



Board/Authority Authorized Fly Fishing 10

School District/Independent School Authority Name: School District 73 (Kamloops/Thompson)	School District/Independent School Authority Number (e.g. SD43, Authority #432): SD73
Developed by: Dayton Fraser	Date Developed: February 16th/2018
School Name: Clearwater Secondary School	Principal's Name: Darren Coates
Superintendent Approval Date (for School Districts only):	Superintendent Signature (for School Districts only):
Board/Authority Approval Date:	Board/Authority Chair Signature:
Course Name: Fly Fishing 10	Grade Level of Course: 10
Number of Course Credits: 4	Number of Hours of Instruction: 120

Board/Authority Prerequisite(s):

None

Special Training, Facilities or Equipment Required:

This course is designed as a Technology Education course. The hands-on units depend on the facility the course is being run in where as the fly tying components require a class set of tying tools and materials.

Goals and Rationale:

This course has been developed not only to have the students learn about the outdoors but to do so in a safe and respectful manner. The objectives of Fly Fishing 10 are:

- to teach and familiarize the student in wildlife identification, management and conservation (this includes identification and habitat of wildlife species)
- to take advantage of the outdoor recreation potential which is available to the public in the Kamloops/Thompson area
- to emphasize the students responsibilities to landowners, the public at large, wildlife and the environment
- to teach the student, to build equipment for outdoor use as well as proper care, safety and handling of all outdoor equipment
- to teach practical skills that will make the student's use of the outdoors more pleasurable and safe

Aboriginal Worldviews and Perspectives:

Students will be encouraged to take into consideration Aboriginal worldviews and perspectives. Celebrating these cultures can be accomplished in various ways, including:

- Investigate local Aboriginal communities and identify, describe, and analyze the importance of healthy ecosystems
- Identify, describe, and analyze cultural and historical fishing methods used by local Aboriginal communities
- Describe how current methods of sport fishing and commercial fishing supports/ challenges specific beliefs, traditions, or responds to historical/ contemporary issues

Ethics and conservation for life long enjoyment of the outdoors

The study of entomology to better understand the principles of fly tying

Practical components to further enhance the use and enjoyment of the outdoors

Learning Standards

<p><i>Students are expected to do the following:</i></p> <ul style="list-style-type: none"> ● <i>Understanding context</i> ● <i>Defining</i> ● <i>Ideating</i> ● <i>Prototyping</i> ● <i>Testing</i> ● <i>Making</i> ● <i>Sharing</i> 	<p><i>Students are expected to know the following:</i></p> <ul style="list-style-type: none"> ● <i>Wood and Metal Shop Safety</i> ● <i>Basic Drafting and Design Concepts</i> ● <i>Basic Metal Shop and Wood Shop Production Techniques</i> ● <i>Proper Fly Tying Tool and Materials usage</i> ● <i>Freshwater Environment and Ecosystems</i> <ul style="list-style-type: none"> ○ <i>this includes the importance that trout and salmon species have to local Aboriginal communities</i> ● <i>Importance of safe handling/storage/cooking of fresh/raw fish</i> ● <i>Roles, responsibilities, and regulations of Canadian government agencies around the freshwater fishing tourism industry and the commercial fishing industry</i>
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Big Ideas – Elaborations

Ethics and conservation for life long enjoyment of the outdoors:

- to emphasize the students responsibilities to landowners, the public at large, Aboriginal communities, wildlife and the environment

- to teach and familiarize the student in wildlife management and conservation. This includes identification and habitat of wildlife species.
- to familiarize themselves with provincial and regional fishing regulations, catch quotas and responsibilities through the study of the Provincial Angling Synopsis
- wildlife management and conservation. This includes identification and habitat of wildlife species.
- biodiversity of trout and char species and their geographic distribution
- about stocking programs, hatcheries and wild populations of trout and char
- importance of trout/salmon species to local Aboriginal communities
- importance of trout to the environmental tourism industry of the region

The study of entomology to better understand the principles of fly tying:

- to identify various aquatic and terrestrial insects
- to replicate the patterns of various insects using traditional as well as modern fly-tying practices
- to respect this “art form” as well as the methods and ideals presented to them from professional volunteer speakers/teachers who are going to teach them how to do it
- to identify an appropriate pattern to use during specific times of the year (“matching the hatch”)

Practical Components to further enhance the use and enjoyment of the outdoors:

- to build equipment for outdoor use as well as proper care, safety and handling of all outdoor equipment
 - can include fly boxes, fly tying vice/tools, wooden nets
- to gain an understanding of how to properly fly cast and present flies to various species of freshwater fish
- to gain an understanding of how to tie various knots and how/where to use them

Students are expected to do the following:

Understanding context

- Engage in a period of research and empathetic observation in order to understand design opportunities
 - This can include the investigation of local Aboriginal communities and identities

Defining

- Choose a design opportunity
- Identify potential users and relevant contextual factors
- Identify criteria for success, intended impact, and any constraints

Ideating

- Take creative risks in generating ideas and add to others' ideas in ways that enhance them
- Screen ideas against criteria and constraints
- Critically analyze and prioritize competing factors, including social, ethical, and sustainability considerations, to meet community needs for preferred futures
- Choose an idea to pursue, keeping other potentially viable ideas open

Prototyping

- Identify and use sources of inspiration and information
- Choose a form for prototyping and develop a plan that includes key stages and resources
- Evaluate a variety of materials for effective use and potential for reuse, recycling, and biodegradability
- Prototype, making changes to tools, materials, and procedures as needed
- Record iterations of prototyping
- Explore traditional Aboriginal methods of fishing

