April 4, 2017

Competition-Coaching Introduction L2T

Step 6:

Designing your own Sport Program

Reference Material
for Dryland Workshop

April 4, 2017

National Coaching Certification Program

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This section on Designing Your Own Sport Program complements the information provided in section 5 of both the Introduction to Community Coaching Reference Material and the Community Coaching Reference Material, and is directed primarily at supporting you in your role as a coach working with children in the Learning to Train stage of development.

6.1 Designing a Program for Athletes in the Learning to Train (L2T) Stage of Development

A sport program is a planned progression of activities for the purpose of fostering athletic development over time. When designing a program, the nature, number, frequency, duration and content of these activities need to be adapted to the athletes' stage of development, skill level and sport experience in order to create an optimal learning situation. The objective of this section is to teach you how to design a basic sport program that addresses these considerations and meets the needs of the athletes with whom you are working.

6.1.1 Track Attack Program

The Track Attack program is designed to promote the continued physical development of children within a cross-country skiing context. It recognizes that the Learning to Train stage of development (eight to 12 years) is one of the most important periods of motor development, and it is intended to both encourage enjoyment of the sport of cross-country skiing and enhance competence in the basic skills required to excel in it.

To encourage the participant and to recognize progress, Track Attack "Targets" have been established. The Track Attack incentives, include a buff and 18 all weather sticker that can be applied to ski equipment or other smooth surfaces.

The Track Attack Targets represent six categories of activity, all of which relate to the aim and objectives of the program. Within each category, there are two to three targets/stickers available. The categories include classic technique, skate technique, dryland skill, skill development, the complete skier awards, and distance awards. All of the information on the awards can be found here and the skill development program can be found here.

6.1.2 Athlete Information Chart

Record essential information about your athletes in the form below.

Gender composition (check one)	All Female	( )	
	All Male	( )	
	Co-ed	( )	
Number of athletes in the L2T stage of development		Male	Female
	Children: 8 years of age	_____.	_____.
	Children: 9 years of age	_____.	_____.
	Children: 10 years of age	_____.	_____.
	Children: 11 years of age	_____.	_____.
	Children: 12 years of age	_____.	_____.
	Total	_____.	_____.
Within this stage of development, there are important differences	Height and weight	Yes ( )	No ( )
	Skill level	Yes ( )	No ( )
	Level of experience	Yes ( )	No ( )
Average number of years of training and competition in cross-country skiing, including the present year		_____	

Use this information to assist you in completing the exercises that follow.

6.1.3 Orientation Chart

Check the ONE statement in each of the four categories below that best describes your program's orientation:

General	Skill Development
Have athletes experience new activities.	Promote the acquisition of basic ski technique skills.
Improve athletes' general abilities and their mastery of the activity.	Improve basic ski technique skills already acquired.
Identify athletes with the potential to perform at a higher level.	Encourage the acquisition of new ski technique skills that are complex or more advanced.
Have athletes specialize in long versus short distance events.	Improve format-specific tactical preparation (individual sprint, team sprint, mass start, etc.).
Physical Conditioning	**Performance**
( ) Improve athletes' general fitness.	Give athletes the opportunity to gain experience by taking part in competitions.
( ) Improve athletes' sport-specific physical condition.	Encourage the achievement of particular standards of performance.
Prepare athletes to achieve particular levels of performance in cross-country ski physical tests.	Participate in competitions to win; win a championship.

6.1.4 What Special Activities/Competitions Are There in Your Program?

To complete this section, pull out (1) the working copy of the Planning Calendar Worksheet (section 6.1.5) in the Reference Material, (2) the current and following year calendar that your Facilitator handed out, and, if available, (3) a handout of a current Special Activities/Competition Schedule for your region.

❑ Using the information from sections 6.1.5 a. and 6.1.5 f. in your Coach Workbook on the start and end dates for your program, fill in the top two lines of the Planning Calendar Worksheet:

✓ First, write down the month when your program starts.
✓ Then, using the current calendar, write down the date of the Monday in the first week of your program.
✓ Then, using calendars from both the current and following years, write down the dates of all the Mondays in your program and indicate when the month changes.

❏ Your Planning Calendar Worksheet should now look similar to this example:

Figure 6.1 - Planning Calendar Months/Dates

Month	September		October				November						December				
Day = Monday			17	24	1	8	15	22	29	5	12	19	26	3	10	17	24

❏ Now indicate the most important special activities/competitions planned for your program this season by shading in the appropriate boxes. These will include the Track Attack targets (Midget Championships, Backcountry Adventure, etc.) you identified under "Year One" in Step 6.1.2 in your Coach Workbook.

