



FOR YOUTH DEVELOPMENT®
FOR HEALTHY LIVING
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Physical Activity: CROSS-COUNTRY SKIING

While participants are enjoying cross-country skiing, they are getting lots of health benefits. The information in this packet details those benefits; from the muscles cross-country skiing develops the way it makes people feel.

This packet supplements what you will be doing during cross-country skiing. You do have to get participants to recognize that this activity is great for their physical and emotional health, but you can do that in the way that best works for your group and you. These materials offer lots of different ideas for incorporating the health components into your already fabulously planned session.

Read the Facilitator's Guide in order to understand Frost Valley's physical activity initiative, to effectively use the materials in your session, and for ways to encourage physical activity among your participants in and beyond Frost Valley.

This chart, also featured in the Facilitator's Guide, highlights each of the sections in this module. This can guide you in selecting what to focus on during the session.

Description	Gives a profile of cross-country skiing's health benefits
Type of Activity	Explains how cross-country skiing is aerobic and muscle-building
Where It Fits within the Recommended Amount of Physical Activity	Points out where cross-country skiing fits within the suggested recommended 60 minutes of daily exercise
Parts of Body Used	Names the parts of the body that cross-country skiing uses
Muscles Affected	Names the specific muscles that cross-country skiing builds
Health Benefits	Lists cross-country skiing's overall health benefits
How It Makes You Feel	Explains cross-country skiing's positive emotional benefits
Suggestions for Ways to Incorporate	<ul style="list-style-type: none">• Day 1: Offers suggestions for introducing cross-country skiing's health benefits during the first day of the session• Following Sessions: Gives lots of ideas for reinforcing participants' knowledge of cross-country skiing's benefits
Some Fun Ideas	Offers ideas for games and other activities that build participant awareness of cross-country skiing's health benefits
Interesting Facts	Generates interest in cross-country skiing
Evaluation	Provides a modifiable questionnaire about participants' views on cross-country skiing and whether they will continue doing it beyond Frost Valley

DESCRIPTION

It's not like downhill skiing, which takes you to the top of very high mountains and down steep slopes, but cross-country skiing will give you lots of enjoyment in the snow as you heighten your fitness level.

In cross-country skiing, you ski on lightweight equipment. Your heels aren't attached to the skis, so they lift up and down, a bit like when walking. Your body moves you, with two poles, one in each hand, to help you glide.¹ You generally ski on flat ground. Sometimes, you will ski on hillier terrain.

What's also great about cross-country skiing is that you can do it on snow-covered hiking trails or on trails designed for cross-country skiing (groomed trail skiing, usually in resorts or parks).

At Frost Valley, you will probably be doing ski touring, which is recreational cross-country skiing at a steady, smooth pace. But if you are feeling competitive, try skate skiing (in which you move just as if you are skating) for quicker skiing or for racing.

Cross-country skiing is an incredible aerobic activity that fine-tunes the cardiovascular system, strengthens muscles throughout the body, and builds endurance. If you cross-country ski for several weeks, you will discover that your heart has gotten stronger. This activity also builds muscles in the upper and lower body.

Cross-country skiing is a great activity for people of all ages and at all fitness levels, is easy to learn, and is FUN, especially because you get outdoors, into nature. And this great snow sport proves that you can stay warm when you exercise outside during the winter. (Your body generates a lot of heat during this rigorous exercise!)

TYPE OF ACTIVITY: AEROBIC AND MUSCLE-BUILDING

Cross-country skiing is a low-impact aerobic exercise, providing a terrific overall cardio workout. (It burns more calories per hour than any other sport.). Because cross-country skiing is low-impact, the risk of injury is minimal (far less than in downhill skiing).

WHERE IT FITS WITHIN THE RECOMMENDED AMOUNT OF PHYSICAL ACTIVITY

Because it is an aerobic activity, cross-country skiing can fulfill all or a portion of the 60-minute daily physical activity recommendation. It is also a muscle-building sport. Cross-country warm-ups and stretches can be incorporated into the daily physical activity schedule.