Testing (where appropriate)

- Identify sources of feedback
- Develop an appropriate test of the prototype
- Conduct the test, collect and compile data, evaluate data, and decide on changes
- Iterate the prototype or abandon the design idea

Making

- Identify and use appropriate tools, technologies, materials, and processes for production
- Make a step-by-step plan for production and carry it out, making changes as needed
- Use 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 a 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, community, and/or environment
- Critically reflect on their design thinking and processes, and evaluate their ability to work effectively both as individuals and collaboratively in a group, including their ability to share and maintain an efficient cooperative work space
- Identify new design issues

- ☞ Demonstrate an awareness of precautionary and emergency safety procedures in both physical and digital environments
- ☞ Identify the skills and skill levels needed, individually or as a group, in relation to specific projects, and develop and refine them as needed
- ☞ Choose, adapt, and if necessary learn about appropriate tools and technologies to use for tasks
- ☞ Evaluate the personal, social, and environmental impacts, including unintended negative consequences, of the choices they make about technology use
- ☞ Evaluate how the land, natural resources, and culture influence the development and use of tools and technologies

Students are expected to know the following:

Wood and Metal Shop Safety

- safety in the wood/metal shop through tests and practical applications

Basic Drafting and Design Concepts

- the design and construction process in making a project applicable to this course and outdoor recreation

Basic Metal Shop and Wood Shop Production Techniques

- practical skills that will make the student's use of the outdoors more pleasurable and safe
- to build equipment for outdoor use as well as proper care, safety and handling of all outdoor equipment

Proper Fly Tying, Tool and Materials Usage

- to replicate various insects that can be found in local lakes and rivers
- to identify and correctly use various fly tying tools and materials

Freshwater Environments and Ecosystems

- freshwater fish species identification, management, conservation and habitat identification
- aquatic insect/terrestrials identification and the importance of their life cycles
- to read topographic maps and bathometric charts to further understand lake ecosystems
- safety around lakes and rivers
 - this includes wading safety and boater safety
- lake/river ecology and the flora and fauna that depend on them for survival
- importance of various trout and salmon species that local Aboriginal communities depend on

Importance of safe handling/storage/cooking of fresh/raw fish

- ensuring that students know how to safely (and legally) handle and transport raw fish as well as how to safely cook and prepare them for human consumption
 - can include grilling, smoking, canning

Roles, responsibilities, and regulations of Canadian government agencies around the freshwater fishing tourism industry and the commercial fishing industry

- identify the relationship between Aboriginal Peoples and various government agencies involved in either the tourism or commercial fishing industry

Recommended Instructional Components:

The instructional component of this course includes the use of practical skills, physical activity, applied technologies as well as scientific concepts and methodologies to achieve the outcomes of each of the big ideas. It involves using literature, practical knowledge of the instructor (and volunteer speakers), indoor and outdoor facilities, and various applicable demonstrations to meet the various learning styles of students and deliver a curriculum through activities and lessons. This course is designed to be a Technology Education course with some aspects of biology. It is meant to be flexible in the sense that it can change based on the facilities being accessed, the time of year the course is taught and the instructor experience/training.

Recommended Assessment Components:

Assessment is based highly on the process, rather than the product. The product, therefore should demonstrate the correct steps taken to complete the project. It could also involve the creation of a digital profile which encourages ongoing communication between teacher, parent, and student. This portfolio will become a collection of student work to be gathered over time to provide a full profile of the learner and learning to see where they started at the beginning of the course and where they are by the time of completion. Students could upload photos of their first fly, highlighting their first attempt at this new skill. By the end of the course, students will have compiled a library of photos displaying how their knowledge base and skill set have improved vastly throughout the course. By being digital, it enables the ability to communicate clearly to the learner and parents where the student is, what they are working towards and the ways that learning can be supported. Students are given a wide variety of choice in their projects and fly patterns, therefore providing multiple ways to demonstrate their learning. Assessment for this course follows the know, do and understand model.

Rubrics will be an essential method of assessment when assessing individual or group projects. These rubrics can be used in a traditional method where the instructor marks the project. They should also be used in a self-evaluation or peer-evaluation situations for different assessment perspectives.

Sample Rubric:

Fly Pattern Rubric

Student:

Pattern:

	Exceeding Expectations (5)	Meeting Expectations (3)	Not Yet Meeting Expectations (1)
Pattern resemblance to example shown	-Flies represents pattern perfectly -No incorrect variations	-Flies mostly represents pattern -Little to no variation from example	-Flies do not represent pattern shown -Too much variation from patterns tied compared to example

Pattern symmetry between flies tied	<ul style="list-style-type: none"> -Flies tied are identical to each other. -Hook size does not vary -Head size does not vary -Body size does not vary -Tale size does not vary -Materials used do not vary 	<ul style="list-style-type: none"> -Flies are mostly identical to one another -Little variance of: <ul style="list-style-type: none"> -Hook size -Head size -Body size -Tale size -Materials used 	<ul style="list-style-type: none"> -Too many inconsistencies between patterns tied. -Hook size is not consistent -Head size is not consistent -Body size is not consistent -Tale size is not consistent -Materials used are not consistent
Total /10			

Instructional Components

- Heads Up for Safety
- Teacher handouts
- Guest speakers from local Aboriginal communities, Conservation Officers, Fish and Game clubs
- Books
 - Fly Patterns for Stillwaters: A Study of Trout. P. Rowley, 2000
 - Fly Tying Made Clear and Simple. S. Morris, 1992

Additional Information

The delivery of this course should reflect the resources and equipment the individual school has and the course should evolve as more equipment and resources are obtained.