❏ Next list the other special activities/competitions (treasure hunt, club moonlit ski, etc.) you have planned, but have not yet noted on the chart. For more ideas about possible activities refer to Table 3.1.2 (Special Activities/Competitions Chart) in this Reference Material.

❏ If an activity occurs several times, it should be allocated a row of its own on the chart. If an activity occurs only once it should be identified by placing an "X" in the "Other" row. A notation to describe it can go below the chart or be entered using a code as described below.

❏ You are now ready to complete the chart:

✓ Start by selecting a row corresponding to one type of activity/event.

✓ Then put an X in every week for which this type of activity/event is scheduled. If necessary, indicate the number of events of this type during the week (e.g. "X2" for two events).

✓ Circle the most important activities, ones that require lead up preparation such as an important competition.

✓ For the type of activity/event in the "Others" row, create your own codes to identify them, e.g. "FR" for fund-raiser or "CP" for Christmas Party.

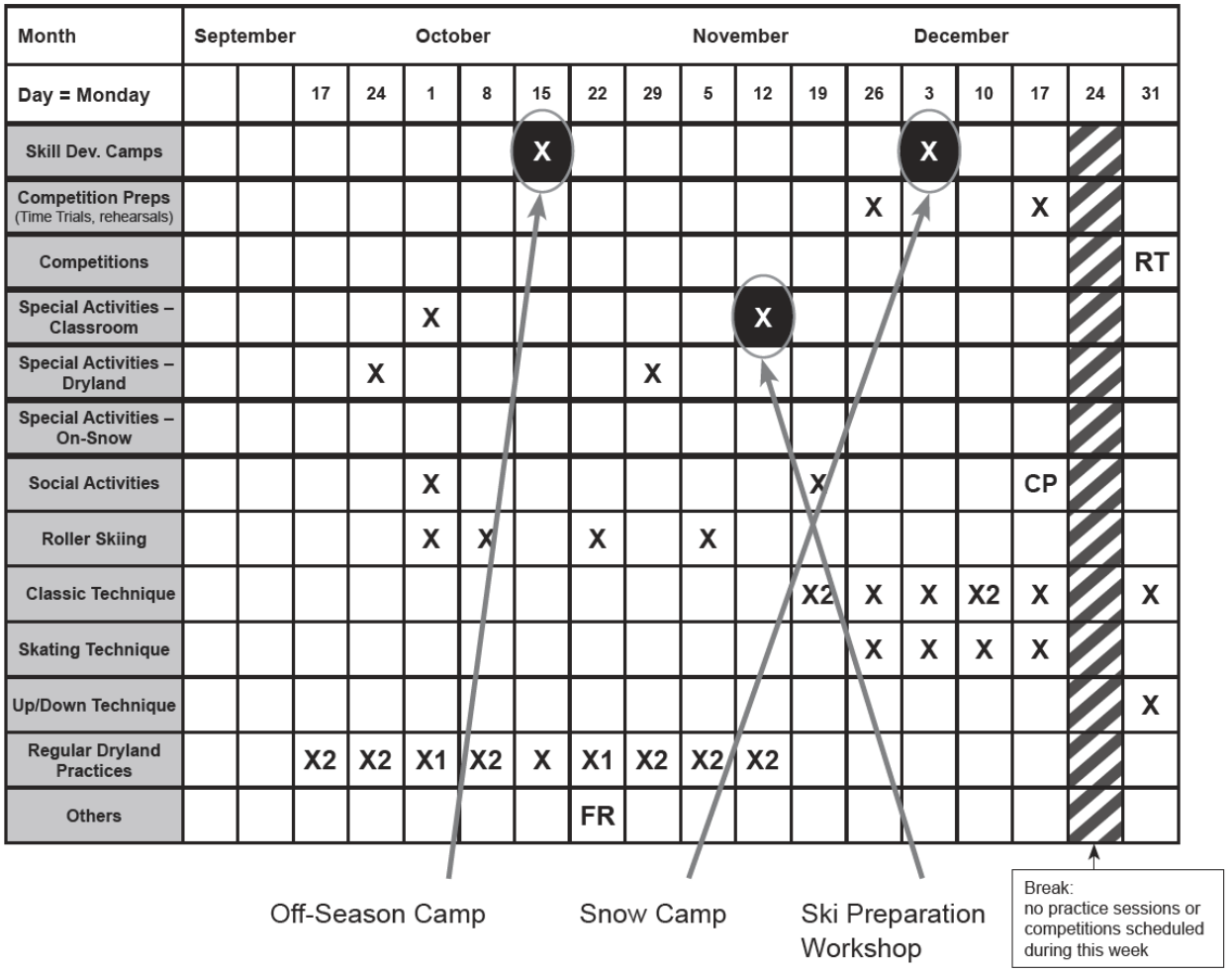
✓ If necessary, identify weeks when there are program breaks or interruptions.

