Primary Survey Check List, first-aid material, reporting notes, and natural improvisational items, in small groups. Debrief scenarios, identifying what worked well and what could be improved upon or altered to be activity specific.
- Take group on a “Shakedown” that involves taking students into the field for a short period of time before the trip itself begins, in order to test gear, experiment with clothing, make more informed decisions about food packing and practice necessary skills before embarking on the big trip. This builds confidence in the group, and also highlights areas of concern to tweak before heading off on a true wilderness adventure.

## **Suggestions for Assessment**

### **EQUIPMENT**

- Assess students’ knowledge of techniques (traditional and current) that correspond with equipment chosen during the skill swap presentation.
- Assess students’ knowledge of equipment (traditional and current) during skill swap presentation
- Authentically assess students’ proficiency in utilizing various pieces of equipment during outdoor adventures.

- Assess students' design of an information brochure/poster on safety equipment.
- Write a theory test on various types of wilderness equipment.
- Assess students' ability to demonstrate practical use and appropriate choice of equipment on an outdoor pursuit.
- Assess students' understanding of technical use and personal choice of equipment in a variety of outdoor adventure situations (e.g., below freezing day hiking versus overnight warm weather canoe trip).
- Assess research project on a Canadian athlete who has overcome adversity in their athletic career due to equipment failure [Silken Lauman (rower), Mark Fawcett (snowboarder), Johnie Miles (marathon runner)].

### TRIP PLANNING

- Assess students' completed potential low-risk wilderness adventure plan utilizing the Haddon Matrix.
- Assess students' edits to the previously poor detailed trip plan distributed to them.
- Assess students' effectiveness in packing for a trip, including low-impact and safety principles.
- Assess students' effectiveness in designing an appropriate menu for a specific outdoor pursuit.
- Assess students' ability to design an outdoor pursuit, dividing roles and responsibilities.
- Assess students' class cook-out: menu selection, preparation, presentation of food, safety and Leave No Trace principles.
- Assess students authentically during a wilderness adventure, demonstrating sage and ethical practices covered in module.
- Plan an out trip for school or community. Have students conduct a self- and/ or peer assessment of pre-trip planning. Ask what could they have done more effectively in retrospect.

### ACTIVITY SPECIFIC SKILLS

- Students should be authentically assessed whenever possible, based on the Leader Evaluation Form for Skill acquisition.
- Research Project: Primitive versus present-day practices in the wilderness.
- Assess students' knowledge of Wilderness First-Aid Procedures for an emergency situation in a mock emergency situation.
- Assess students' risk prevention advisory brochure for an outdoor pursuit based on key points covered throughout the class.
- Assess students' analysis of a wilderness adventure article.
- Assess students' completed "Wilderness First Aid Survey Check List" and "Patient Assessment and Monitoring Report Form" for key important points covered throughout the class.

### Notes and Resources

- *Adventure Education Theory and Application Project Adventure* (24994)
- *Interdisciplinary Teaching Through Outdoor Education* (18258)
- *Interdisciplinary Teaching through Outdoor Education* (18258)
- *Teaching Orienteering* (25240)



# Exercise Science

---

## Introduction

This module is intended as an introduction to exercise science.

*Exercise science* can be misleading in its terminology. It may evoke images of elite athletes and organized sporting events; however, the true scope of exercise science is infinitely broader than the realm of competitive sports alone. Issues associated with exercise science touch all areas of our lives, from what we eat for breakfast to what physical movements get us into bed at night.

At its simplest, exercise science is the study of how the body works, how it moves, and how it is affected by training, practice, and lifestyle decisions. We are all affected by the choices we make in regards to exercise science.

The study and understanding of how the body works represents an exciting challenge for students. To understand how the body works, one must examine it from an anatomical, mechanical, physiological, nutritional, and psychological view.

## Background

---

As physical activity at moderate to vigorous intensities plays a crucial role in achieving and maintaining personal health, it is important that students understand how the body works so that they are better positioned to make informed choices about activities in which they choose to participate throughout the course of their lives. This component of the curriculum may serve as a practical introduction to the topic of exercise science and may even inspire some to continue on to embrace components of exercise science throughout their lives.

## Aim

---

Through this module, it is expected that students will be able to further appreciate the value of active healthy living. Also known as “kinesiology,” “human kinetics,” and “human movement science,” exercise science is a post-graduate option for many of our high school graduates. It is expected that this module will provide a valuable foundation for students to understand how exercise science can help them to live healthy lifestyles and what exercise science can offer when they begin considering careers options, such as physical education, physiotherapy, occupational therapy, massage therapy, medicine, nursing, and other rehabilitation and health-science professions. At present, several universities in Nova Scotia, and indeed across Canada, offer degrees in human kinetics, kinesiology and associated disciplines.

**Students will be expected to demonstrate an understanding of basic human anatomy.**

**Students will be expected to apply basic principles of biomechanics to maintain or improve their individual athletic performance using SMART principles.**

## Human Anatomy

### Suggestions for Learning and Teaching

This component will provide students with the theory behind the practice of sport through “structural organization” (anatomy) and “how the body moves” (biomechanics) to enhance their understanding of body awareness. Emphasis may be made on one area more than another, depending on the level of the learner and preference of teacher, in connection to available resources.

- Teachers can facilitate learning of basic human anatomy by introducing proper use of terminology. Rather than copying definitions, teachers should have students explore these terms through active means and teaching the roots of the terms.
- Research and discuss the four stages of human development and the stages of learning, found in the Appendices.
- Discuss and identify factors affecting skill development.
- Identify and practice open skill versus closed skill acquisition.
- Discuss personal experiences in sport and identify movement errors in different sports and why they occurred (open versus closed loop systems)
- Separate students into two groups to explore different practice strategies, with two different feedback strategies provided by leaders. At the end of the lesson compare the two groups to see which one performed better on average and facilitate a discussion as to why there is a difference between the two groups, pointing out type of feedback as well as the timing of feedback given.
- Have students choose a physical task (that they are not currently proficient in), and document their own progression in learning this skill, (e.g., juggling, ring toss, skipping).
- Identify the components of reaction time and show how it increases with increased complexity of tasks. Also demonstrate the balance between processing component and movement component by increasing number of choices. (Processing component increases while movement time stays the same.)
- Explore on an introductory level, the concepts underlying the speed accuracy trade-off, using several different tasks and timing intervals, and identify why this trade-off occurs.
- Organize a movement task for younger students, demonstrating techniques learned in the module to provide a successful practice (e.g., feedback, skill development)
- Toward the end of the unit, play team (small groups) jeopardy game testing knowledge gained in the section as a review session.
- Through visual aids (e.g., smart boards, slide show presentations) students will learn the principle muscle groups and their relationship to bones, tendons, and ligaments.
- Use video (homemade or commercial) to illustrate dynamic actions/movements.

- Working in groups, students will authentically perform specific motor skills in a modified game situation, while “teammates” offer both positive and corrective feedback to peers in a 3:1 ratio.
- Analyse the muscle groups used in a sequence of pictures of which a particular skill is occurring.
- Research biomechanical innovations and report to the class (e.g., the Fosbury flop).
- Identify the Seven Principles of Biomechanical Analysis.
- Students can create entertaining activities to teach younger students about anatomy and biomechanics (e.g., create a song to the tune of Hokey Pokey with technical terms, draw a life-size figure on chart paper with bones and muscles labelled).
- Show a video of a series of movements, and have students identify them using proper terminology.
- Develop a game whereby students are awarded points when they correctly identify a key term related to human anatomy, which also earns them the right to perform a specific physical activity. Here, students receive additional points for each physical activity performed while focussing on the process (form) rather than product (speed). Then, at the end of the game, discuss with the entire class the cost benefits individuals receive for being physically fit (e.g., less time off of work for doctor’s appointments, less depression, higher self-esteem).
- Have students in small groups write key terms on index cards. While one student tapes the terms to the appropriate area of the life-size body outlines taped on the walls, others have to perform the corresponding activity listed below the key terms that helps to train that particular muscle.

## Suggestions for Assessment

- Assess student analyses using class results of different practice conditions and explain findings.
- Assess students’ proficiency in identifying why different errors occur while a peer is performing a skill (e.g., striking out in baseball) and what type of system is being used during the skill (open versus closed loop).
- Assess students’ documentation of proper progression in learning a novel skill, (e.g., juggling, ring toss, skipping).
- Demonstrate an activity/action and have others evaluate the action using motor control terms such as system type or feedback sources (This may also be useful for anatomy/biomechanics where movements could be described in terms of flexion/extension, what muscles are doing the work, etc.).
- Assess students’ analyses on what they have learned and how they link the importance and relevance of the information to everyday life.
- Present a brief oral report on a topic covered in the module and have the other students evaluate it using a standard form.
- Assess students’ self-or peer assessments of basic terminology through active experiences (e.g., anatomy tag games, modified relay races where there is little to no standing around).
- Perform oral test to name bones/muscles (using skeleton or flip chart).
- Complete written tests (fill in the blanks and label parts).

- Use demonstrations to illustrate the dynamic actions (Teachers may also want to videotape the students performing these skills for future use.)
- Analyse the muscle groups used in a sequence of pictures of skills / actions occurring
- Web research for health professions. Students can present finding to the class.
- Peer assessments of video production and / or job profile posters

## Notes and Resources

---

- *Exercise Science* (24187)
- *Fitness Circuit Charts, Secondary Series* (24993)
- *Fitness Circuit Charts, Elementary Series* (18259)
- *Strength Training Anatomy Poster Series* (25298)
- *Exercise Science* (24187)
- *Strength Ball Training: Full Range of Stability and Medicine Ball Exercises* (24995)

**Students will be expected to analyse the relationship between nutritional input and the requirements for active living**

## Nutrition and Performance

### Suggestions for Learning and Teaching

Understanding the role nutrition plays in performance will enhance students' likelihood of choosing healthy eating habits for life. This component of the module focuses on providing fact-based awareness toward nutrition and physical activity at moderate to vigorous intensities. It is recommended that teachers allow time for expansion in dialogue to apply to the specific needs of the students with regards to topics such as: emotional connections to food, eating disorders, allergies, economic status in relation to nutrition, peer influence, and cultural influence.

- On an overhead or whiteboard, brainstorm a list of common foods eaten daily by youth. Then, organize food by circling protein, putting a box around the carbohydrates, a triangle around the fats.
- Discuss appropriate food choices and identify complex carbohydrates (CHO), saturated fats, unsaturated fats, animal protein, and vegetable protein.
- Identify the main energy source and point out and discuss any visible imbalances.
- Identify the role of vitamins and minerals, as well as food for peak performance, through a guest dietician or nutritionist, worksheets, or overheads.
- Teachers can refer to chapter 10 and 11 in the Exercise Science student textbook.
- Submit a label from one of their favourite foods and describe the main components of the product, percentage and milligram or gram.
- Identify a popular diet plan and critique its components in relation to Eating Well with Canada's Food Guide (e.g., the zone diet, Atkin's diet, etc.).
- Identify the importance of nutritional input in relation to physical output by creating a list of foods and identifying which would best support specific activities (e.g., a high carbohydrate spaghetti meal would be good several days leading up to an endurance cycling race for maximum energy output).
- Have students keep a journal of their daily food intake for three days (amount and choices of food). Compare and contrast their daily dietary intake with Eating Well with Canada's Food Guide. Highlight areas of improvement and/or maintenance and target ways to create an immediate action plan.
- Share PACY research findings that highlight eating behaviours of Nova Scotia children and youth.
- Develop a daily meal plan (three larger or six smaller meals) that takes personal gaps into consideration, so that it lines up with guidelines in Eating Well with Canada's Food Guide.
- Create a weekly healthy meal and healthy snack plan including hydration.
- Research the nutritional practices of physically active individuals who exercise at moderate to vigorous intensity levels for 30 to 60 minutes in duration and identify specific strategies employed for maximum performance (eg., carbo-loading, minimize sugar, limit caffeine, etc.).

