



Board/Authority Authorized Course Framework Template

School District/Independent School Authority Name: School District No. 73 (Kamloops-Thompson)	School District Authority Number: SD73
Developed by: Darren Clark	Date Developed: March 4, 2019
School Name: Brocklehurst Middle School	Principal's Name: Jake Schmidt
Superintendent Approval Date (for School Districts only):	Superintendent Signature (for School Districts only):
Board/Authority Approval Date: Click or tap here to enter text.	Board/Authority Chair Signature:
Course Name: YLRA 11-12: Outdoor Education – Fly Fishing	Grade Level of Course: 11-12
Number of Course Credits: 4 Credits	Number of Hours of Instruction: 120 Hours

Board/Authority Prerequisite(s):

N/A

Special Training, Facilities or Equipment Required:

- Fly Tying Vises, Tools & Materials
- Fly Rods, Reels & Lines
- Access to local freshwater fisheries

Teacher will require a current boating license and fishing licence. Teacher will also have Level 1 First Aid.

Course Synopsis:

This course has been designed to help students develop the basic skills, strategies and personal values to become successful, safe and respectful fly-fishers as well as ambassadors for environmental respect, protection and restoration.



Board/Authority Authorized Course Framework Template

Goals and Rationale:

Goals:

- Students will identify and differentiate local freshwater fish species based on their distinguishing characteristics, behaviours and habitats.
- Students will identify and differentiate local freshwater invertebrate species based on their distinguishing characteristics, behaviours and habitats.
- Students will be able to accurately replicate pre-existing fly patterns and creatively design novel patterns.
- Students will be able to effectively assess important variables, then select and execute appropriate tactics, movement skills and equipment to improve fishing success
- Students will describe the ways in which human activities can potentially preserve, restore and harm local natural ecosystems.
- Students will describe and demonstrate appropriate safety and etiquette protocols while on or near various freshwater fishing locations.
- Students will compare and contrast local First Peoples' traditional worldviews, perspectives and techniques to those practiced today, and will share benefits and drawbacks of each.

Rationale:

- Having successfully completed this course, students will have experienced growth in all core competency domains.
- Learners will develop a sense of social responsibility while enjoying the natural environment through learning about preservation of ecosystems and accepted etiquette and protocols while enjoying natural settings.
- Personal awareness and responsibility can be enhanced through identification of personal proficiency levels with various motor skills and tactical decision-making.
- Creative thinking will be developed through the applied design process of creating previously non-existent fly patterns to effectively replicate local aquatic invertebrates.
- Critical thinking will be thoroughly developed through the constant problem-solving opportunities that fly fishing presents. Appropriate selection of various motor skills, tactics, and equipment will always be critical to fishing success.
- As fly-fishers belong to a unique culture, those who fully appreciate the discipline will gain a positive sense of personal and cultural identity. Students will develop the values and empowerment to be ambassadors of the sport and of conservation of the natural environment.
- Sharing of ideas, strategies, and techniques is a substantial part of fly-fishing culture. The level of detail that separates success from difficulty is substantial. Appropriate communication of ideas, theories and strategies is critical to maximize success and enjoyment.
- In summary, students who successfully complete this course will gain the skills, techniques, knowledge and values to enjoy and preserve the natural beauty of our provincial freshwater fisheries.



Board/Authority Authorized Course Framework Template

Aboriginal Worldviews and Perspectives:

The First People's Principles of Learning are deeply connected to the Fly-Fishing 11 - 12 curriculum in the following ways:

- Fly-fishing provides opportunities for relaxation and for developing safe and respectful use of the natural environment. These ultimately **support the well-being of the self, the family, the community, the land, the spirits, and the ancestors**
- Fly-fishing is a life-long learning experience involving countless variables, which are different from one setting to the next. It, therefore, provides opportunities to demonstrate that **learning is holistic, reflexive, reflective, experiential and relational (focused on connectedness, on reciprocal relationships, and a sense of place)**
- Appropriate use of natural settings **involves recognizing the consequences of one's actions**
- Most fly-fishing knowledge is learned through information sharing, so **learning is deeply embedded in memory, history and story**
- Since they are disciplines that is never perfected, fly-fishing and fly tying are ideal activities to realize that **learning involves patience and time**
- Opportunities for reflection about personal strengths, shortcomings and preferences allow the fly-fisher to gain an understanding that **learning requires exploration of one's identity**