✓ Keep in mind that a skill development camp for athletes at this stage of development will usually involve one or two overnights.

✓ Repeat this step for every type of activity/event.

❑ The first months of your Planning Calendar Worksheet should now look something like this:

Figure 6.2 - Planning Calendar Activities/Events



FR = Fundraiser **CP** = Christmas Party **RT** = Regional Trials for Provincial/Arctic Winter Games

What Are the Major Phases in Your Program?

Keep in mind that at this stage your program should be designed to promote a wide range of cross-country ski activities that encourage the enjoyment of the sport and enhance competence in the basic skills required to excel in it.

❑ For athletes in the L2T stage of development, your program is divided into these three phases:

- ✓ Dryland Phase: The number of weeks between the first regular practice session in September and the first practice session on snow.
- ✓ On-Snow Phase: The number of weeks between the first regular practice session on snow and the last practice or activity/event of the season in which the athletes will take part.
- ✓ Transition Phase: The number of weeks between the last practice session or activity/ event the athletes will take part in (the last supervised contact you will have with them)

and the start up of your program the following season.

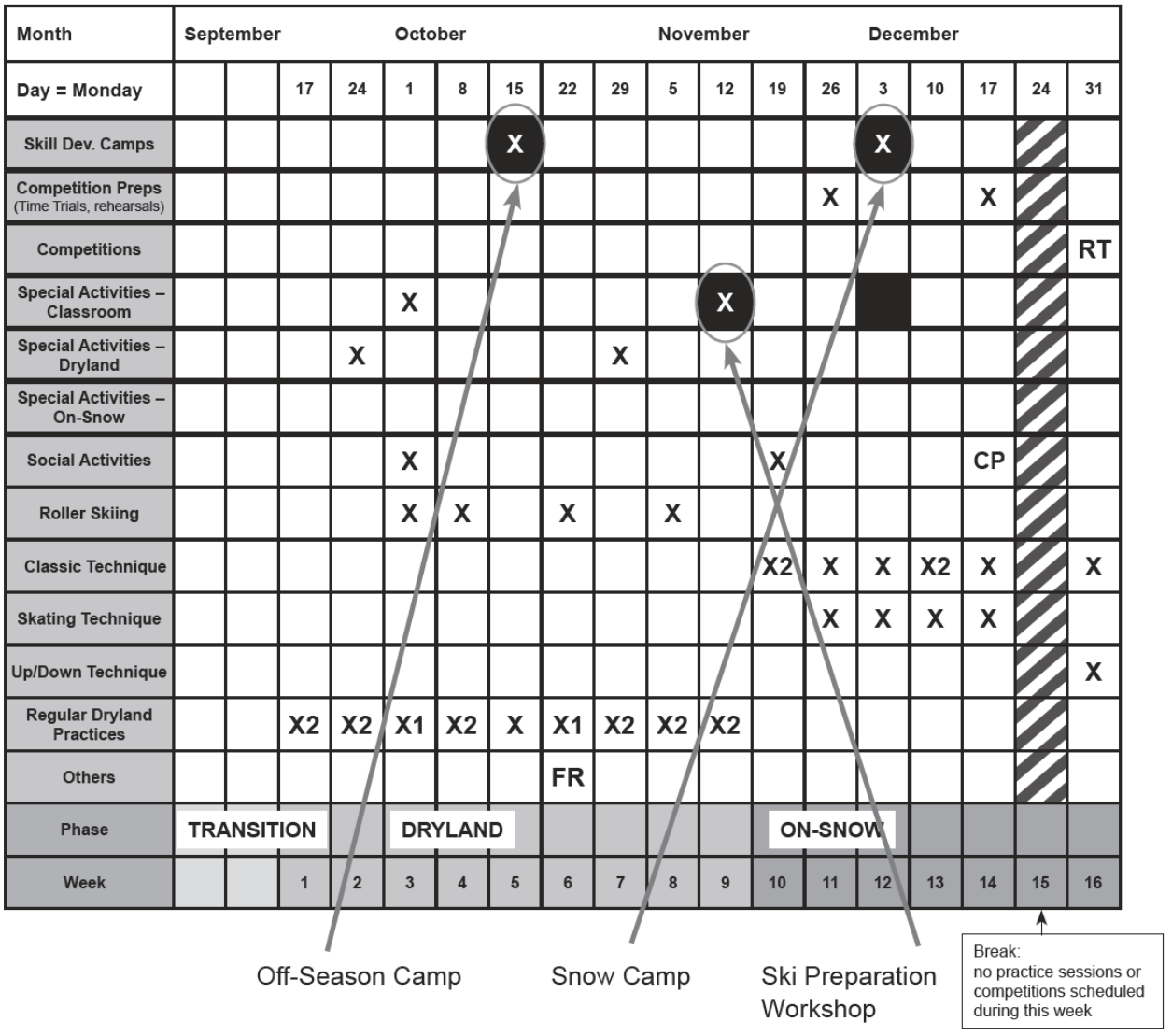
❑ To mark these phases on your planning calendar:

✓ Use the two rows at the bottom of the calendar labelled **Phase** and **Week**.

✓ Block out each phase and write the name of the applicable phase in the first row.

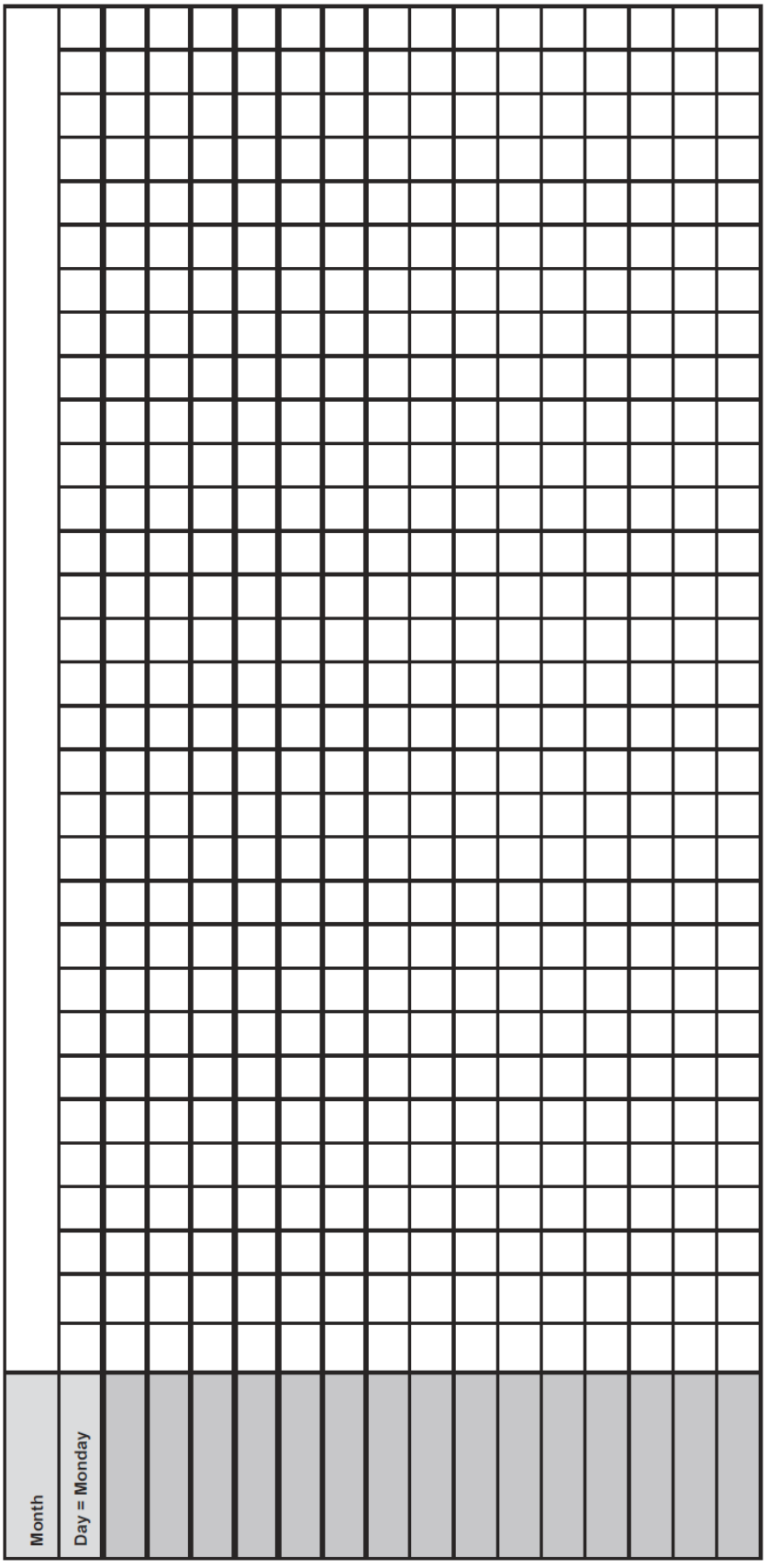
❑ Your Planning Calendar Worksheet should now look something like this:

Figure 6.3 - Planning Calendar Phases/Weeks

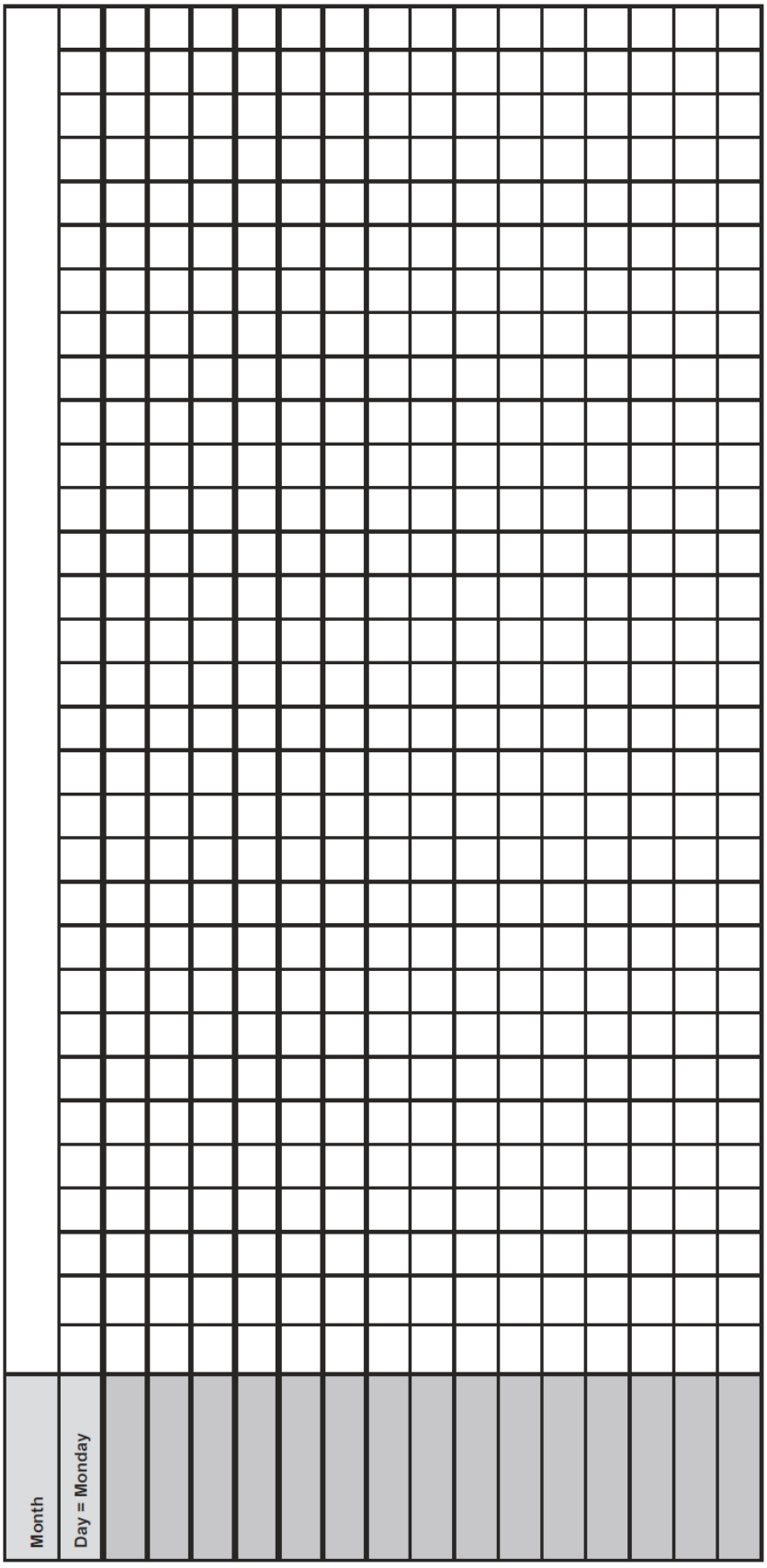


FR = Fundraiser **CP** = Christmas Party **RT** = Regional Trials for Provincial/Arctic Winter Games