- Analyse a common meal from home, a fast-food restaurant meal or a school cafeteria lunch. Students may discuss their opinion on the main components and identify how it would aide or hinder performance in different physical activities.
- Work in small groups to play a team jeopardy game testing knowledge gained in this section. If setting this up in a classroom, have students in teams at tables, and one student from each group will come to the front of the class and attempt to be the first with the correct response to win points for his/her team. The remainder of the group has sticky notes at their table and can also attempt to write down the correct response in the form of the question. Each group representative at the front of the class will begin hopping on one foot to a boundary line (they can only move off the start line after the teacher has completely read the statement) placed several feet before a table containing pencils and sticky notes / scraps of paper. The first student to place the sticky note with the correct response in the form of a question on the board is awarded the corresponding points for his or her team. The remainder of the groups also get a chance to earn half of the total points awarded if every team member has the correct response in the form of a question written down on their sheets of paper. If anyone complains, argues with the referee (teacher), shouts out a response, etc., their team loses the amount of corresponding points for that round emphasizing fair play and positive character development.

## Suggestions for Assessment

- Identify the role of vitamins, minerals, proteins, carbohydrates and fats through written tests and worksheets.
- Assess students' reports on their understanding of what they have learned about nutrition and their ability to draw personal connections to everyday life as well as physical activity at moderate to vigorous intensities.
- Assess students' weekly meal plan for balanced choices based on information covered in class.
- Authentically assess students' understanding of proper nutrition habits as well as effective goal setting strategies for healthy eating. Present a case study that provides information on an individual who eats unhealthily. Assess students' feedback pointing out both negatives and positives of current nutrition plan, as well as specific SMART goals suggested by the student for the individual in the case.
- Identify the varying roles energy sources play in activities of different intensity.
- Through self-assessments students can suggest ways to maintain or improve daily healthy food intake.
- Assess students' personal reflection and SMART goals based on their submitted three-day nutrition intake assignment.

## Notes and Resources

- *Exercise Science (24187)*
- *PACY*

**Students will be expected to investigate career and volunteer opportunities related to the field of exercise science**

## Career Opportunities

### Suggestions for Learning and Teaching

- Access information about job descriptions on the web—web search for different health and athletic related professions, and present to class (therapists, trainers, orthopedic surgeons, etc.).
- Create job profile posters and post in gym/hallways.
- Invite a health specialist or athletic professional as a guest speaker to describe their job and how it relates to other professionals in the field (e.g., physiotherapist in relationship to a chiropractor or sport's medicine doctor, etc.).
- Have students submit possible part-time employment opportunities (if and where applicable) or volunteer options related to the exercise science career field of most interest to them.
- Discuss professional behaviours necessary to exhibit when volunteering or working in the community. Ask questions related to the topic, present a case of poor professional behaviour, and/or bring in an employer or volunteer co-ordinator who can share experiences working with both professionals and unprofessional individuals.

### Suggestions for Assessment

- Have students submit a title of a career opportunity related to exercise science that might interest them. Then, assess students' on their listed steps necessary for them to achieve this goal (e.g., high school credits needed to get into a post-secondary program, etc.).
- Assess students' knowledge of age-appropriate part-time employment opportunities or volunteer opportunities that may help them achieve the experiences related to exercise science that are of interested to them.
- Assess students' knowledge of professional behaviors necessary when they are volunteering in the field of exercise science in their communities.

### Notes and Resources

- *Exercise Science (24187)*



# Personal Fitness

---

## Introduction

Physical fitness is defined as the ability to perform various physical tasks with vigour and alertness, without undue fatigue and with ample energy to enjoy leisure time pursuits and to meet unforeseen emergencies. It is therefore a trait one possesses rather than an activity one does.

Levels of physical fitness are unique to each individual and, as such, it is important to understand and appreciate these differences as students learn how to develop and assess their personal level of physical fitness.

## Background

---

As research has proven, attaining and maintaining a certain level of physical fitness results in health-related benefits. Consistent moderate to vigorous levels of physical activity are related not only to healthy levels of physical fitness and longevity, but also to quality of life. Regular exercise at moderate to vigorous intensities reduces the risk of heart disease, cancer, type two diabetes, osteoporosis, and other chronic conditions. Regular exercise also reduces the normal rate of decline in physical work productivity that occurs as we age. Furthermore, regular exercise improves psychological well-being. Specific mental health benefits of exercise include reduction in anxiety, depression, and reactivity to stress. Providing students with the opportunity to acquire appropriate tools to manage these inevitable stressors in life ensures balance of body and mind.

## Aim

---

All sport and physical activities that students participate in involve a certain level of fitness to be performed. The grade 10 Personal Fitness module focuses on the acquisition of skills that will allow students to evaluate their own level of fitness as well as design and implement goals for maintaining or improving their current fitness levels. It is also considered important in this module to address the issue of physical fitness consumerism as well as identify community support systems for continued fitness throughout their lives. Within this module teachers will provide valuable learning experiences and assessment tasks that will encourage youth to engage in physical fitness as part of active healthy living.

**Students will be expected to apply an understanding of the components of health and skill related physical fitness to activities that develop physical fitness for active, healthy living**

## Components of Fitness

### Suggestions for Learning and Teaching

Physical fitness is a trait one possesses rather than an activity that one does, although the participation in physical activity or more specifically “exercise” can lead to the maintenance or improvement in physical fitness. Physical fitness is comprised of health- and skill-related components.

- Have students brainstorm and develop a vocabulary of physical fitness terms they predict will be useful during the Personal Fitness module, as a small-group activity. Encourage dialogue about personal experiences in physical activity, and discuss what terms may be considered more valuable than others.
- Through classroom-based learning, such as visual aids (smart boards, slide show presentations, videos), students will learn the health- and skill-related components of physical fitness: cardiovascular endurance, muscular strength and endurance, flexibility, body composition, balance, agility, co-ordination, reaction time, power, and speed.
- Create a list of various physical activities (e.g., group exercise programs, sports, intramurals, etc.) that students have been involved in throughout their lives. From this list, using the chart of health-related benefits of physical activities, identify specific health- and skills-related components of physical fitness as poor, fair, good, or excellent. Are there any components targeted more than others? Note that some physical activities contribute to the development of more than one fitness component. Compare and contrast lists.
- In small groups, have students identify general physical activities of light, moderate, and vigorous intensities as well as a sport-specific activity that relates to each of the skill-related components of fitness. For example, co-ordination can be developed through a group juggle activity, and can be practised through a basketball layup for sport-specific application.
- In small groups have students plan and prepare stations that develop either a general or sport-specific activity for each of the fitness components. Have students participate in each other’s stations in a circuit training-style activity.
- Introduce the difference of health versus fitness and the various intensity levels that define each. Have students line up in the centre of the gym. Call out different physical activities. Students will move toward either end of the gym according to where they would choose to place the activity on the Activity Intensity Continuum. Students should be prepared to defend their decisions in a class debrief.
- Discuss the declining levels of physical activity in youth today, referencing Health Canada statistics. Highlight health research on youth and physical fitness in Nova Scotia.

- Design a school-based promotion for the awareness and appreciation of personal physical fitness through bulletin boards, a weekly FIT TIP for school announcements and newspapers, or class fitness competitions.
- Offer a wide variety of physical activities that can be practised throughout life and discuss both the varying intensities of physical activity, and the benefits of the activities. Example activities include yoga, weight training, aerobics, dance lessons, and martial arts.
- Research the wellness, health, and physical fitness practices of a physically fit individual who is 16, 30, and 50 years of age and compare to sedentary individuals of the same age.
- Have students modify the number of repetitions and set daily fitness blasts using Fitness Circuit charts according to their current level of personal fitness.

## Suggestions for Assessment

- Using the chart of Health-Related Benefits of Physical Activities, have students identify specific health- and skills-related components of a variety of physical activities found in the community.
- Using the chart for Developing Skill-Related Fitness components, have students identify various general as well as sport-specific physical activities for a variety of sports.
- Have students perform an analysis of player positions in a specific sport and determine the different physical fitness requirements for each position (similar to a scouting report).
- Have students reflect on how an individual may maintain or improve their position on the Activity Intensity Continuum, and explain the benefits of moving toward the high (vigorous) end of the continuum.
- Have students develop slideshow presentations, slogans, or commercials for the purpose of promoting physical fitness.
- Present students with a case study of a sedentary peer. Assess students' analyses of the case making practical suggestions for their peer to improve skill- and health-related physical fitness.

## Notes and Resources

- *40 Years in the Gym: Favorite Physical Education Activities* (18253)
- *Fitness Circuit Charts Secondary Series* (24993)
- *Building Strong Bones and Muscles* (18251)
- *Strength Ball Training: Full Range of Stability and Medicine Ball Exercises* (24995)

**Students will be expected to apply effective risk practices in health- and skill-related physical activities.**

**Students will be expected to apply principles of training to physically active experiences.**

## Guidelines for Safe and Effective Training

### Suggestions for Learning and Teaching

The following suggestions address the various aspects of developing and evaluating personal physical fitness and various programs from a safety and efficiency perspective, including the choice of clothing, equipment, facilities, and environment in relation to physical fitness.

- Brainstorm and discuss personal or known experiences of injury, identifying the cause; poor training technique, improper clothing/ equipment, or problems with the facility or training environment.
- Practise proper exercise techniques in warm-up and cool-down exercises, through peer teaching pair and share. Students may need to prepare or research in order to be able to teach one another.
- Present samples of training methods as well as proper clothing and shoes for lifelong activities.
- Discuss and create a spiderweb of appropriate choices of clothing, footwear and equipment for specific physical activities. For example: kick boxing—indoor court shoes and comfortable snug fitting athletic clothing.
- Fill in the Think Ahead chart for various activities (See Appendices).
- In small groups, have students create colourful, informative posters that identify the safety and/or risk factors for a specific activity, using the Think Ahead model.
- Discuss contraindicated exercise and why some exercises are not appropriate for all people.
- Compare and contrast in small groups, exercises that are now contraindicated when previously they were advocated. Emphasize the need to be current on research and sensitive to varying age groups. Have students suggest reasons for this.
- Discuss the uniqueness of each individual's needs in applying the various component of physical fitness to a training regimen. Discuss why different activities are chosen at different times in people's lives. For example, An elderly person might choose swimming to minimize impact on bones and joints, or an injured person might choose yoga to stimulate blood flow and improve flexibility, an overweight individual might choose a cardiovascular activity for maximum body fat composition benefits, etc.
- Discuss and implement guidelines for safe and effective execution of specific exercise and programs for cardiovascular endurance, upper and lower body muscular strength and endurance, and flexibility.
  - Discuss the importance of starting a program slowly and building the intensity in progression to avoid injury.
  - Practice correct and safe lifting techniques for muscular strength.

- Perform a cardiovascular workout displaying correct foot action, running posture, correct breathing techniques, and checking heart rate at appropriate intervals (example: wind sprints, aerobics).
- Demonstrate the correct performance of resistance training exercises emphasizing proper body alignment and safety principles using hand weights, resistant bands, or resistant tubing.
- Practice a flexibility activity such as yoga or gymnastics, focussing on proper technique.
- Introduce proper alignment and resistance training using a stability ball.
- Create a training program for a variety of Case Studies. For example, an overweight man in his fifties would like to lift weights and ride his new bicycle to get in shape and improve his physical fitness in order to receive health benefit. What are some safety concerns and/or risks and what are some appropriate training goals?
- Research a Canadian athlete. Highlight his/her strengths and/or weaknesses in demonstrating safe and effective training throughout their athletic history. Example: “The Best and Worst Practices” of Simon Whitfield, Sidney Crosby, or Perdida Feliciano.

## Suggestions for Assessment

- Assess complete Think Ahead charts for various activities.
- Have students create a poster that identifies the safety and/or risk factors for specific activities using the Think Ahead model.
- Have students develop and lead peers in sport-specific warm-up and/or cool-down activities.
- Have students create a poster, handout, video, or commercial identifying correct techniques and promoting safe practices for the activity of their choice:
  - running in a variety of environments and conditions
  - resistance training
  - flexibility activity
  - lifting and carrying heavy objects
  - sitting and standing for long periods of time
  - exercising in various climates (hot, cold, humidity, altitude, rain, snow, etc.)
- Self- and peer assessments of safe and effective movement practices
- Case studies highlighting safe and effective training techniques.

## Notes and Resources

- *101 Fun Warm-up and Cooldown Games* (18250)
- *Walking Games and Activities* (18254)
- *Strength Ball Training* (24995)
- *Pedometer Power* (18260)

**Students will be expected to apply effective risk practices in health and skill related physical fitness.**

**Students will be expected to apply principles of training to physically active experiences.**

## Principles of Training

### Suggestions for Learning and Teaching

Although the specifics of a physical fitness program should be personalized, the general principles of training are the same for all individuals. This module's principles of training component includes FITT (frequency, intensity, time, type) prescription for fitness, fitness concepts, and issues dealing with wise consumerism of physical fitness equipment and facilities to encourage and enhance active healthy living.