PARTS OF BODY USED	MUSCLES AFFECTED (See <i>Terms to Know</i> on page 16 of the Facilitator's Guide.)	HEALTH BENEFITS
<ul style="list-style-type: none"> • Upper arms • Legs • Calves • Hips • Back • Torso 	<ul style="list-style-type: none"> • Core muscles • Pecs (<i>Pectoralis</i>) • Lats (<i>Latissimus dorsi</i>) • Delts (<i>Deltoids</i>) • Quads (<i>Quadriceps</i>) • Gastrocnemius • Biceps • Triceps • Glutes (<i>Gluteals</i>) • Heart 	<ul style="list-style-type: none"> • Bolsters balance and coordination • Increases flexibility and agility • Bolsters the cardiovascular system • Improves posture • Improves joint health • Gives a full-body workout • Increases stamina

HOW IT MAKES YOU FEEL

- Makes you happy!
- Builds pride as you build your cross-country skiing skills
- Heightens persistence
- Makes you happy to be outdoors, in the snow, and in natural surroundings
- Keeps you warm even when it's cold outside!

SUGGESTIONS FOR WAYS TO INCORPORATE

DAY 1

1. When introducing cross-country skiing, begin by asking participants:

- Who has done some cross-country skiing? What's it like?
- What other sports is cross-country skiing similar to?
- Where and when do you do cross-country skiing?
- Is cross-country skiing good exercise? Explain why or why not.
- What parts of the body do you think get the most benefit from cross-country skiing?
- How does cross-country skiing make you feel?

2. Point out that cross-country skiing is a great physical activity and that it makes you feel good in many ways. Build on what participants know about its benefits. Share other benefits with the group.

3. As you model technique and/or as participants practice, have them identify the parts of the body and the muscles that cross-country skiing affects. Explore with them what other physical activities affect the same parts of the body and the same muscles, and whether a combination of these activities builds the athletic fitness necessary for mountain boarding.

FOLLOWING SESSIONS

1. Have participants do different cross-country skiing stretches/mobility warm-ups. Participants can incorporate these exercises into their 60 minutes of daily physical activity. See Warm-ups/Stretches, below.

2. After each session, encourage participants to participate in cross-training activities that contribute to skills and fitness. See Stay in Shape, below, for some general ideas (these may not be relevant if people are not cross-country skiing regularly, but participants might want to try their hand at some of these activities while they are skiing at Frost Valley.)

3. During the next session, have participants share what they did in the previous session. Ask questions like:

- What activity did you do? How long did you do it?
- With cross-country skiing and your other physical activities, do you think you did your 60 minutes' worth of daily exercise?
- How do you think this exercise/these exercises will help you improve your cross-country skiing skills?

4. Invite participants to keep track of what they feel and experience as they cross-country ski. What do they see as they glide along? How does the natural environment make them feel? How do they feel physically?

SOME FUN IDEAS

1. Encourage participants to try a new activity at camp and to compare it with cross-country skiing.

2. One way to measure the amount of daily physical activity is by counting the number of steps taken in a day.

Typically, there are 2,000 steps per mile; (about 30 minutes of continuous activity). Participants can calculate the equivalent number of steps they have taken while cross-country skiing. Here is a comparison of steps versus minutes for cross-country skiing, at different intensity levels:

- | | |
|-----------------------------------|----------------------|
| • Cross-country skiing — light | 227 steps per minute |
| • Cross-country skiing — moderate | 242 steps per minute |
| • Cross-country skiing — vigorous | 273 steps per minute |

There are recommended guidelines for the number of steps that make up moderate to physical activity and can fulfill the recommended 60 minutes of daily activity. For young people, 9,000 steps is the magic number.

Participants can chart the number of steps they have taken in a day, including swimming, general walking (using a pedometer), and other activities. Post the Step Conversion table on page 12 of the Facilitator's Guide for participants to see, and/or distribute it so they can refer to it at the end of each day. Have participants share their step rates, looking at increased activity, the effect on their bodies, etc.