6.1.5 Planning Calendar Worksheet (Sample)



Planning Calendar Worksheet (Copy)



6.1.6 Competition Calendar Planning

Optimal competition calendar planning at all stages is critical to athlete development. At certain stages, development of physical capacities takes precedence over competition and at other stages the ability to compete becomes the focus. Competition schedules should therefore be selected by the coach and athlete based on the athlete's developmental needs.

Successful long-term athlete development must incorporate a system of training and competition that is optimized for the abilities of athletes during the various developmental stages. The following factors should be considered when planning:

- ❏ At the Learning to Train and Training to Train stages, an insufficient number of competitions (training to competition ratio) will result in a lack of sport skills to build on in later stages.
- ❏ Optimal training to competition ratios are required for all stages of LTAD except Active Start.
- ❏ The level and length of the competitive season should be aligned with the changing needs of the developing athlete progressing through LTAD.
- ❏ At all stages (except Active Start), the appropriate level of competition is critical to the technical, tactical and mental development of the athlete.
- ❏ The "competition" and/or evaluation needs of athletes may not be met by using a simplified version of a "senior" competition format.

Figure 6.4 Competitor Pathway for Junior Cross-Country Skiers

6.2 Analyzing Your Program

By analyzing the key indicators this section will help you determine how well your program can meet its objectives.

6.2.1 Number of Special Activity Days (including competition days)

Using the chart below, calculate the number of special activity days (camps, backwoods ski trips, competitions, etc) in your program. Count both introductory competitions (e.g. ski tournaments, time trials, etc.) and more formal competitions (e.g. a provincially-sanctioned regional cup race in a neighbouring community). Ideally for the L2T stage of development this will be between 8-20 total events.

Identify the Number of Weeks in Your Program When There Are Special Activities/Competitions With:			**Partial Total**
1 day		**x 1**	**=**
2 days		**x 2**	**=**
3 days		**x 3**	**=**
4 days - Not usually applicable at this stage		***x 4***	**=**
5 days - Not usually applicable at this stage		***x 5***	**=**
A: Number of special activity/competition days in your program (add all the numbers in the column Partial Total):			**A =**

6.2.2 Number of Practice Days

Calculate the number of practice days in your program.

Period	**Length (Weeks)**	**Avg. # Practice Days/wk**	**Partial Total**
Dryland Phase	**x**		**=**
On-Snow Phase	**x**		**=**
Transition	**x**	Not applicable	**=**
B: Approximate number of practice days in your program (add all the numbers in the column Partial Total):			**B =**

6.2.3 Analysis

For each statement in the column “Key Element in Your Program” in the chart on the next page, circle the entry in the column (A, B, or C) that best corresponds to the data for your program. For example, if your program is 26 weeks long, circle the Row 1 entry “20 and 30” in Column B. Use the information in sections 6.2.1 and 6.2.2 to help you do this analysis.

#	Key Element in Your Program	Column A	Column B (Ideal for L2T)	Column C
		If your number is less than	If your number is between	If your number is more than
1	Length of your program in weeks	15	20 and 30	35
2	Length of the Dryland Phase in weeks	6	7 and 14	15
3	Length of the On-Snow Phase in weeks	9	10 and 16	20
4	Length of the Transition Phase in weeks	20	20 and 30	30
5	Number of special activity or competition days	8	8 and 20	20
6	Average length of a practice session in the Dryland Phase	60 minutes	60 and 120 minutes	120 minutes (2 hours)
7	Average number of practice days per week in the Dryland Phase	2	2 and 3	4
8	Average length of a practice session in the On-Snow Phase	60 minutes	60 and 120 minutes	120 minutes (2 hours)
9	Average number of practice days per week in the On-Snow Phase	2	2 and 3	4
10	Percentage of program devoted to special activities, including competition	10%	20-35%	40%
11	Percentage of program devoted to practice sessions	70%	70-85%	85%

❑ To calculate the percentages:

- ✓ Total number of program days = total number of competition days (A) plus total number of practice days (B).
- ✓ Percentage of training program devoted to special activities or competition = number of special activity or competition days divided by total number of program days, expressed as a percentage.
- ✓ Percentage of training program devoted to practices = number of practice days divided by total number of program days, expressed as a percentage.