Big Ideas

<p>Freshwater Ecosystems are Diverse and Complex</p> <p>Freshwater ecosystems contain diverse structures and organisms with many roles and relationships</p>	<p>Fly Tying is a Sequential and Creative Art</p> <p>Fly tying requires creativity and / or the sequencing of specific motor skills using a variety of tools and materials at different stages.</p>	<p>Fly-Fishing Requires Practice, Problem-Solving and Patience</p> <p>Fly-fishing is a consolidation of a diverse range of motor skills and cognitive strategies.</p>	<p>We Must Sustain and Conserve Local Ecosystems</p> <p>Human practices affect the sustainability of natural ecosystems.</p>	<p>The Natural Environment Should be Enjoyed Safely and Appropriately</p> <p>Enjoying the natural environment requires knowledge and application of appropriate safety and etiquette practices.</p>
---	--	--	---	--



Board/Authority Authorized Course Framework Template

Learning Standards

Curricular Competencies	Content
<p><i>Students are expected to do the following:</i></p> <p>Analyze Freshwater Fish and Aquatic Invertebrate Species</p> <ul style="list-style-type: none"> Compare and contrast a variety of local freshwater sport fish species Compare and contrast the physical attributes of aquatic invertebrates that represent important food sources for local freshwater sport fish species Describe the roles of various local sport fish species and aquatic invertebrates in the food chains of different freshwater ecosystems Describe the various stages of the life cycles of relevant aquatic invertebrates, and the importance of each stage as a food source for fish Read and interpret bathymetric maps in order to determine the most likely locations of fish at: different times of day, parts of the year and/or water temperatures <p>Replication of Existing Fly Patterns Through Adherence to Instructions</p> <ul style="list-style-type: none"> Carefully and sequentially, follow regimented sets of instructions to replicate several, previously-existing fly patterns <p>Applied Fly Pattern Design</p> <p>Understanding Context</p> <ul style="list-style-type: none"> Engage in a period of research and observations in order to understand fly pattern design opportunities <p>Defining</p> <ul style="list-style-type: none"> Choose a design opportunity for an innovative fly pattern Identify potential users and relevant contextual factors for a novel fly pattern Identify criteria for a success, intended impact, and any constraints for a novel fly pattern <p>Ideating</p> <ul style="list-style-type: none"> Take creative risks in generating ideas and add to others' fly pattern ideas in ways that enhance them Screen fly pattern ideas against criteria and constraints Choose a fly pattern idea to pursue, keeping other potentially viable options open <p>Prototyping</p> <ul style="list-style-type: none"> Identify and use sources of inspiration and information for fly pattern design Choose a form for prototyping and develop a plan that includes key stages and resources Evaluate a variety of fly tying materials for effective use Prototype, making changes to tools, materials and procedures as needed Record iterations of prototyping 	<p><i>Students are expected to know the following:</i></p> <p>Freshwater Ecosystem Inhabitants and Structure</p> <ul style="list-style-type: none"> Identification of a variety of local freshwater sport fish including their unique characteristics and preferred habitats Identification, characteristics and habitats of a variety of aquatic invertebrates throughout all stages of their life cycles Seasonal availability of various aquatic invertebrates that represent significant food sources to local sport fish Characteristics of bathymetric maps, and how they can be used to determine likely fish locations at specific times <p>Fly Tying (Replication & Design)</p> <ul style="list-style-type: none"> Proper storage and organization of fly tying tools, and materials functions of various fly tying tools identification, characteristics, properties and uses of various fly tying materials and of their parts appropriate methods for measuring materials proper fine motor skills associated with fly tying identification of various completed flies (and the type of invertebrate each is intended to replicate) appropriate selection of materials and tools for reasonable replication of a diverse variety of local freshwater invertebrates follow and create plans and instructions <p>Fishing Skill Acquisition & Selection and Tactical Awareness</p> <ul style="list-style-type: none"> proper execution of physical movement patterns, including non-locomotive and manipulative skills selection of appropriate fly-fishing-related movement patterns for a variety of environmental conditions appropriate fly-fishing tactics and strategies for a variety of environmental conditions First Peoples and other local traditional fishing methods <p>Sustainability of Local Ecosystems</p> <ul style="list-style-type: none"> biological benefits of healthy ecosystems value of healthy ecosystems to the ecotourism industry humans as agents of change <ul style="list-style-type: none"> First Peoples and other traditional ecological knowledge unsustainable vs sustainable practices in ecosystems <p>Conservation and Restoration of Ecosystems</p> <ul style="list-style-type: none"> environmental stressors challenge ecosystem integrity, health and sustainability ecological restoration practices and principles basic fishing rules and regulations from the most recent copy of the "BC Freshwater Fishing Regulations Synopsis"