- Through discussions, group work, worksheets, smart boards, slideshow presentations, or DVDs, introduce the Principles of Training and Conditioning terms.
- Prepare posters for a display of fitness concepts and/or FITT formula for the various components of physical fitness.
- Perform a variety of cardiovascular activities, applying the FITT formula. Record heart rate and record the effects on the body (observations and feelings) through journal reflection.
- Through classroom-based as well as experiential learning, introduce the “when, why, and how” of different forms of flexibility training (PNF, static, dynamic, passive, active).
- Through classroom-based as well as experiential learning, introduce the specific prescriptions of resistance training (strength, endurance, toning, body building, power).
- Analyse and write a reflection on personal experience with principles of training and conditioning.
- Interview local elite or high-performance athletes, coaches, or fitness professionals about their physical fitness training programs.
- Discuss various physical fitness training (conditioning) programs for varying activities.
- Compare physical fitness training programs for elite athletes versus males or females who exercise to receive health benefit through physical fitness.
- Discuss the relation between supply and demand of fitness trends. Point out how equipment and clothing can focus more on fashion versus function.
- Have students critically examine and discuss physical fitness training information available in the media (TV, radio, Internet, etc.) and discuss the credibility of these sources.

### Suggestions for Assessment

- Have students prepare posters for a display of fitness concepts and/or FITT formula for the various components of physical fitness.
- Assess students' ability to assess their personal fitness goals in terms of SMART principle (specific, measureable, attainable, realistic, and timely).

- Authentically assess student’s knowledge based on peer and self-evaluation of personal physical fitness training program using the fitness concepts and the FITT formula.
- Assess school/community physical activity programs and facilities according to the fitness concepts and the FITT formula. Present the findings of an assessment of a school sports team and/or community sports team’s conditioning program using the fitness concepts and the FITT formula.
- Maintain a personal physical fitness journal for self-assessment based on various “in class” fitness components.

## Notes and Resources

---

- *Walking Games and Activities: 40 New Ways to Make Fitness Fun* (18254)

**Students will be expected to know what health-related physical fitness appraisals measure: cardiovascular endurance, upper and lower body muscular strength and endurance, flexibility, and body composition**

**Students will be expected to assess their own level health related physical fitness**

**Students will be expected to set SMART goals to maintain or improve current levels of health related to physical fitness**

## Fitness Assessment and Goals

### Suggestions for Learning and Teaching

The purpose of this component is to focus primarily on the personal assessment of physical fitness. It is recommended that teachers provide students with various methods and means to measure physical fitness in a non-threatening environment. Once physical fitness is assessed, students can set personal goals and teachers should conference with each student when evaluating student progress.

It is crucial that students self-assess their personal fitness and set personal goals that can be achieved over the length of the physical education course and/or module. Personal goals set in this module can and should extend over the entirety of the full or half-credit.

- Collect baseline data on personal physical activity levels related to health-related components, through PAR Q and health and/or wellness questionnaire(s).
- Students can participate in and choose physical fitness tests that provide an indication of health- and skill-related components of physical fitness. Students can also participate in a variety of self-assessments for body composition and compare the results of each (height, weight, percent body fat, waist circumference). Discuss the results and the methods used for measurement of body composition in terms of reliability, validity and applicability.
- Discuss results of physical fitness tests (health- and/or skill-related) and identify barriers to fitness and/or where support can be found (i.e. exercising with a friend, setting realistic goals, asking parents to join in).
- Discuss motivation and how it relates to consistent physical activity. Ask students to think about what motivates them to exercise and encourage them to share ideas, organize group running/walking clubs, etc.
- Discuss and make predictions of the implications of current personal physical fitness routines on future health and athletic ability.
- Gather information on assessment procedures used in local health and/or fitness facilities (hospital, gyms, universities, colleges) and their success rate.
- Write an article, appropriate for submission to the school paper, that highlights data from a provincial or national study on physical activity levels and youth.
- Research and practice generic conditioning programs for improving cardiovascular fitness (cross-training, walking, jogging, interval training, Fartleks).
- Have students determine appropriate personal fitness goals and have them commit to and follow through with planned personal fitness program. Ask students to maintain a personal fitness journal, using appropriate terminology

introduced in this module. Encourage students to utilize community facilities in attempting to reach personal physical fitness goals, where possible. Research and identify community resources to support personal conditioning.

- Create a “before and after” display of fitness levels before taking on conditioning goals and show results through journal reflection, pictures, data collection, story board, etc.

## **Suggestions for Assessment**

---

- Assess students’ knowledge of the components of health-related physical fitness (e.g., cardiovascular endurance)
- Assess students’ effectiveness at assessing their current level of health-related physical fitness.
- Assess students’ ability to set SMART goals related to their self-assessment of health-related physical fitness.
- Assess students’ analyses of community resources that support health-related physical fitness training.
- Conference with students on their personal fitness journal. Check for proper use of terminology. Ask them to make a prediction of their future personal fitness levels and how they might plan to stay active for life.

## **Notes and Resources**

---



# Leadership

---

## Introduction

The grade 10 Leadership module focuses on providing students with opportunities to develop and enhance leadership skills. This guide is intended to provide teachers with the outcome framework for the course. It includes suggestions to assist teachers in designing valuable learning experiences and assessment tasks. Sample learning experiences are provided to expand on suggestions for learning and teaching, including explanations of terms and references.

### What is Leadership?

---

Historically, leadership was defined as a one-way effort, in which the leader simply led a group by directing them. Recent definitions now emphasize the interaction of leaders with their influenced group. In effect, leadership has become known today as an intentional act, aiming toward the achievement of a specific goal, while creating an interactive relationship between two or more individuals.

Leadership Development is an essential component of personal development for people of all ages. Many students possess natural leadership abilities at a relatively young age. It is important to provide opportunities for students to maintain or improve their leadership skills in many different facets of school life. As well, it is critical for that teachers, coaches, and parents to be able to assist students further in linking these skills to the continuing development of their physical, social, and emotional well being.

### Leadership and Physical Education

---

Leadership plays a significant role in physical education. Students experience a variety of different leadership styles; from the teachers they have in school, through to the coaches, recreational leaders, and student mentors who work with them in various physical activities. Positive leadership development in physical education provides opportunities for students to increase competence, develop a higher self-esteem related to leadership and identify a clear sense of character. It also equips students with effective interpersonal skills and confidence to make healthy life choices while contributing to the development and continuation of active, healthy living for themselves and others.

### Context of Leadership

---

The leadership activities and context for each theme will vary from class to class, depending on the experience of the students. It is recommended that teachers allow students increasing opportunities to lead physically active initiatives at the beginning of each class, as well as lead debriefing sessions to build confidence in presenting

in front of a small audience. These daily leadership initiatives will assist students in identifying personal leadership abilities and take risks with new styles of leadership during the progression of the modules. The ultimate goal is that students will engage in leadership opportunities in a larger community context, creating lasting relationships and a sense of pride and contribution to their own community.

## **Time Line**

---

It is suggested to use moderate to vigorous intensity cooperative games (Icebreakers/Energizers) as the beginning to the topic of class. If a game is very vigorous, it should follow a warm-up. If students have completed a foundation of outdoor pursuits, they will be familiar with the team building challenges and may choose to lead activities from the start of this module. Otherwise, teachers may choose to initiate the first few until students step forward to lead a challenge. These activities will serve as an excellent opportunity for students to reflect on and practice their leadership skills. Throughout this module, students will select and lead warm-up activities (at times theme related) at the beginning of each class, throughout the duration of the leadership module.

**Students will be expected to apply effective leadership characteristics through physically active experiences**

## Defining Leadership

### Suggestions for Learning and Teaching

As an introduction to the leadership module, students are encouraged to discuss and create individual lists of how they demonstrate responsibility of leadership in their lives (include household chores such as lawn mowing, baby-sitting, or dog walking to owning a house key or even teaching piano) then share as a class. Students will identify the fundamental elements for effective leadership. Through developing community standards in a full-value contract, planning and leading physical initiatives called energizers, and identifying the qualities of effective leadership in physical activities that have a team or group dynamic, as well as experienced in their own lives, the students will begin to develop and consider their individual leadership style and ways they can contribute to the world around them.

- In small groups, design a poster of the group's full value contract for upcoming activities.
- Transition into self-reflection and group discussion. Students identify their own leadership style using the letters AEIOU as a reference.
  - A = Action Oriented (Do you like to dive right in and get things done?)
  - E = Encourager (Are you a great motivator, keeping the group's morale high when they might otherwise become unproductive due to poor attitudes?)
  - I = Idea generator (Are you a natural at brainstorming ideas and generating a group vision?)
  - O = Organizer/Strategists (Do you find yourself excelling at organizing the facts, ideas, and next steps?)
  - U = Unsung Leader (Are you a "behind the scenes" person? Do you prefer to do your thing for the group, but you don't need the spot light?).

Pair and Share, then discuss as a class what you learned about your partner.

- Have students write a short description of a time when they demonstrated at least two of the different leadership styles, where they were, who was involved, which style they felt was most natural.
- Teacher can facilitate a discussion of great leaders in history or current day and have students identify the qualities they exhibited that led to such effective leadership.
- In small groups, trace the hands of all team members on a large piece of white paper. Label the qualities of leadership on the hands (patient, good listening skills, sense of humour, strong verbal ability, etc.) and present them to the class. Teachers can post these on a bulletin board.
- Introduce the "Service Leadership Theory" with a story, role-play or by other artistic means
- Discuss the value of Servant Leadership in the school or in the community and identify how they may have, or will in the future, benefit from Servant Leaders.

- Discuss how their community benefits from Servant Leaders and how they can get involved (town parades, festivals, local triathlons, or races, etc.). Have students create interview questions for people with differing roles in the event—why they are involved or what benefit they receive.
- Have students initiate a Servant Leader position somewhere in the school or community (volunteer—minor official, team manager, intramural helper, boy or girl scout helper, etc.)
- Reflect on and identify a leader in their lives (neighbor, friend, teacher, family member, coach). Discuss how they influenced them positively or made a difference in their lives. Using bright paper, markers, and other creative material, the students will craft a thank you card, or design a letter addressed to this person and reflect back to them the qualities they appreciated in their mentoring relationship (in the case of unavailability, students may chose to put the cards in a reflective portfolio). Pair and share the person they addressed and discuss. Together, students will develop a list of the leadership qualities they value in themselves and others. Post around the room.

### **Suggestions for Assessment**

- Assess students' reflections on different personal leadership styles through portfolios or journals
- Assess students' research highlighting effective leadership in the field of exercise science of their choice (e.g., sport, community running club, etc.).
- Authentically assess students' effectiveness to demonstrate one or more of the AEIOU leadership styles within small-group activities that involve problem solving.
- Assess students' cards and/or letters to leaders that influenced them. Assess students' effectiveness in connecting the leadership characteristics that these leaders possessed with the positive experiences that resulted from the influence of the leaders.

### **Notes and Resources**

- *Silver Bullets: A Guide to Initiative Problems, Adventure Games, Stunts and Trust Activities* (22102)
- *Adventure Education: Theory and Applications* (24994)
- *40 Years in the Gym: Favourite Physical Education Activities* (18253)
- *Cooperative Games and Sports* (18255)
- *Adventure Education Theory and Applications* (24994)

**Students will be expected to demonstrate effective interpersonal skills while participating in group physical activities.**

**Students will be expected to demonstrate teamwork by cooperating within group physical activities.**

## Communication

### Suggestions for Learning and Teaching

Students will identify and demonstrate effective forms of communication through research, interviews, team brainstorming, portfolios and event planning around physical initiatives. Through these activities, the students will discover how effective communication can create successful results in meeting goals and contribute to building confidence, self-esteem, and improved interpersonal skills as a leader.