3. A variation on step-based measurement of physical activity: 2,000 steps equals one mile; 10,000 steps can be considered 5 miles. Post the Mileage Conversion Chart on pages 13-15 of the Facilitator's Guide for participants to see, and/or distribute it for them to refer to at the end of each day. Have participants share how many steps they took/miles they covered.

CROSS-COUNTRY SKIING: INTERESTING FACTS

The Vikings were the world's first cross-country skiers. There is evidence that the Scandinavian warriors used skis for transportation, especially while hunting.ⁱⁱ

In the Olympics, two men's events were included at the first Winter Games, in 1924, in recognition of the increasing popularity of cross-country-only competitions. The first women's cross-country event, however, was not added until the 1952 Games, in Oslo, Norway.ⁱⁱⁱ

Records show that each year, 2.4 million cross-country skiers take to the snow; 16% of those cross-country skiers are children ages seven-seventeen.^{iv}

Cross-country skiing is believed to be about 22,000 years old! There is evidence of this in a cave drawing in central France that the Paleolithic Cro-Magnon man hunted reindeer on snowshoes and skis.^v

EVALUATION

1. How FUN would you say cross-country skiing is? Choose the number that shows what you think.

3 = A lot of fun **2** = Pretty fun **1** = A little fun **0** = No fun

2. How HEALTHY would you say cross-country skiing is? Choose the number that shows what you think.

3 = Very healthy **2** = Pretty healthy **1** = A little healthy **0** = Not healthy

3. Which parts of your body would you say got the best workout from cross-country skiing?

- Legs
 - Hips
 - Calves
 - Arms
 - Feet
 - Ankles
 - Heart
 - Whole body
-

4. How often might you cross-country ski again at Frost Valley? Choose the number that shows what you think.

3 = Very often **2** = Pretty often **1** = Rarely **0** = Never

5. How often might you cross-country ski again after leaving Frost Valley? Choose the number that shows what you think.

3 = Often (everyday) **2** = Sometimes (once a week) **1** = Not very often (once a month) **0** = Hardly ever (once a year)

WARM-UPS/STRETCHES^{vi}

These exercises are done while standing. Note that if you are a runner/jogger, these are the same warm-ups/stretchers you would use.

- **Ankle Roll** With the heel up off the floor, roll around the right foot and then the left to move the ankle joint. Do this for five-ten seconds with each foot.
- **Hip Swing** Place the hands on the hips; then roll the hips to the left and then to the right. Do it five-ten times, holding the stretch for five-ten seconds each time.
- **Spinal Twist** Stretch from the stomach, twisting the spine left and then right to loosen it. Do it five-ten times, holding the stretch for five-ten seconds each time.
- **Side Bend** With hips level and each hand resting on the respective side of the body, reach down along one leg with the same-side arm to the side of the knee, bending to the side. Do this five times on each side, holding the stretch five-ten seconds each time.
- **Shoulder Roll** With each arm resting on the respective side of the body, roll the shoulders forward for ten seconds and then back for ten seconds.
- **Neck Circle** Starting with the chin on the chest, roll the head toward one shoulder, then toward the back, then toward the other shoulder. Do these circles five-ten times.
- **Sun Salute** Touch the toes on both feet for five-ten seconds. Slowly roll up the spine, keeping the chin on the chest. Then straighten the spine, slowly lifting the head while bringing the arms out to the sides, palms up, pulling the shoulders back and then finally reaching up over the head and lengthening the spine and legs. Do the stretch five-ten times.
- **Push-up** Do twenty-five standard push-ups or modified push-ups on the knees.
- **Plank** Do a front plank, then a side plank right, and then a side plank left. Hold each plank for ten-twenty seconds.
- **Lateral Leg Swing** Stand on one leg. Swing the other leg out to the side. Let it swing back in front of the standing leg. Do ten-fifteen repetitions of this movement on each side.

CROSS-COUNTRY SKIING GAMES^{vii}

These are designed for children, but can certainly be adapted for older youth and adults.