6.3 Athletic Abilities: Growth and Development Considerations

The table on the following page presents information on when to emphasize and when to avoid training certain athletic abilities.

These guidelines represent the opinion of experts in the fields of growth, development and training; as such, they apply to most sports. At the same chronological age (e.g. 12 years of age) there can be significant differences in physical maturity. For example it would not be unusual for some athletes to be ahead of or behind the general training guidelines for their age by two or more years. In other words there could potentially be as much as four years difference in the training guidelines for any two 12 year old children in the group with which you are working.

6.3.1 Guidelines for the Training of Athletic Abilities by Athletes' Developmental Age

The chart on the following page provides guidance on how to adapt training to account for potential differences in developmental age.

Legend

■ = Avoid	↑ = high priority, develop
▒ = Window of optimal trainability	→ = medium priority, maintain
□ = Introduce with moderation	↓ = low priority, maintain

Definitions

1. **Core strength -** refers to strengthening the muscles at the "core" of the body, the trunk versus the limbs. Typically, core strength will focus on abdominal and back muscles.
2. **General strength -** refers to a series of 10 to 20 repetitions performed at sub maximal intensity using exercises that involve large muscle groups. The most common purpose of general strength is to learn proper strength training technique and prepare the muscles and tendons to undergo a more specific phase of strength training. General strength is also used for hypertrophy (gain of muscle mass) and for strength maintenance.
3. **Power strength -** refers to the combination of speed and strength training. Plyometrics is typically known as a strength training method that will emphasize power development. Power strength training is performed by using light weights (or simply the body's weight) so that athletes don't damage their muscles with the fast cycles of contractions.

Some athletes in this stage of development, especially females, will have gone through their growth spurt and could be ready for more advanced lifting prescriptions such as hypertrophy and max strength training. Please refer to T2T reference materials for information on these lifting regiments

Athletic Abilities		Developmental Age in Years																
		6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21-23	23+
Aerobic Power (intense efforts of 2-10 min)	F						↓	→	↑	↑	↑	↑	↑	↑	↑	↑	→	→
	M								↓	→	↑	↑	↑	↑	↑	↑	→	→
Aerobic Endurance (15 min+ at low to moderate intensity)	F				↓	→	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	→
	M				↓	↓	→	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	→
Anaerobic power (8-45 sec.; includes speed 2)	F							↓	↑	↑	↑	↑	↑	→	→	→	→	→
	M									↓	↓	↑	↑	↑	↑	↑	→	→
[1] Core strength	F	↓	↓	↓	↓	↓	→	→	↑	↑	↑	↑	↑	↑	↑	↑	↑	→
	M	↓	↓	↓	↓	↓	→	→	→	↑	↑	↑	↑	↑	↑	↑	↑	→
Strength-Endurance	F				↓	↓	↓	↓	→	→	→	→	↑	↑	↑	↑	↑	→
	M				↓	↓	↓	↓	↓	→	→	→	→	↑	↑	↑	↑	→
[2] General strength and [3]power strength	F							↓	↑	↑	↑	↑	↑	↑	↑	↑	↑	→
	M									↓	↓	↑	↑	↑	↑	↑	↑	→
Maximum Strength	F										↓	↓	→	→	→	→	→	→
	M												↓	↓	→	→	→	→
Flexibility	F	↑	↑	↑	↑	↑	→	→	→	→	→	→	→	→	→	→	→	→
	M	↑	↑	↑	↑	↑	→	→	→	→	→	→	→	→	→	→	→	→
Speed (less than 5 sec. for speed 1 and 5 to 20 sec. for speed 2)	F	↑1	↑1	↑1	↑1	↑1	↑1	↑2	↑2	↑	↑	↑	↑	↑	↑	↑	→	→
	M	↓	↑1	↑1	↑1	↑1	↑1	↑1	↑2	↑2	↑2	↑2	↑	↑	↑	↑	→	→
Agility/Balance/ Coordination	F	↓	→	↑	↑	↑	↑	↑	↑	↑	↑	→	→	→	→	→	→	→
	M	↓	↓	→	↑	↑	↑	↑	↑	↑	↑	↑	→	→	→	→	→	→
Technique	F	↓	↓	↑	↑	↑	↑	↑	↑		↑	↑	↑	↑	→	→	→	→
	M	↓	↓	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	→	→	→	→
Tactics and Decision-making	F				↓	↓	↓	↓	↓	→	→	↑	↑	↑	↑	↑	↑	→
	M				↓	↓	↓	↓	↓	→	→	↑	↑	↑	↑	↑	↑	→

6.4 Reflections on Your Program

6.4.1 Common Issues and Possible Solutions

Some common issues in programs for athletes in the Learning to Train stage of development are listed below, with possible solutions. If your program does not appear to have a specific issue move on to the next point on the list.