- Teacher/students may plan and lead (in small groups or pairs) a variety of moderate to vigorous physically active cooperative games at the beginning of each class with the focus on using effective communication skills.
- Research a case where the impact of negative communication in leadership in sports was recorded by the media. What were the results? Highlight what actions were taken to create change and brainstorm proactive steps that could have been taken to avoid this event from taking place. Use a variety of sources such as the Internet, periodicals, newspaper, etc., to present in an organized paper.
- Research a case where the impact of positive communication in leadership in sports was recorded by the media. Highlight what strategies were used and what made the event media worthy, and present in a visual display.
- Design a brochure advertising positive leadership in the physical activity of student's choice using programs (e.g., RespectED, etc.). Highlight what positive character traits can be developed: increased self-confidence, improved team dynamics, achieving projected goals, etc.
- Design a list of interview questions that reflect a variety of leadership styles in physically active initiatives such as, Do you consider yourself to be patient/ impatient, quick acting or reflective? or Would you be more comfortable leading a team from the captain's seat or interactively playing with the team? Reference may be made to the "visible role model" traced earlier in the module to assist students in compiling the interview questions.
- Conduct interviews with at least two other students and record data in an organized written manner for class presentations that best highlights the student's personal leadership style (posters, written papers, oral presentations, etc.)
- Students may conduct a second interview with someone in a career related to the physical activity of their interest (aerobics instructing, hiking guide, coach, walkathon organizer, etc.) Students will design a list of interview questions that reflect the ways an individual or group from the community show leadership in organizing or promoting physical activity. Good planning and communication with their designated leader is essential.
- Invite a guest speaker to speak on positive leadership in sports.

- Complete a reflection in their portfolios of the evolution of their personal leadership style. (How has it changed as they have matured?) Also highlight at least three personal examples of a time when they demonstrated positive leadership skills, and the result this had on self and others.

### **Suggestions for Assessment**

---

- Authentically assess students' communication during their leading and participating in the physically active cooperative games.
- Assess students' research presented on positive and negative communication in leadership in physical activity of choice (e.g., sport, community running clubs, etc.).
- Assess students' brochures that promote positive leadership within groups/teams as well as suggestions for how this can be done.
- Assess interview presentations.
- Assess "exit slips" used to check students' understanding while looking for responses that meet the outcomes of the curriculum.
- Assess students on their use of effective interpersonal skills and teamwork during all aspects of the course.

### **Notes and Resources**

---

- *No Gym? No Problem: Physical Activities for Tight Spaces* (18256)
- *Essentials of Team Building: Principles and Practices*
- *101 Fun Warm-up and Cool-Down Games* (18250)

**Students will be expected to demonstrate effective teamwork by cooperating within group physical activities.**

**Students will be expected to apply effective leadership skills in various activities.**

## Teamwork

### Suggestions for Learning and Teaching

Students will be able to identify the challenges and benefits of working as a team and revisit the qualities it takes to be a good team member. Through a number of experiential activities, they will take responsibility for clear communication and use critical thinking to create a team-based approach to cooperative activities. In this module, students will demonstrate effective decision-making skills, conflict management, positive group dynamics, self-awareness, and team objectives. In looking at various teams in their community, the student will determine what qualities create an effective team and how they may take steps to contribute their own leadership skills to small research groups.

- Participate in a series of experiential trust activities in pairs and teams (Appendix C). Debrief and identify the variety of roles and responsibilities of the team members and group leader, and compare and contrast them to the role of athlete, caregiver, and officials.
- Discuss and identify, from the trust activities, what worked, what didn't work, debrief trust in leadership (self and others) and highlight any needs that went unmet or noticed (safety, respect, etc.) Revisit Full-Value Contract.
- In small groups write a definition of a team from personal experiences and highlight the elements that made it feel like a successful team (positive leadership roles, focused on a common goal, nature of the activity, attitude of team, etc.)
- Prepare leadership initiatives in small groups, design cooperative games and low initiative activities for students of a lower grade. Facilitate small group cooperative games in stations.
- Create a project of the team environments students have been part of in their past (collage, drawing, photo journal, etc.). Highlight the positive elements as well as identify the challenges.
- Plan and prepare a team appreciation event in their school. This may look like a bulletin board highlighting elements of a successful team, an information board about positive local teams, or launch a school-wide team challenge for possessing the most positive team qualities, etc.
- Develop an ongoing school program that promotes positive team dynamics. Students may choose to invite guest speakers as role models from community teams, set up an awards program in the school, start an outdoor leadership club, etc.
- Write a research paper about a Canadian athlete who has contributed to our Canadian identity, and demonstrated strong leadership abilities in facing adversity (Terri Fox, Johnnie Miles, Silken Lauman, Laurie Bowden, Mark Fawcett)

- Through journal entry, students will reflect on their own leadership abilities within their research teams and observe the functions of their team. Students will start to self-evaluate by highlighting their strengths and weaknesses. What process was used to work through diversity and meet each member's needs?
- Have students look at the career section of a newspaper. Ask students to reflect on the kinds of qualities and experiences employers are looking for.

### **Suggestions for Assessment**

---

- Assess students' self-assessment of their level of respect displayed during trust activities.
- In small groups have students organize a process for researching the "functions of a team" and presenting the data.
- Authentically assess students' communication and leadership skills through the teaching of physically active cooperative games and low initiative activities in small groups of peers.
- Complete a self-assessment of leadership during the organization and facilitation of the projects.
- Assess students' creation of visual/multimedia presentation of key elements of effective teamwork.
- Assess students reflection on their leadership development over the course of the semester through their portfolios or journals.

### **Notes and Resources**

---

- *Essentials of Team Building*

# Appendices



# Appendix A.1: Team Building Activities

## Warp Speed (Activity 1)

### Purpose

The focus of this activity is to problem solve, encouraging effective communication and reflection about judging ideas. It requires full participation from the team and is often successful when great ideas are expanded upon, requiring some “out of the box thinking.” The activity is related to the value of listening to all suggestions, exceeding past accomplishments and participative teamwork. In debriefing this activity, teachers can choose to be creative and liken it to how it feels in a group setting to have your ideas discarded due to judgments from the group. Discussion can be centred toward valuing individual contributions that result in eventual team success.

### Objective

To circulate the three balls among the group as fast as possible.

### Materials

- 3 tennis balls
- 1 digital watch

### Safety Points

Ensure that there is room for the participants to try their different options. Physically this shouldn't be a demanding activity. Emotionally it will be demanding for some. Team dynamics will start to be revealed. Strongly guided facilitation may be needed at the start, and then as the student's engage in the activity and roles become defined, facilitation should be phased out to a maintenance level.

### Guidelines

- Everybody must touch each of the tennis balls once.
- The balls cannot be carried or held by someone or be set at rest. In other words, the balls must always be in motion and be off the ground.
- The balls must travel in the order established at the beginning.

### Procedure

- Have the group stand in a circle. Start with just one ball.
- Tell the group that you are going to toss the ball to a person across the circle and that person will then toss the ball to another person in the circle.
- This continues until everyone in the circle has caught and thrown the ball once.

- To avoid confusion as to who has caught the ball and who hasn't, have the people who have yet to catch the ball hold both hands out in front of them in the catching position. Once they have caught the ball, have them put their hands down at their sides.
- Also ask students to remember who threw the ball to them and who they threw the ball to.
- Ask the students to call the name of the person they are throwing to and to say thank you once they have caught the ball.
- Do a couple of rounds until this sequence is established. When the group says they are ready, add the other two balls.
- This is the point where the activity is timed. Announce that you are going to time how fast it takes all three balls to go around the group.
- Have students circulate all three balls in the pre-established order.
- Tell the group the amount of time it took.
- Now ask them whether they can cut down the time, given the above guidelines. Set a goal for the next attempt (the goal should be a few seconds less than their previous attempt).
- Once they achieve their new goal, ask if they can cut down their time even more.
- Time each trial and give the team their results. Celebrate each achievement with a cheer.
- Once a team seems to have hit a wall, challenge them to cut their time in half.
- As long as they are staying within the guidelines anything goes.
- Be firm on the guidelines. The group does not need to stay in a circle, but the sequence must be maintained.
- Encourage the strangest of ideas to be heard at this point, moving away from conventional thinking.
- Students will eventually evolve their circle to lines, or something that works better than their previous formation.
- The students often stand across from each other in two lines. While maintaining the original order, the first person can drop all three balls down the ramp of hands, using gravity to assist them in speed. The time has been recorded as low as two seconds.

### **Things to Observe**

- At what point in the activity is there a breakthrough in people's thinking? How did this come about?
- What is the communication like? Who speaks the loudest? Who are the listeners? Is everyone heard?
- What are the different roles that people are playing?
- What assumptions are they making?
- Did the team continue to call names and say thank you?

### **Debrief Questions**

- Describe the team's reaction when suggested cutting the time in half. How many people believed it would be / not be possible?
- At what point in the activity was there a breakthrough in people's thinking?

- Do you think maintaining morale is important to the success of a team?
- How would you describe the communication of the team when I started to time you? How would you describe it towards the end of the activity?
- What are the pros and cons of the different communication styles? (Assuming that there were significant differences.)
- What did participative teamwork look like during this activity?
- What are the different roles that needed to be filled?
- Does a team require everyone to be vocal or everyone to be participating?
- How did change come about? What factors pushed the change to happen?
- What were the factors that contributed the continuous improvement of the time that it took for the balls to circulate?
- What factors hindered that process?
- What happened to the names and thank yous as the time pressure increased? How can this affect the team?

### **Essay/Journal Activity**

---

Would the team's morale have stayed high if a two-second goal had been given at the beginning of the activity?

Discuss the value of setting achievable goals and celebrating each level of success in creating a positive outdoor pursuit experience?

## Human Ladder (Activity 2)

### Purpose

The purpose of this activity is to build trust, with each other as teammates and also within themselves. Students will be encouraged to judge their own physical abilities accurately by monitoring their running speed and using concentration to avoid errors.

### Objective

To run the length of the ladder, stepping over human rungs and taking their place at the end to travel a predetermined distance.

### Materials

- Students should be in proper foot wear and physical education attire.

### Safety Points

Students are asked to monitor their speed according to their comfort level and that of other participants. Students lying down are to keep their hands at their sides and their feet together until it is their turn to run. This is a highly successful activity and should be stressed as very dangerous to encourage seriousness.

### Guidelines

- You must run the length of the ladder along side your partner, safely clearing all the rungs and laying down at the other end once finished.
- You will jump up and start running only on the sound of the teacher's command ("go," whistle blow, etc.)

### Procedure

- Have students stand in two lines facing each other.
- Instruct them to spread out so that there is about a two foot space on either side of them.
- Instruct them to lie on the ground on their backs, soles of their feet together with person across from them, like the rungs of a ladder.
- Once they are all lying on the ground, start at one end and give the command to start.
- When the pair is safely lying at the other end, command a new pair to start.
- Once all pairs have gone or the destination is reached, give a cheer!

### Things to Observe

- Are verbal reminders needed to keep hands at sides and feet together at all times?
- Are there students who are jeopardizing the safety of the group by not taking the activity seriously?
- Are there students who need to have their speed monitored for safety?

## Debrief Questions

---

- How many of you had your comfort zone challenged by this activity?
- What made you go ahead and try it?
- What was the point of this activity?
- What made this activity successful?
- What kind of communication was used to instill trust in each other?

## Team Barometer (Activity 3)

### Purpose

The focus of this activity can be related to blaming behaviour, communication, conflict, leadership, individual roles, and cooperation. It is around the team development cycle.

### Objective

To lower a horizontal rod to the ground.

### Materials

- Light rod (A long tent pole works best.)

### Safety Points

Ensure that there is room for the students to try their different options. Physically this shouldn't be a demanding activity. Emotionally it will be demanding for some. Team dynamics will start to be revealed. The tendency to blame others is high in this activity. Facilitation should allow for these dynamics to happen, then be identified in the debrief.

### Guidelines

- You must remain in contact with the tent pole at all times.
- You cannot hook or hold the pole in any way.

### Procedure

- Split the team into two lines facing each other.
- Ask them to point at the person across from them.
- Show them how to "zipper" or alternate their first fingers with the person across from them, without touching anyone else.
- Show them the pole and tell them you are going to lay it on their fingers and they must lower it to the ground without breaking contact with it at any time or hooking the pole in any way. Place the pole on their fingers quickly without giving them a chance to talk.
- After a brief struggle, pull the pole off and ask the team what is going on. (Typically they will focus on not breaking contact with the pole and will apply pressure, creating an upward motion.)
- Remind them what the definition of "down" is for humour. Get them to refocus and try again.
- If the pole is still not going down, stop them once again. Ask what is hindering their success and what they can do to solve the problem. Eventually they will come up with a plan and get the pole to the ground.
- When a leader naturally emerges who will communicate with the group saying "lower now," etc., usually they will succeed as a team. If nobody steps forward, guide them toward this decision. Avoid allowing the team to become too frustrated. If this is happening, facilitate them to a solution.