- Have participants race to a certain spot. When the instructor blows the whistle, participants must stop on the count of three. If they don't stop in time, they must move back ten ski lengths.
- The instructor ties lots of balloons to a long string and attaches it to his or her waist, then weaves across the snow while the participants chase him and try to break the balloons by stomping on them with their skis.
- Have each participant take one ski off and race on the remaining ski, as if riding a scooter.
- Do the cha-cha: 1-2, 1-2-3, gliding on the three. Do it as a group. Do it going uphill and downhill, or in any other way.
- On the flats, have participants put their skis in the A (wedge) position and use their poles to push. Have them go right, then left, then straight. Do the same with a "train" of participants—the skis of one person placed inside the wedge formed by the skis of the person in front of him or her.

STAY IN SHAPE^{viii}

These are suggestions for people who regularly cross-country ski or, who have once tried it at Frost Valley, decide they would like to do it more frequently. Participants can sample a few of the activities if they want to learn how to do them correctly.

Build Muscle If using weights to build biceps, triceps, and quadriceps, use lighter weights for the first six weeks for three sets of eight repetitions for all body parts, and spend more time working on “weak” spots. For the next six to twelve weeks, switch to heavier weights with fewer repetitions to focus on strength building.

Increase Flexibility Increase your flexibility during all four seasons, paying special attention to your lower back, shoulders, hips, and legs. Do slow, static stretching for five-fifteen minutes after each training session. At least once every two weeks, participate in a yoga or Pilates class to add dynamic stretching to your training program. These movement classes enhance balance.

Increase Aerobic Endurance Start cross-country ski training with one month of no more than 30 minutes per day, three to four times a week, at low intensity. Cross-train in activities such as hiking, walking, running, cycling, and swimming. The remainder of your aerobic endurance training should progressively build until you are training 45 minutes to two hours, five times a week. To make sure you are building your aerobic capacity, keep the intensity low.

Increase Anaerobic Endurance Do not include any anaerobic conditioning until you are approximately twelve weeks out from the start of your ski season. Then add anaerobic exercises such as hill sprints and intervals twice a week. Train at high intensity and with short rest periods. Increase your workload by increasing the number of sprints or intervals you complete in a training session. Do not add more anaerobic training days, as these exercises tax the body, and you will need to ensure adequate recovery time between sessions.

ENDNOTES

ⁱLambert, Thomas. "Difference Between Downhill and Cross-Country Skiing and Alpine and Nordic Skiing" [Internet - WWW, URL] <http://ezinearticles.com/?Difference-Between-Downhill-and-Cross-Country-Skiing-and-Alpine-and-Nordic-Skiing&id=3094438>, 15 October 2009.

ⁱⁱGettings, John and Christine Frantz. "Winter Olympics: Cross-Country Skiing" [Internet - WWW, URL] <http://www.infoplease.com/spot/winter-olympics-cross-country-ski.html>.

ⁱⁱⁱ*Ibid.*

^{iv}Snowlink. "Cross Country Skiing Health and Fitness" [Internet - WWW, URL] <http://www.wintertrails.org/winterfeelsgood/snowsportsinfo/crosscountryskiing/crosscountryskifacts.aspx>.

^v Rebecca. "5 Things You Never Knew about Nordic Skiing" [Internet - WWW, URL] <http://www.justtrails.com/winter-trails/xc-ski-series/5-things-you-never-knew-about-nordic-skiing/>, 27 November 2012.

^{vi} XC Ski Academy. "17 Mobility Warm-Up Moves before Cross-Country Skiing" [Internet - WWW, URL] <http://www.xcskiacademy.com/blog/cross-country-skiing-warm-up>, 10 December 2013.

^{vii}Hindman, Steve. "Excerpts from Cross Country Skiing How-to Guide" [Internet - WWW, URL] http://www.crosscountryskier.com/pdf/hindman_book.

^{viii}Kaltmann, Jack. "How to Get in Shape for Cross-Country Skiing" [Internet - WWW, URL] <http://healthyliving.azcentral.com/shape-crosscountry-skiing-4128.html>.