Possible Issue in Sport Program	Solutions to Consider
The overall program is too short to allow any significant athletic development.	❏ Extend the length of the program; increase the number of practice sessions (this may require an investment of your time initially in order to expand your program support structure.) ❏ Encourage your athletes to attend inter-club and regional camps hosted by neighboring cross-country ski clubs. ❏ Encourage your athletes to join training groups in neighboring cross-country ski clubs or training groups with sports that are compatible and require a similar level of fitness.
The Dryland Phase is too short and athletes are not adequately prepared for the snow season component of the program when it begins.	❏ The same solutions as above but specifically addressing the needs of the athletes during the Dryland Phase of the program. ❏ Introduce athletes to dryland activities that are complementary to the sport of cross-country skiing, and which they can do on their own time, such as canoeing and hiking
Athlete participation in the dryland sessions is inconsistent, and attendance drops off badly in the weeks prior to snow arriving.	❏ Ensure the activities you select are appropriate for the age, fitness and skill level of your athlete. ❏ Plan each session carefully to accommodate the varied levels of development within the age range you are working with. ❏ Take advantage of the differences between the Dryland and On- Snow Phases, such as the fall weather (i.e. temperature) and utilize practice sessions for team building purposes – include a good mix of outdoor social activities. ❏ Utilize games to develop skills, speed, power AND aerobic fitness. ❏ Encourage unstructured play. ❏ Keep in mind that if you want dryland practice sessions to be successful, they:

	✓ must be a group activity (at this age); ✓ must be well planned; ✓ must be motivating; and ✓ must offer variety and challenge.
The On-Snow Phase is too short (the local snow season is short) and technique development is therefore compromised.	❏ Increase the number of roller ski sessions (for your older athletes) and use those sessions to develop technique. ❏ Access snow within a 1–2 hours drive (each way) by coordinating day-trips for your team. ❏ Access snow that is more than a two hour drive from home by planning overnight trips/camps for your team.
Lit ski trails are not available locally, resulting in only one practice session a week which is too long in duration.	❏ Utilize headlamps – athletes will enjoy the experience of skiing with a headlamp. For the longer term, encourage your club to raise funds for and install a lit trail system. ❏ Commute once a week to neighbouring communities that do have lit trail systems. ❏ Hold practices right after school when there is sufficient light to do so.
Some athletes have not mastered the basic cross-country ski skills (classic and skating) they should have learned before the end of the FUNdamentals stage.	❏ Use roller ski sessions (for your older athletes) to improve their skill level before the snow season begins. ❏ Coordinate opportunities for these athletes to ski with technically good skiers outside of regular practice sessions. ❏ Offer to work with these athletes one-on-one outside of regular practice sessions. ❏ Create a “Catch Up” program that allows these athletes an opportunity to catch up without compromising the mainstream program.
The athletes are only loosely connected to each other.	❏ Arrange for 10-15 minutes of social time following practice sessions. ❏ Schedule social activities into your plan, e.g. fundraising (car wash), pizza and hot chocolate at an athletes’ home following practice. ❏ Arrange for team suits, coats, toques, etc.
	❏ Build a number of overnight activities where the team members stay together and work cooperatively as a unit – such as hikes, camps and trips to competitions - into your program plan for the season.

	❑ Keep the group in touch year-round.
There are not enough special activities (including competitions) in your seasonal plan.	❑ Include low key, easy-to-implement time trials using simulated race formats (relays, interval starts, team sprints, etc.) in your practice sessions. ❑ Create a committee responsible for special activities, which will in turn enlist parents and other club volunteers to help organize relevant events for your club and team. ❑ Coordinate with neighbouring clubs and take turns. ❑ Organizing special activities including low key competitions.
Athletes are too motivated and take skiing extremely seriously	❑ Remind them of the benefits of participating in many different sports as a key success factor in achieving success long term in any sport. ❑ Ensure parents are aware that early success is no indication of future performance in skiing. ❑ Remove results as at part of racing and competition and focus more on the acquirement of skills and enjoyment of the sport, friends and the outdoors as primary motivation factors.

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