## Things to Observe

---

- At what point in the activity is there a breakthrough in people's thinking? How did this come about?
- What is the communication like? Who speaks the loudest? Who are the listeners?
- Was there blame within the team or were individuals taking responsibility?
- The success of this activity has nothing to do with height. Was size or physical ability highlighted as a reason for success or failure?

## Debrief Questions

---

- Describe the evolution of the team's process in getting the solution.
- What did teamwork look like during this activity?
- How did change come about? What factors pushed the change to happen?
- How have you seen change happen in other team situations?
- What were the factors that contributed to the solution?
- What factors hindered that process?
- Drawing from your own experiences, how can this activity relate to your team?

## Essay/Journal Activity

---

Analyse the changing dynamics of the team, communication, and roles as the activity progressed. Was there blame or frustration? Have you ever become frustrated on an outdoor pursuit due to a focus on different levels of ability? How would this impact the success of a trip?

## Trust Walk (Activity 4)

### Purpose

To build trust with teammates and to practise effective communication.

### Objective

To walk in pairs with one student blindfolded while the other guides them along various levelled terrain to build trust in each other and their own senses.

### Materials

- Blindfolds for half of the class

### Safety Points

As the leader, have sighted students follow your line of travel around an outdoor environment. Monitor students who may be guiding their partners off the trail you have set or who may need to slow down.

### Guidelines

- Sighted partner must keep their blindfolded partner safe at all times by using effective communication or guiding them with physical contact.
- Sighted student must follow travel line set out by the teacher unless otherwise instructed.

### Procedure

- Instruct the students to pair off.
- Students will choose one of the pair to wear a blindfold.
- Blindfolded student will communicate to sighted partner how they prefer to be guided within their comfort level (For example, hand held, hand guiding elbow, verbal commands only, from behind with hands on shoulders, led from in front)
- On teacher prompt, sighted students will start leading their partner slowly in the direction of the path highlighted by the teacher.
- Once a comfort level is established and effective communication is being used, the teacher may guide the group over rougher terrain, down ditches, over picnic tables, or through playground apparatus.
- After enough time has passed for an effective experience, have the group stand in a circle and take off blindfolds.
- Discuss what worked best, what needed improvement, and exchange blindfolds for pairs to switch roles.

### Things to Observe

- Are students taking their roles seriously?
- Does the line of travel need to be more challenging for students to practise refining their communication?
- Are there student who are uncomfortable being blindfolded and who may be challenged simply by closing their eyes?

## Debrief Questions

---

- What did the experience feel like?
- Did you trust your partner? Why or why not?
- Did the trust grow?
- What suggestions could you give your partner to enhance the experience for another activity?
- Is communication one-sided, or was it valuable for the blindfolded person to communicate as well?
- How would this communication dynamic be important on an outdoor pursuit?
- At what point were you challenged individually?
- Why does everyone have different levels of challenge?

## Mine Field (Activity 5)

### Purpose

Provides a good metaphor for communication on any team. There is a lot of “noise” that interferes with effective communication efforts. This activity also requires people to help one another. The team can be more effective if the communications flows in both directions, for example, if the blindfolded people share concerns or ask for help and if the team as a whole uses planning and strategy before and during the challenge.

### Objectives

To verbally guide a blindfolded team member through a “Mine Field,” a rectangular space with paper plates scattered inside, without stepping on a mine. The role of the observer is to provide feedback from “outside” the challenge on team success and areas of improvement.

### Materials

- masking tape
- paper plates (1 set/team)
- Observers’ Sheets
- pens for observers
- 2 blindfolds

### Safety Points

Ensure that the volunteer that is blindfolded is comfortable being blindfolded and guided only verbally. Students should be reminded to stay outside the taped-off area. Proper footwear should be worn for active, safe participation.

### Guidelines

- Students will have three minutes to plan their approach.
- Sighted team members must keep the blindfolded students in the mine field and off the mines by using effective communication.
- Sighted students must not enter the mine field.
- Observer will jot down notes on predesigned “observer sheet” to share upon completion of activity.

### Procedure

- Instruct the students to group at the end of their mine field (five or six on a team), explaining that the rectangular areas marked off with masking tape are mine fields. The paper plates are loaded mines.
- Students will choose the first two people who will cross the mine field, and put blindfolds on them before the challenge begins.
- An observer will be chosen from each team to watch and fill in the observer sheet.
- The teams will have to verbally guide each of its team members successfully through the mine fields, the long way, not the narrow way.

- The guides may not enter the mine field or touch the blindfolded people.
- Only two people can be in the mine field simultaneously.
- If a blindfolded player comes into contact with a mine or another player while in the mine field, he or she must return to the start of the mine field and begin again.
- Each player in the minefield is allowed only one guide.
- Everyone else must stand at the start line waiting to put on the blindfold.
- The first team to guide everyone through the mine field wins.

## Things to Observe

- How were the first two mine walkers, communicators, and observer chosen? What strategy was used? Was it unbiased or popularity driven?
- Was there a planning and preparation strategy used or were roles defined as the challenge got going?
- Are students taking their roles seriously?
- Does the line of travel need to be more challenging for students to practice refining their communication?
- Are there students who are uncomfortable being blindfolded and who may be challenged simply by closing their eyes?
- Could there be more effective communication? Are the people chosen to communicate doing their job to the best of their ability?

## Debrief Questions

Debrief using the following questions as a guideline (use the categories that are relevant to the group and/or outdoor pursuit).

### GENERAL

- How did your team approach this task?
- How did it work?
- Ask observers to share their observations with their team.
- Ask observers and other team members to share observations with the entire group.

### PLANNING, BEING STRATEGIC

- What plans did you make in the planning session?
- How did your plans work out?

### COMMUNICATION

- What was the communication like? (Ask observers.)
- Did you discuss how the communication would happen, or did you just start right in? Would it have been easier to make agreements before starting in?
- Did the communication break down? What caused the breakdown?
- What causes communication to break down in real life?
- Where does that happen in other team situations?
- What would have made the communication easier?

## LEADERSHIP

- Who was the leader in this activity? Were you always the leader?
- How did you become the leader? Did you want to be the leader? Are you usually the leader in your life? How do you typically assume a leadership role?
- Other group members, did you accept this person's leadership? Why?
- Other group members, how would you describe this leader's style?
- What did the leader do well? What could it have been improved?
- Did anyone else lead the group? How? What skills were used?
- What was it about this situation that had that person be the leader? What credibility did they have?
- What outdoor pursuit leadership situations is this game an example of?

## TRUST

- When you were blindfolded, did you trust your guide? Why?
- Did the trust level increase while you were being led? Why?
- Did the guide have to earn your trust?
- What can be said about trust in an outdoor pursuit setting?
- How important is trust in an outdoor setting? Why?
- How can you earn trust in an outdoor pursuit setting?
- What causes trust to be lost?

## ASKING FOR HELP

- Did the blindfolded players ask their guides for help? What did you ask? How did you ask it? Were you heard? Did they help you? Could you have asked differently? Could you have asked more effectively?
- What stops people from asking for help in real-life situations?

### Sharing Concerns

- Did anyone not agree with the way the group decided to cross the mine field? How did you raise this concern? Was it heard?
- Blindfolded people, what concerns did you have during this activity? Did you raise them? Why or why not? How did you raise them? With whom? What happened? Was your concern alleviated?
- What stops people from raising concerns in the real world?
- What do you do when you have a concern? Have you ever not raised a concern? Why not?
- What is the potential cost to the success of a team in an outdoor pursuit by keeping concerns to one's self? What are the costs to you?

## Extra Compass Points

- Remember when communicating that the receiver may not hear something exactly how you intend. Take the extra few seconds to use your communication skills to ensure that your message has been clearly received. Communicate your concerns. Try not to make accusations.
- Don't be afraid to ask for help and on the flip side, be willing to provide help when others ask you. Everyone needs help with something from someone. If someone asks you for help in an outdoor pursuit or team event, imagine that they are

blindfolded and that you can help them remove the blindfold by being patient and explaining. Help them in a way that the next time, they can help themselves. That will save you lots of time down the road.

- Trust your team members and also be trustworthy. Earn people's trust by being reliable. Trust is a shortcut. If you trust someone, you can let them do their job. If people trust you, they won't look over your shoulder.
- Take the time to make a plan. A few minutes planning strategy saves you a lot more time in execution, where mistakes will need to be fixed.

## Observers' Sheet

Consider the following questions and take notes on this sheet while your teammates are crossing the mine field. You will be asked to share your insights with your team and the entire group at the end of the game.

1. Describe the planning session that the team had. Do you feel that they considered all options? Were they creative? Were all contributions heard?
2. What happened during the game? (Describe the highlights of what happened, remembering that not all of your team was able to watch at the same time.)
3. How well did the team work together?
4. What would have caused the team to work more effectively?
5. What was the communication flow like?
6. Did the blindfolded players ask for help? If so, how did they ask for help? Were they heard? Did they get the help that they needed? Was anyone stranded with a blindfold on? Did anyone tell them what was going on?
7. Did you get a sense that the blindfolded people trusted the guides? If yes, why did they trust them? If not, why not?
8. What behaviours or actions did you notice that you felt were quite effective?

## Terms

### CHALLENGE BY CHOICE

**Challenge by Choice** is a commonly used tool in adventure-based learning wherein the individuals who may not be ready to move out of their comfort zone may choose their own level of challenge or even decline the task at hand if they feel they are not ready physically, psychologically or emotionally. Supporting individual choice is part of developing trust in a group, and providing a choice promotes an atmosphere of self-control, promoting motivation that comes from within as opposed to peer pressure. However, **Challenge by Choice** is not permission to opt out of participation. If a group member chooses to wait until they are ready or declines a challenge, they must find a role to help in the success of the task so that they are still an equal contributor and a valued part of the team.

### FULL-VALUE CONTRACT

**Full-Value Contracts** are an effective way to elicit cooperation and accountability from all group members. The creation of a contract creates a framework of guidance for behaviours and attitudes on paper, allowing the group to be self-monitoring during the experiential challenges. The creation of a contract is facilitated by the teacher but developed by the members of the team. There are many forms of full-value contracts, but most are designed at the beginning of a program. The teacher writes on chart paper as the group provides input, then each member of the team signs the contract upon completion. A full-value contract usually involves three elements:

- All individuals agree to work together as a group toward a team goal, as well as individual goals. This means being responsible for yourself in the learning process while functioning as a team.
- All individuals agree to follow certain safety and group behaviour guidelines, creating a comfortable physical as well as psychological space for all to participate within.
- All individuals agree to give and receive feedback (both positive and negative) and to improve behaviours, if needed, to achieve the desired goal.

### TUCKMAN'S THEORY OF GROUP DEVELOPMENT

Tuckman's theory of group development is a commonly used model in a variety of team settings, to help understand the natural stages of development. He notes that groups develop through forming, storming, norming, and performing.

#### Forming

When a group first comes together, they will get to know each other by asking safe questions, "chit chatting" as they find their place in the group. There tends to be a polite and cheerful tone in the interactions and an eagerness to get to know one another. A group can remain in this "feel good" forming stage for quite some time.

#### Storming

Eventually a conflict will arise either toward a member of the team, a leader, or the progress toward the goal itself. This is an essential element to move the group dynamic forward, as differences will start to be carved out and frustrations will instigate team growth. This is a very valuable stage for problem solving and individuality to emerge.

**Norming**

From the storming stage, a norming dynamic will occur, allowing for team bonding to occur. This is the stage where we move from “me” to “we,” where participants are valued for their contributions and diversity and not how they conform. There will be a relaxed tone at this stage and in-jokes, teasing, and light heartedness will emerge.

**Performing**

This final stage is where the group will start to perform at its peak ability. Individual contributions and skills are recognized and task and maintenance roles are defined. This is the final stage for the team as they know it, having met their goal. They will then move into transforming, where they will decide to disperse or set new goals and continue to new heights. Any change in a group such as members leaving or being added, changing goals, and other barriers to success, will force the group back to the beginning stage of the development cycle.

# Appendix A.2: The Outdoor Environment Materials

## Seven Principles of Leave No Trace

1. Plan ahead and prepare.
2. Travel and camp on durable surfaces.
3. Dispose of waste properly.
4. Leave what you find.
5. Minimize campfire impacts.
6. Respect wildlife.
7. Be considerate of other visitors.