SCHOOL DISTRICT NO. 73
(Kamloops-Thompson)

Board/Authority Authorized Course Framework Template

Making

- Identify and use appropriate tools, technologies, materials and processes for production of a novel fly pattern
- Make a step-by-step plan for production and carry it out, making changes as needed
- Use fly tying materials in ways that minimize waste

Sharing

- Decide on how, and with whom, to share their product and processes
- Demonstrate their product to potential users, providing rationale for the selected solution, modifications and procedures, using appropriate terminology
- Critically evaluate the success of their product, and explain how their design ideas contribute to the individual, family and/or community

Perform Fly Fishing Motor Skills and Demonstrate Tactical Understanding

- Demonstrate appropriate **execution of movement skills** and fine motor skills for a variety of freshwater fishing conditions and environments
- Demonstrate appropriate **selection of movement skills and tactical strategies** for a variety of freshwater fishing conditions and environments

Environmental Questioning and Predicting

- Demonstrate a sustained intellectual curiosity about an environmental topic or problem of personal, local or global interest pertaining to fly-fishing
- Make observations aimed at identifying their own questions, including increasingly abstract ones, about the natural world pertaining to fly-fishing

Environmental Planning

- Assess risks and address **ethical, cultural** and/or **environmental** issues associated with human use of the natural environment for fly-fishing.

Evaluating Safety and Etiquette

- Assess risks in the context of personal safety and **personal & social responsibility** while on private land, public land and various water bodies

- First Peoples concept of **interconnectedness** as it relates to conservation and restoration

Safety and Etiquette

- safe boating practices
- responsible angling **etiquette** guidelines
- required equipment and other necessary items for a safe outdoor adventure



Board/Authority Authorized Course Framework Template

Big Ideas – Elaborations

Sample questions to support inquiry with students:

Freshwater Ecosystems are Diverse and Complex

- Why is biodiversity important to maintaining a healthy ecosystem?

Fly Tying is a Sequential and Creative Art

- What attributes of a particular insect are most important to include in an effective replica?
- How can I design, construct and test an effective imitation of a specific aquatic invertebrate?

Fly Fishing Requires Practice, Problem Solving and Patience

- What defines a successful (experienced) fly-fisher compared to an unsuccessful (inexperienced) fly fisher?

We Must Sustain and Conserve Local Ecosystems

- How can we prevent and/or repair contamination of watersheds?
- How can the modern fisherman apply the First Peoples' concept of interconnectedness to local ecosystem preservation?

The Natural Environment Should be Enjoyed Safely and Appropriately

- If you were stranded in the woods, how would you survive?
- What makes outdoor environments desirable destinations for people who live in cities?



Board/Authority Authorized Course Framework Template

Curricular Competencies – Elaborations

local: attention should be focused on species and conditions that are specific to the students' home region of our province.

aquatic invertebrates: refers to the various food items that represent the primary diet of freshwater sport fish in our province (i.e. caddis flies, chironomids, damselflies, dragonflies, leeches, mayflies, scuds, stoneflies & water boatmen)

stages: refers to the parts of the life cycle of various aquatic invertebrates (i.e. larva, pupa, nymph, adult, etc.)

bathymetric maps: maps that show depths of water bodies (similar to topographical relief maps that show elevations)

innovative: in this context innovative means designing a potentially effective fly pattern that has not previously been created in this manner

contextual factors: refers to a particular fishing context based on factors such as (time of year, time of day, temperature, insect hatches, water depth, etc.)

execution of movement skills: means that student can demonstrate proper techniques for the motor movements specific to fly-fishing (i.e. different ways of casting the fly, different ways of moving the fly in the water, etc.)