## Catholes and Latrines in the Wilderness

### Catholes

Catholes are the most popular and widely accepted form of waste disposal in the wilderness. It is important to follow “Leave No Trace” ethics in locating catholes—at least 70 adult steps (about 60 metres) from a water source, trail, or camp. Catholes are usually selected in inconspicuous, private areas where other people do not gather, hike, or set up tents. Using a small garden trowel, dig a hole 15–20 centimetres deep and 10–15 centimetres in diameter to create the cathole. Place the trowel beside the cathole so that users may toss soil or leaves into the cathole to cover contents with natural materials. If camping with a large group, or for more than one night, alternative cathole sites may be created, ensuring that they are widely dispersed to minimize the possibility of spreading disease and maximizing the rate of decomposition.

### Latrines

Latrines may be used for campers who have younger children with them or who are staying in one camp for longer than a few nights. To select a spot and construct a latrine, follow the same criteria for selecting a cathole. Since this higher concentration of feces will decompose slowly and your latrine may be for multi-day use, location is especially important. One of the major differences between a cathole and a latrine is the depth and diameter of the hole that is dug. Also, dead branches or logs may be used to create a makeshift seat to squat over. It is recommended to toss in a handful of soil after each use of the latrine to speed decomposition and diminish odour. It is helpful to secure a stick in the ground next to the latrine to hold a plastic bag for toilet paper and female hygiene products to be packed out. Hand sanitizer may also be made available near by.

## Toilet Paper

---

Toilet paper should be used sparingly in the wilderness. Use plain white, non-perfumed brands and dispose of it by placing it in a plastic bag to be packed out. Of course using “natural” toilet paper is always recommended and provides a fun challenge! (stones, leaves, snow, or moss).

## Mound Fires

In areas where firepits are not already made, it is inappropriate to create one, as campfires are the most common and obvious recreational impact in the wilderness. Building a mound fire is easier than you think! Mound fires can be built using that faithful old garden trowel, a large stuff sack, and a ground cloth. It is important to find mineral soil (which doesn't contain organic/flammable material) to minimize the possibility of underground fires. Mineral soil can be found in the hole left by a trees roots where it has blown over, or from a stream bed where coarse sand is available. Once your soil is located, you may use the garden trowel to dig and the stuff sack to carry the soil to the fire site. A tarp or ground cloth is laid on the fire site and the soil is spread on top of it. With this soil, create a circular flat topped mound about 15–20 centimetres thick to serve as a fire platform. This platform provides insulation for the surface underneath and prevents the ground cloth from melting. **Packing up a campfire:** After the fire is out, you may scatter the cold, leftover ashes and coals and return the mineral soil to its source.

## SOLO

A SOLO is a widely used term amongst earth education programs to explain a private location in the wilderness that a student will pick for journaling, reflection, or simply to allow quiet time to occur for themselves in the natural environment. It is suggested that teachers encourage at least a half hour SOLO during each new theme for student reflection. Students may be encouraged to incorporate this practice into everyday life, to enhance self-awareness and centring, as well as an appreciation for the natural world around them.

## Personal Ethics List

Rate the following impacts from 1–20.

20 being the least offensive or acceptable, 1 being the most offensive or unacceptable.

- loud campers at other sites
- dog dirt on a hiking trail
- plastic floating along the sides of a lake
- overturned picnic tables
- broccoli left at a remote campsite
- toilet paper stuffed under rocks near trail
- power bar wrappers on the top of a rock climbing trail
- hikers carrying out bags of shells from the beach
- low roots cut away for trail use
- people having campfires in no fire zones
- blown down logs cut away for trail use
- large groups in single tent dwellings
- ecotourism companies driving large groups in a van to wilderness sites
- rock hounders collecting gems in protected areas during low tide
- new trails diverging away from main path to avoid muddy areas
- people feeding bread to wildlife
- a private property sign prohibiting the use of trails
- an abundance of bear bells on large groups of hikers
- urine in the snow, visible from the main ski trail
- broken stems that once held colourful flowers



# Appendix A.3: Trip Planning Materials

## Trip Gear List

Decide upon the five most important items for your group:

- |  |   |
|--|---|
| <input type="checkbox"/> sleeping bag (-40 degrees)  | <input type="checkbox"/> therma rest                  |
| <input type="checkbox"/> a life jacket               | <input type="checkbox"/> toque                        |
| <input type="checkbox"/> a coleman, two-burner stove | <input type="checkbox"/> rubber boots                 |
| <input type="checkbox"/> whisper light camp stove    | <input type="checkbox"/> 2 cotton t-shirts            |
| <input type="checkbox"/> backpack                    | <input type="checkbox"/> first-aid kit                |
| <input type="checkbox"/> cooking pots                | <input type="checkbox"/> a waterproof jacket          |
| <input type="checkbox"/> sleeping bag (-10 degrees)  | <input type="checkbox"/> fishing line and a hook      |
| <input type="checkbox"/> jack-knife                  | <input type="checkbox"/> tarp                         |
| <input type="checkbox"/> eating utensils             | <input type="checkbox"/> tent                         |
| <input type="checkbox"/> a flare                     | <input type="checkbox"/> headlamp                     |
| <input type="checkbox"/> matches                     | <input type="checkbox"/> compass                      |
| <input type="checkbox"/> dry bags                    | <input type="checkbox"/> rope                         |
| <input type="checkbox"/> cell phone                  | <input type="checkbox"/> food                         |
| <input type="checkbox"/> jeans                       | <input type="checkbox"/> long-sleeved shirt and pants |

## Haddon Matrix

### Overnight hiking trip

Phases (across) Risk factor (down)	Pre-Event	Event	Post-Event
<b>Personal factors</b>	<ul style="list-style-type: none"> <li>• take a first-aid course</li> <li>• know your fitness level</li> <li>• fill out a trip plan</li> <li>• organize food and water</li> <li>• know roles and responsibilities of group members</li> <li>• put on sunscreen</li> <li>• tell someone where you are going</li> </ul>	<ul style="list-style-type: none"> <li>• be alert to surroundings</li> <li>• hike with a partner, stay together as a group</li> <li>• stay on the trails you wrote on your trip plan</li> <li>• don't overexert yourself</li> <li>• drink plenty of water</li> <li>• check on group's energy level</li> </ul>	<ul style="list-style-type: none"> <li>• in the case of discomfort or "hot spots" that may turn into blisters, reassess comfort level, rest and apply first aid if necessary.</li> <li>• in the case of fatigue, re-evaluate next day's plan with group</li> </ul>
<b>Equipment Factor</b>	<ul style="list-style-type: none"> <li>• practice carrying gear</li> <li>• make sure all equipment fits correctly and is in working order</li> <li>• know where the nearest first-aid kit is</li> </ul>	<ul style="list-style-type: none"> <li>• wear appropriate clothing for comfort</li> <li>• keep socks/shoes dry</li> <li>• cover from sun exposure</li> <li>• wear a hat if sunny</li> </ul>	<ul style="list-style-type: none"> <li>• keep clothes dry</li> <li>• take off boots when finished hiking and lack of ankle support is permissible</li> <li>• place gear in a safe place</li> <li>• keep food away from animals</li> </ul>
<b>Environmental Factors</b>	<ul style="list-style-type: none"> <li>• look at a map and learn about the trails</li> <li>• check the weather conditions</li> </ul>	<ul style="list-style-type: none"> <li>• stay on marked trails, avoid short cuts on rough terrain</li> <li>• keep checking if weather is still appropriate for hiking</li> <li>• set up camp before inclement weather</li> </ul>	<ul style="list-style-type: none"> <li>• make sure you pack out everything you brought</li> <li>• leave area clean and safe for others</li> <li>• report any dangers (broken glass, eroding cliffs)</li> </ul>

# Trip Plan Form

This form is to be filled out by each person prior to an outdoor pursuit.

Starting day of trip (dd/mm/yyyy): \_\_\_\_\_  
 Intended return (dd/mm/yyyy): \_\_\_\_\_  
 Purpose of trip: \_\_\_\_\_  
 The trip starting point (be specific): \_\_\_\_\_  
 Intended Route (be specific): \_\_\_\_\_  
 Destination: \_\_\_\_\_  
 Type of map used: \_\_\_\_\_  
 How familiar with this area are you? \_\_\_\_\_  
 Equipment taken: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 Last name: \_\_\_\_\_  
 First name: \_\_\_\_\_  
 Disability (Y/N): \_\_\_\_\_  
 Medical condition: \_\_\_\_\_  
 Prescribed medication: \_\_\_\_\_  
 Age: \_\_\_\_\_  
 Height: \_\_\_\_\_  
 Weight: \_\_\_\_\_  
 Hair and skin: \_\_\_\_\_  
 Glasses (Y/N): \_\_\_\_\_  
 Family doctor: \_\_\_\_\_  
 Hat colour: \_\_\_\_\_  
 Clothes description: \_\_\_\_\_  
 Footwear type: \_\_\_\_\_

**Personal preparedness (Yes/No, give details where appropriate)**  
 First-aid training: \_\_\_\_\_  
 Outdoor experience: \_\_\_\_\_  
 Map/compass training: \_\_\_\_\_  
 Survival training: \_\_\_\_\_  
 Knowledge of area: \_\_\_\_\_

**The following will be notified if I/we change our previously designated destination:**  
 Name: \_\_\_\_\_ Address: \_\_\_\_\_  
 Home phone: \_\_\_\_\_ Work phone: \_\_\_\_\_

**Please notify the police if we do not return by:**  
 Date (dd/mm/yyyy): \_\_\_\_\_ Time: \_\_\_\_\_  
 Print name: \_\_\_\_\_  
 Signature: \_\_\_\_\_ Date (dd/mm/yyyy): \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Total number of people in group: \_\_\_\_\_



# Appendix A.4: Skills Component

## Fire Building

Almost anyone can build a fire, but the trick is to keep it going.

The most common campfire structures are the teepee and the log cabin. To build any one of these fires, you need air, fuel, and ignition of some kind. For a campfire, the air element is easily accessible. The fuel is the wood, and the ignition can come from a spark of a match. To ignite a campfire and keep it going, you need a few different sized pieces of wood for the various stages. Tinder is the first material, which is a collection of very small wood stuff that is easiest to burn (like tiny twigs, leaves, or even dryer lint). The next sized pieces of wood are sticks and small logs. These will range in size from one-half inch to two inches in diameter and is called kindling. Anything larger than this is classified as the fuel. The fuel is best found in big logs that will burn for hours. When a fire is started it needs to be built like this: tinder first, then kindling, then fuel.

### The Teepee

The teepee style is probably the most common and easiest fire structure to build. This structure is named the teepee for its similarity to the common First Nations building structure, the "teepee." The way the logs are piled in a conical shape should resemble the native teepee. To make a teepee, begin by placing the intermediate sized wood or sticks in the ground in a circular shape about eight to twelve inches in diameter, leaning the tips of the sticks together in the centre. The sticks should already start to resemble a teepee shape. Continue layering the walls of the teepee with more sticks, but not too thick, because air needs to be able to pass through the walls. Leave a hole on one side large enough to place kindling inside the stick walls. This hole is also left to light the tinder and kindling from the inside and may be filled in once the fire is lit. Once this is completed, the structure should be a recognizable teepee or cone shape. The tinder and kindling should be lit on the underside inside the teepee walls through the hole that was left. Due to the ease of this structure, when the smaller sized twigs start to fall in and burn up, larger sized sticks can be placed on the outside in the same manner as before, maintaining the teepee shape, as well as the flame.

### Log Cabin

A log cabin campfire structure is just as easy to build as a teepee, but requires more accuracy in the way it is built in order for the fire to build as efficiently as possible. In the same way the teepee name resembled its shape, so does the log cabin. This structure is built by placing two sticks parallel to each other, and then another two on top parallel to each other as well, but perpendicular to the previously laid sticks

(if you were to look down at the structure from above, it would resemble a square). At this stage, place the small piece of tinder and kindling in the centre, and continue layering the sticks, sliding each layer gradually towards the centre. You will soon have produced a pyramid shape without a top. The end result will appear to be a miniature log cabin that grows narrower towards the top. When lighting this structure, the hole might have to be dug under one side if there is not enough clearance to light the kindling from the bottom side. After the log cabin is lit, sticks can be laid across the top like a roof, and then eventually the larger logs, known as fuel, may be laid on top to keep the fire burning.

## **Authentic Native Cree Bannock Bread**

Want a real taste of the Canadian North? Try this popular local recipe for authentic Native Cree bannock bread made with either currants or raisins!

First gather the following ingredients:

- 6 cups of flour
- 1 cup of lard
- 3 tablespoons of baking powder
- 1 tablespoon of salt
- 2 cups of currants or raisins
- 3 1/2 cups of water
- You'll also need a medium-sized mixing bowl or camp pot.

In the bowl or pot, mix the flour and lard together by hand. Then add the baking powder, salt and the currants or raisins. Once this is done, add the water and work the ingredients into a dough. Next, make a nice campfire. Divide the dough into four lumps and firmly wrap each lump around the end of a four foot stick and prop securely over the fire until golden brown.

*Enjoy this delicious treat!*

## Leader Evaluation Form for Skill Acquisition (example)

This is an example form to be used prior to an outdoor pursuit for student self-assessment during training, then used as a source for evaluation by instructor upon completion of an outdoor pursuit.

Student Name:			
Skills	Date	Instructor Initials	Comments
Stove operation			
Breakfast			
Dinner			
Baking			
Campsite selection			
Tarp pitching			
Tent pitching			
Lighting fire			
Trail technique			
Map interpretation			
Compass use			
Plant/bird identification			
Bowline			
Trucker's hitch			
Figure 8			
Food protection			
Camp sanitation			
Backpacking			
Teamwork			



# Appendix B.1: Motor Learning and Control

## Examples of Suggested Terms for Exercise Science module

It is recommended that students research terms and teach each other in presentation-style reports, with a personal example of their own experience or understanding of the term.

- Stages of human development
- Stages of learning
- Stages of skill acquisition
- Shaping versus chaining
- Feedback
- Automatic motor activity
- Controlled motor activity
- Principle of individual differences
- Open versus closed loop systems
- Speed/accuracy trade-off

## Stages of Human Development

1. Infancy/toddler (Zero to two years old)
2. Childhood (four to ten years old)
3. Puberty/adolescence (eleven to eighteen years old)
4. Adulthood (eighteen years and older)

## Stages of Learning

1. **Cognitive**—The initial level of understanding the basics of the task that is to be learned, while making errors in performance.
2. **Associative**—In this stage, the learner has some self-awareness of errors committed and will attempt to refine the task, using feedback from the cognitive stage to improve performance.
3. **Autonomous**—In this stage, the learner demonstrates a high level of self-awareness and performs the skill naturally.



# Appendix C.1: Components of Fitness

## Health and Skill-Related Components of Physical Fitness

### **Body composition**

A health-related component of fitness that determines the amounts of fat and lean body tissue (muscle, organs, bone) found in the body. A high percentage of body fat (obesity) is associated with increased risk of heart disease, type two diabetes, cancer, and other degenerative disorders.

### **Cardiovascular endurance**

A health-related component of physical fitness through which the heart, lungs, and blood vessels deliver oxygen to the exercising muscle in order to sufficiently meet the demands of the workload. Fun examples of how to build endurance of the cardiovascular system are step aerobics, clothespin tag and other tag games, wind sprints, circuit training, mountain biking, running relays, swimming, Dance Dance Revolution, in-line skating, water polo, kick boxing, rowing, cross-country skiing, soccer, football, and basketball.

### **Flexibility**

A health-related component of physical fitness in which an individual may move their joints through a full range of motion. Flexibility can be developed over time through practice. Examples of how to build flexibility are yoga, gymnastics, and stretching.

### **Muscular strength and endurance**

A health-related component of physical fitness in which an individual is able to contract a muscle numerous times without fatigue or hold a contraction for a lengthy period of time. Some examples of how to build muscular strength and endurance in a physical education class are wall climbing, calisthenics or power/astanga yoga, resistance training with weights, elastic bands, stability ball, rowing, gymnastics, BMX cycling or mountain biking, and circuit training.

### **Agility**

A skill-related component of physical fitness in which an individual can quickly change the position of the body and control the movement of the body. Agility is developed in most athletic activities, some more than others.

## **Balance**

---

A skill related component of physical fitness in which an individual can maintain an upright posture while standing still (static state) or moving (dynamic state). Examples of how to improve balance are low-level challenge course initiatives on ropes, balance beams, walking benches, skate boarding, snow boarding, yoga, stability ball, or skating.

## **Co-ordination**

---

A skill-related component of physical fitness in which an individual can use two or more body parts in unison and with ease. Co-ordination can be developed in most athletic activities, some more than others.

## **Reaction time**

---

A skill related component of physical fitness that demonstrates the amount of time it takes a body to move once the need to act is realized. Reaction time can be developed through activities that focus on the fast twitch muscles; being alert and familiar with a sport will assist the student. A fun way to train this component is through Ultimate Frisbee, touch football, or tag games.

## **Power**

---

A skill-related component of physical fitness that demonstrates the ability to use strength quickly.

## **Speed**

---

The ability to cover a distance in a short amount of time or perform a movement in little time. Speed is developed through practice.

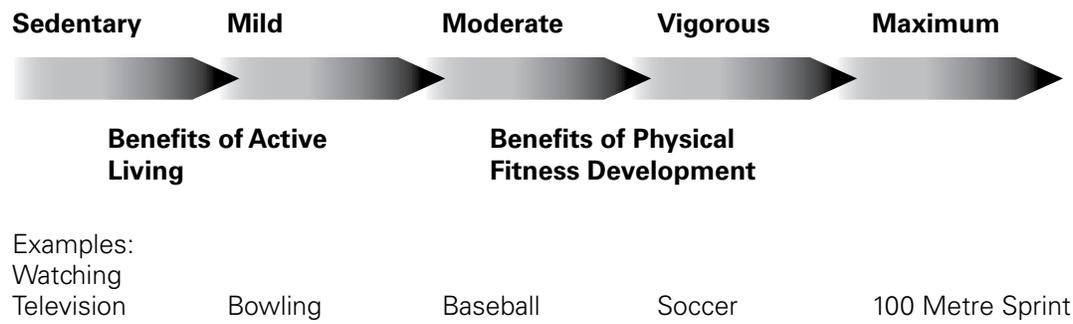




## Developing Skill Related Fitness Components

Skill Related Fitness Component	General Physical Activity	Sport Specific Activity
Agility		
Balance		
Co-ordination		
Power		
Reaction Time		
Speed		

## Activity Intensity Continuum



# Appendix C.2: Guidelines for Safe and Effective Training

---

## Definitions

### Warm-up

---

An exercise session should begin with 5–15 minutes of large body movements to physiologically and psychologically prepare the body to exercise. The general purpose of the warm-up is to gradually increase

- heart rate
- blood flow to the working muscles
- muscle temperature
- resting metabolic rate
- reaction time
- co-ordination.

Psychologically, the warm-up is to prepare the mind for the work-out session ahead, i.e., to get an individual in the mood to move!

### Conditioning Bout

---

Refers to the activity one is pursuing in order to increase a particular component of fitness. For example, if cardiovascular fitness is to be increased, the conditioning bout refers to any vigorous, continuous, rhythmic activity that can be maintained for 20–30+ minutes. If muscular strength and/or endurance is the component of physical fitness to be emphasized, the conditioning bout may refer to strength training.

### Cool down

---

An exercise session should end with 5–15 minutes of physical activity that gradually reduces the heart rate and blood pressure to resting values, i.e., a cool-down eases the body to a resting state. Since the body is very warm prior to the cool down, it is an excellent time to focus on increasing flexibility through stretching.

## Think Ahead Chart

Selected Activity and Conditions	Equipment and Clothing	Facilities or Environment	Other Safety or Risk Factors	Adaptations for Students with a Disability
Example: Running a 10 km race on a hot day	Running clothes, sunscreen, long shirt to cover up	Paved road and trails	Train for event in months leading to it Drink water at stations	For visually impaired runner, use buddy system
Cross-country skiing on a sunny, warm day				
Canoeing on a cold, rainy day				
Day hiking on a hot day in June				

## Think Ahead Chart

<b>Criteria</b>	<b>Exceptional</b>	<b>Satisfactory</b>	<b>Needs Improvement</b>
Content	reveals extensive knowledge of subject	reveals satisfactory knowledge of the subject	includes information not directly related to subject
Creativity	makes extensive use of pictures/ diagrams to enhance understanding of content	makes satisfactory use of pictures/ diagrams to enhance understanding of content	makes little attempt to use visual aids to enhance understanding of content
Presentation	is exceptionally interesting and informative	generally keeps audience's attention	does not hold audience's attention



# Appendix C.3: Principles of Training

## Principles of Training and Conditioning Terms

### **Ceiling**

A plateau or limit.

### **De-conditioning**

If an exercise program is discontinued, the increase in physical fitness will gradually be lost. Depending upon the specific parameter of physical fitness, gradual loss can begin to occur in as little as 24 to 48 hours.

### **Diminishing Return**

The moment when a well-trained athlete reaches small incremental performance gains through repeated training.

### **FITT Principle**

Each letter represents an important factor for determining the correct amount and choice of physical activity required.

- F= frequency, how often you need to exercise to maintain or enhance a particular component of physical fitness.
- I= intensity, how hard you need to exercise in order to maintain or enhance a particular component of physical fitness.
- T= time, how long you need to exercise at a certain level of intensity to maintain or enhance a particular component of physical fitness.
- T= type, the exercise(s) that you need to do for a certain length of time at a certain intensity to maintain or enhance a particular component of physical fitness.

### **Individual Variability**

The sensitivity that no two individuals will respond the same way to an exercise program or training regimen.

### **Maintenance**

Once the desired level of physical fitness is reached in a particular component of fitness, the frequency, intensity, and length of time exercising can be altered. Generally reducing training frequency while maintaining intensity and duration will keep fitness levels the same.

## **Overload**

Is the simple act of doing more physical activity than normal in order to improve fitness.

## **Pre-conditioning**

The initial 2–3 weeks of a fitness program in which the individual progresses slowly and with less intensity through each work-out session in order to prevent excessive muscle soreness and soft-tissue injury that may cause an individual to quit before results are noticeable.

## **Progressive Resistance Exercise (PRE)**

Is a muscle training technique where there is a gradual increase in the amount of resistance used as the muscle gains strength.

## **Progression**

In order to achieve maximum results while minimizing injury, the amount of intensity of physical activity must be increased gradually.

## **Recovery**

A sufficient amount of recovery time is needed to allow the body systems to adapt to the overload imposed. Depending upon the exercise and the system used, generally 24 to 48 hours of recovery time is needed.

## **Reversibility/Regularity**

The act of ceasing to train a muscle or muscle group with the result of losing the levels of strength that were achieved through training.

## **Specificity**

Is the act of performing specific types of exercises to target and improve specific muscles or specific parts of fitness.

## **Starting Point**

A starting place from which to develop a fitness program and assess results.

## **Stress/Rest**

Prevention of overtraining (avoid fatigue and/or injury).

## Match the term with the proper definition

1. Ceiling	_____ the sensitivity that no two individuals will respond the same way to an exercise program or training regimen
2. Diminishing Return	_____ Prevention of overtraining (avoid fatigue and/or injury)
3. FITT Principle	_____ a plateau or limit
4. Individual Variability	_____ a starting place from which to develop a fitness program and assess results
5. Maintenance	_____ is the simple act of doing more physical activity than normal in order to improve fitness
6. Overload	_____ the moment when a well trained athlete reaches small incremental performance gains through repeated training
7. Progressive Resistance Exercise	_____ Each letter represents an important factor for determining the correct amount and choice of physical activity required; F= frequency, I= intensity, T= time, and T=type
8. Progression	_____ reducing training frequency while maintaining intensity and duration in order to keep fitness levels the same
9. Reversibility/ Regularity	_____ in order to achieve maximum results while minimizing injury, the amount of intensity of physical activity must be increased gradually
10. Specificity	_____ is a muscle training technique where there is a gradual increase in the amount of resistance used as the muscle gains strength
11. Starting Point	_____ the act of ceasing to train a muscle or muscle group with the result of losing the levels of strength that were achieved through training
12. Stress/Rest	_____ is the act of performing specific types of exercises to target and improve specific muscles or specific parts of fitness
13. Recovery	_____ if an exercise program is discontinued, the increase in physical fitness will gradually be lost. Depending upon the specific parameter of physical fitness, gradual loss can occur in as little as 24–48 hours.
14. Pre-conditioning	_____ the initial 2–3 weeks of a fitness program in which the individual progresses slowly and with less intensity through each work out session in order to prevent excessive muscle soreness and soft-tissue injury.
15. De-conditioning	_____ 24–48 hours of rest to let the body adapt to overload imposed.