selection of movement skills: means that the student is able to choose the appropriate fly-fishing movements based on the current conditions (i.e. which type of cast should I use, which type of retrieve should I use, etc.) regardless of their competency of execution

tactical strategies: these refer to the plan (and its parts) that a fly-fisher must formulate to overcome the ever-changing variables that exist in fly fishing from one day to the next

fishing conditions: fly-fishers will try to catch fish under a variety of different conditions (these include: different water temperatures, different weather and climate conditions, different water depths, different underwater topography, presence of different underwater vegetation, etc.)

ethical issues: refers to making lawful and reasonable choices regarding: number of fish kept, humane treatment of living things, using legal equipment, etc.

cultural issues: refers to ensuring that areas of cultural and historical significance are respected, maintained and undisturbed (specifically those pertaining to BC's First Peoples)

environmental Issues: refers to practicing proper maintenance and care for the natural setting (i.e. leaving flora and fauna undisturbed as much as possible, staying on designated access roads and paths, removing any garbage, extinguishing campfires, etc.)

personal and social responsibility: in this context, this refers to the protocols of etiquette generally accepted by responsible fly-fishers (i.e. reducing motor speed when passing others, remaining a reasonable distance from others while fishing, keeping noise levels down, etc.)



Board/Authority Authorized Course Framework Template

Content – Elaborations

characteristics: refers to the unique traits and behaviours that distinguish one species of sport fish from another

bathymetric maps: maps that show depths of water bodies (similar to topographical relief maps that show elevations)

fly tying tools: tools that are required and/or recommended to attach and shape materials onto bare hooks to create realistic imitations of aquatic invertebrates

fly tying materials: natural and synthetic items that are attached to bare hooks, shaped, and organized to create realistic imitations of aquatic invertebrates

fine motor skills: techniques used to manipulate materials into realistic imitations of aquatic invertebrates using small tools

execution: as content, this refers to knowledge of the proper techniques for the movements specific to fly-fishing – regardless of whether the motor skill(s) have been mastered (i.e. ability to describe different ways of casting the fly, different ways of moving the fly in the water, etc.)

non-locomotive skills: motor skills associated with fly-fishing that do not involve changing location

manipulative skills: as content, this refers to knowledge of the proper techniques for movements regardless of whether the skill(s) have been mastered (i.e. retrieving the fly, casting to a precise location, etc.)

tactics and strategies: these refer to the plan (and its parts) that a fly-fisher must develop (and adjust) to overcome the ever-changing variables that exist in fly-fishing from one day to the next

ecotourism: responsible travel to natural areas that conserves the environment, sustains the well-being of the local people, and involves interpretation and education

BC Freshwater Fishing Regulations Synopsis: annual document produced by the Government of British Columbia that outlines the regulations that must be followed while angling in British Columbia's fresh waters (available in print or electronic form)

interconnectedness: fundamental belief that everything in the universe is connected, and that every creature, plant, and even object has a purpose, deserves to be respected & cared for, and has an important role to play in the overall script of life

etiquette: behaviours and practices that are generally accepted as those that contribute to maximum respect, consideration and enjoyment for all anglers

Recommended Instructional Components:

- Direct Instruction
- Demonstrations
- Modeling
- Opportunities for Convergent and Divergent Thinking
- Learning through Practice and Experiment
- Applied Design Opportunities
- Field Studies
- Expert Guest Speakers



Board/Authority Authorized Course Framework Template

Recommended Assessment Components:

Ensure alignment with the [Principles of Quality Assessment](#)

- Peer Assessment
- Self-Assessment
- Assessment of Motor Performance
- Evaluation of Projects (some completed through the applied design process)
- Written Assignments (with use of rubrics)
- Tests / Quizzes
- Journaling

Learning Resources:

- [BC Freshwater Fishing Regulations Synopsis](#)
- [Canada – Safe Boating Course Manual](#)
- [Freshwater Fisheries Society of BC](#)
- Phil Rowley: [Stillwater Selections – Proven Fly Patterns](#)
- Brian Chan & Phil Rowley: [Learning With the Pros – Stillwater Fly Tying DVD Volume I](#)
- [Invasive Species Council of British Columbia](#)
- Animated Knots by Grog: [Grog's Fishing Knots](#)
- [The Angler's Atlas](#) (Bathymetric Maps)

Additional Information:

I have developed several resources that fit this curriculum, and I am willing to share any of these. Currently, they are available at the following URL: <http://www.brockmiddle.sd73.bc.ca/clark/flyfishing/flyfishing.html>