# Appendix C.4: Fitness Assessment and Goals

## Health Related Performance Tasks

1. **Cardiovascular fitness**—exercise tolerance tests, (i.e., tests that determine the efficiency of the heart and lungs in delivering nutrients to the working muscles are an effective way to measure cardiovascular fitness) For example 12 minute run, Cooper’s 1.5 mile run, 4.8 km walking test, step test, Leger test.
2. **Muscular strength**—is measured by the one-repetition maximum (1RM) test—the maximum amount of weight that can be lifted one time. The 1RM test is designed to test muscular strength in selected muscle groups.
3. **Muscular endurance**—is measured by tests of repeated muscular contractions. Two common tests are push-ups and curl-ups. Push-ups measure the muscular endurance of the shoulder, arm and chest muscles while curl ups primarily measure abdominal muscular endurance.
4. **Flexibility**—since flexibility is joint specific, there is no single test item to measure overall flexibility. The trunk and shoulder areas are most commonly evaluated using a sit and reach test and a shoulder flexibility test.
5. **Body Composition**—since body composition refers to the specific amounts of fat and lean body tissue, estimates should evaluate these tissues. It should be noted that the body mass index (BMI) simply involves a formula that only takes into consideration height and weight, thus it cannot provide an indication of body fatness. Body fatness can be indirectly assessed through field measures such as skinfold tests, waist circumference, and bioelectrical impedance. Careful consideration must be given to the techniques used, given the sensitivity of many individuals to the measurement of body fat.

## Skill Related Performance Tasks

### Skill Related Components and Tasks

Many of these assessments can measure more than one component of skill-related physical fitness.

1. Agility
  - Shuttle Run: Have students run from one side of the gym to the other and back again using side shuttle steps, in 50, 75 or 100 meter dashes.
  - King's Crown (use basketball key): Student will start at the front left side of the key and will run in a side shuffle across gym floor to the right (#1), then diagonally to back left corner of key (#2). Students run backwards to front left corner (#3). From there, students will run diagonally to back right corner of the key (#4). The next step is #5 in which they run backwards to front right corner, then repeat the first step of side shuffle across front of the key from right to left, to arrive back at the starting point.
2. Balance (timed)
  - Stork stand, left and right foot
  - Stand on a stick, holding heels up as long as possible
  - Balance beam walk
3. Co-ordination
  - Juggling (bean bags, tennis balls or Infinity Sticks)
  - Hackey Sack
  - Sepak Takraw
  - vertical or horizontal jumps
4. Power
  - Standing or Running Long Jump
  - kicking for distance
  - softball throw
5. Reaction Time
  - Metre Stick Drop and Catch: partner A holds the stick at one end with the lowest end of the measuring point down. Partner B holds hand at 0 cm. Partner A drops the stick. Partner B grabs the stick. Measure where the stick was grabbed.
6. Speed
  - Run/Sprint a designated distance (50 m, 75 m or 100 m)

## Personal Physical Fitness Goals

Short-term Goals:

Week

Physical activity:	How many days/week?	Health- and skills-related component targeted?
1.		
2.		
3.		

Reflections:

Long-term Goals:

Completion Date:

Physical activity/health and skills-related component targeted:	How many days/week?	Reflection after each week:
1.		
2.		
3.		



# Appendix D.1: Defining Leadership

## Full-Value Contract

Full-Value Contracts are an effective way to elicit cooperation and accountability from all group members. The creation of a contract creates a framework of guidance for behaviours and attitudes on paper, allowing the group to be self-monitoring during the experiential challenges. The creation of a contract is facilitated by the teacher but developed by the members of the team. There are many forms of full-value contracts, but most are designed at the beginning of a program. The teacher writes on chart paper as the group provides input, then each member of the team signs the contract upon completion. A full-value contract usually involves three elements:

- All individuals agree to work together as a group toward a team goal, as well as individual goals. This means being responsible for yourself in the learning process while functioning as a team.
- All individuals agree to follow certain safety and group behaviour guidelines, creating a comfortable physical as well as psychological space for all to participate within.
- All individuals agree to give and receive feedback (both positive and negative) and to improve behaviors, if needed, to achieve the desired goal.

## Portfolios

Portfolios may be introduced in the first module and used as an ongoing assessment tool. Other portfolio teaching and assessment activities may include creating visual cover or title page for a professional look, creating collages with images and words (from magazines or drawings) that students feel exemplify leadership, finding inspirational quotes from world leaders, sport leaders, or personal leaders, including a photo journal, contribute observations and theme related writings and other creative theme related ideas.

The LifeWork Portfolio may also be used to reflect upon and record leadership experience both in and outside the school environment.



# Appendix D.2: Communication

## Cooperative Games (Icebreakers/Energizers)

These activities can be used as warm-ups to each class, with a longer section designated in the introductory phase of the leadership module, and may serve as excellent opportunities for students to reflect on and practice their leadership skills. As the module continues, students will select and lead warm-up activities at the beginning of each class (at times they may be theme related) throughout the duration of the leadership module.

### Portrait

#### OBJECTIVE

A team captain will draw from a model drawing provided by the teacher (a simple house, or a happy face, etc.) and return to their team to communicate verbally what to draw. They will be instructed not to show their team and will do their best to describe the picture only with words.

#### INSTRUCTIONS

Instruct the students to position themselves into teams of three/four (dependent on your total group number). Once they are in teams, instruct them to choose a team captain (observe the strategies they use, and pause here if a “teachable moment” arises regarding leadership skills and group dynamics).

Once students are ready, ask the captain to approach the teacher with a pencil. Instruct each team captain to draw, as accurately as possible, a picture that is shown to them of a house with a sun in the top right corner and a bird flying overhead. Instruct the students to return to their group and narrate the scene as clearly as possible, without showing the team their drawing. The team members are not allowed to ask questions.

Encourage students to be as clear as possible in their verbal explanations. When each team has finished, captains will show their drawings to the team members to compare the accuracy.

#### OBSERVATION POINT

Did captains instruct their teams to draw a house or four lines/a square with a triangle on top? Many students will assume when they are and instructed to explain their drawing as clearly as possible but told not to show the drawing, that they must use words other than “house.” (This is an important point for the debrief in regards to clear communication).

Repeat the same activity a second time, with a different team captain and a different drawing. This time, as the drawing is described, the team members are permitted to ask yes/no questions to clarify communication.

### CLASS DEBRIEF

What challenges did you find with the first activity? How is the activity different the second time? Was it easier when team members were allowed to ask questions? What can you learn from this activity in regards to communication and leadership? Did the drawings reflect the level of effective/non-effective communication? List some challenges you would anticipate in communicating a physical activity? (higher safety risk, confusion on goals and roles etc.)

## Blindfold Soccer

### OBJECTIVE

Students will engage in a game of soccer while half of the team members are blindfolded. Their guides must direct partners toward the ball and goal posts, avoiding collisions and keeping safety concerns top priority.

### INSTRUCTIONS

Instruct students to find a partner, one will be blindfolded the other will be a guide. Safety criteria should be revisited at this point, and a plan for communication should be discussed by the pairs as to where the blindfolded person's comfort level is—just verbal guiding, or a hand on the elbow, etc., in order to ensure safety.

The students will engage in a regular game of soccer with two teams of blindfolded pairs, however the guides may not kick the ball. Their role is totally to guide their partner towards the ball and keep them safe at all times. At any given point the teacher may instruct the pairs to switch roles, guide becomes blindfolded and vice versa.

### DEBRIEF

Did you feel safe? What did your communicator do to create a feeling of safety? What could they have done to ensure your safety even more? Would you trust them in the future? Discuss the importance of trust in leadership.

## Trust Walks

### OBJECTIVE

To build a higher level of trust amongst the team members with their group leader as well as with their own ability to use senses other than sight.

### INSTRUCTIONS

In small groups, have one person be the guide while the rest will put on blindfolds. This activity builds on a higher degree of communication skills as the guide uses only verbal communication to direct the group. Discuss safety concerns before blindfolds

are put on. One student per group may be a “spotter” whose role is safety but does not speak unless absolutely necessary. This person will be able to give valuable feedback to the guide and group afterwards, having been a silent observer.

#### DEBRIEF

Discuss trust in leadership, self, and others.

## Tap Your Neighbour

#### OBJECTIVE

Two students will enter a defined zone blindfolded and rely on their team mates to locate a sponge baton to tap their opponent’s toes with. The first to achieve this goal wins.

#### INSTRUCTIONS

Using a rope or tape, define a rectangular space on the floor or ground. Students will divide into two teams, positioning themselves on opposite sides (long sides) of the rectangle. One volunteer from each team will be blindfolded and put inside the rectangle. The teacher will then place two sponge batons, or pool noodles at opposite ends of the rectangle identifying for the teams which one is for whom, so that the team members know where to guide their blindfolded volunteer. On the signal, blindfolded students will attempt to locate their batons, listening to their guiding team members. There will likely be chaos of shouting and confusion. Once they succeed in locating the baton, they must then find their opponent in the “ring” and tap their toe. The first to do this wins.

#### MINI- DEBRIEF

Ask blindfolded team members how it felt? Ask them if they have feedback for their teams to improve the communication for the next volunteer.

Continue playing with different volunteers, placing the baton in different locations every time. Instruct the students of new communication rules as they improve on the task; for example, they may only use farm animal noises.

## Orienteering/Scavenger Hunt

#### OBJECTIVE

To bond as a group.

#### INSTRUCTIONS

As students engage in this activity they will find mini-initiatives: puzzles pieces to put together, word scrambles, get-to-know-you questions, problem-solving questions, etc.

#### DEBRIEF

Do you value play as an important tool for creating improved trust or communication? How can this approach be used to create an effective team?

## **Collaborative Mini-Olympics**

---

### **OBJECTIVE**

To build on leadership skills and create positive team dynamics.

### **INSTRUCTIONS**

Have small groups prepare one activity/station that is cooperative/team building in nature. Invite all groups to go through the series of activities.

### **DEBRIEF**

Did you work well as a mini group? What are some of the challenges that accompany collaboration? What were some of the skills needed/used in order to reach the group goal? Was it an effective team challenge? Were team dynamics improved upon? What strategies were used to address conflict if there was any? Were problem-solving skills used? What did you learn from this activity?

# Appendix D.3: Skills in Action

## Servant Leadership/Service Learning

Servant Leadership is an idea that was first developed by Robert K. Greenleaf in 1970. There has been a great deal written about Greenleaf 's increasingly popular ideas over the years. Two collections of articles are: *Reflections on Leadership* (1995) and *Insights on Leadership* (1998), both edited by Larry Spears, John Wiley and Sons. Servant Leadership has become known as a practical philosophy which supports individuals who choose to lead by serving. Servant Leaders may or may not hold formal leadership positions. Servant leadership encourages collaboration, trust, foresight, listening, and the ethical use of power and empowerment.

Service Learning is purposeful learning through benefitting others as well as self. Throughout the Skills in Action module, teachers are recommended to ask probing questions that may inspire dialogue or observation. It is suggested to allot flexible time for any conclusions or reflections students may wish to record in their journals in regards to service learning and physically active lifestyles. For example Students may draw the connections to service leadership in physical activity as a contribution of time and effort more than skill—in the example of a parent who is always present at a sporting event, organizing and helping out. They may begin to notice that this type of service is not to contribute an advanced skills but is done simply out of the desire to be of service to others.

## Service Learning Project

As an introduction to service learning, have students identify as many ways possible that they have demonstrated self/personal leadership in physical activity. Encourage students to expand their thinking to include less obvious activities such as gardening, school dances, pottery/sculpting, cycling/hiking with a younger sibling, etc. From these activities, have students record the key leadership qualities they themselves demonstrated, for example patience, organization, and effective communication.

In small groups, have the students draw upon these qualities of leadership to plan and organize a school-based Service Learning Project. Students will brainstorm and record what it will take for their project to be successful in the preparation phase, the actual service phase itself and post-service phases of their project. This culminating task will serve as a major assessment component of the Leadership module and will demonstrate all the skills learned to date in the Physical Education Leadership Module.