

# PARTNERS IN EDUCATION

**CAREER AWARENESS INITIATIVES  
2017-2023**

**RioTinto**

**SCHOOL  
DISTRICT**



**NECHAKO  
LAKES**



# INTRODUCTION

School District No. 91 (Nechako Lake) Career & Trades Programs along with our 'Partners in Education' strive to continually provide all our students 'Real and Relevant' career awareness opportunities. Partner funding creates and expands educational programming that greatly enhances our ability to connect students with local and regional partners. This was especially true during the pandemic when many of the programs were heavily impacted and modifications were made to programs to sustain them. Funding from partners such as Rio Tinto allowed us to shift and be creative, mainly to incorporate the use of technology into projects to make them accessible when we couldn't meet in person.

## APPLIED SKILLS

Applied skills are a broad set of knowledge, skills, work habits, and character traits believed to be critically important to success in school and beyond. These include hands-on skills like carpentry or machine works, as well as skills related to careers in health, agriculture and food, research, technology, and environment.

## TECHNOLOGY SKILLS

Technology skills are a broad set of select and appropriate tools/technologies that extend students' capability to understand and relate to mechanical, information technology, mathematical, or scientific tasks. Some examples include knowledge of programming languages, mechanical equipment, videography, or tools.

## WATERSHED SKILLS

Watershed skills cover a broad range of educational outcomes that relate to the technical, social, environmental, community and First Nations interactions within the Nechako Watershed. Students gain greater understanding of the many facets that encompass a watershed, including stewardship, food security, endangered species, ecosystems, and human interactions on the landscape.

### LEGEND

#### PROGRAM TITLE

30

S

1 Y

Programming Discipline(s)



★ — Newest Programs

Number of students that the program has served

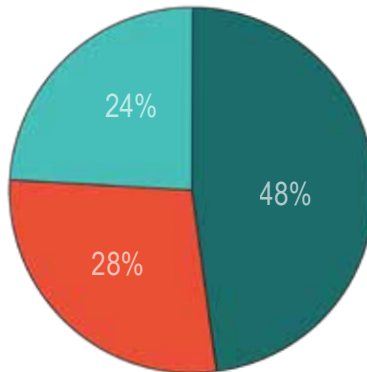
E = Elementary Students  
S = Secondary Students

Number of years Rio Tinto funding has supported this program.

**Number of students in Elementary and Secondary that participated in Rio Tinto funded programming for each of the three program disciplines.**



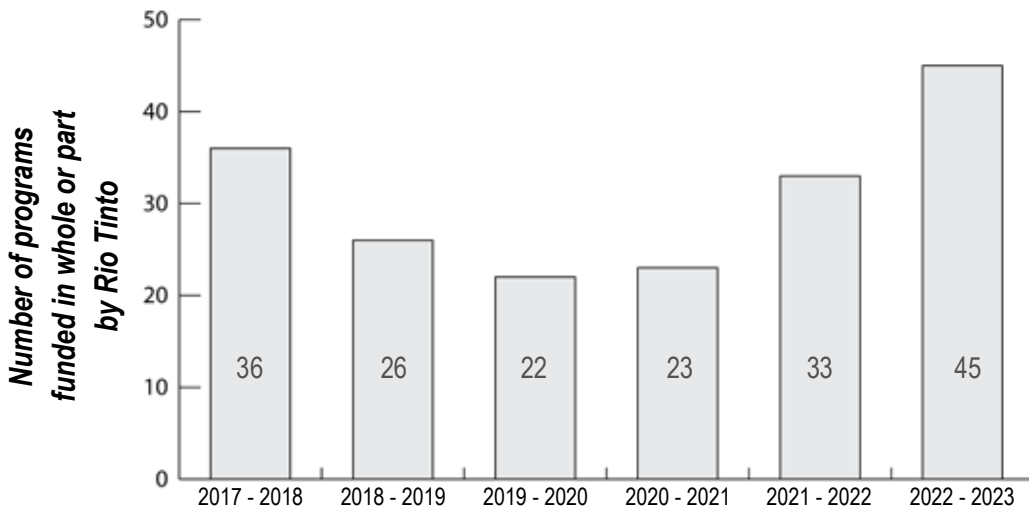
**Percent of Rio Tinto funding to the three program areas.**



**Total students  
2017-2023  

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23,748**





# WL MCLEOD FARM TO SCHOOL WALK-IN COOLER PROJECT

275

E

1Y



This walk-in cooler project was many years in the making with many partner organizations and funders involved. This cooler will provide regulated cold storage space for McLeod School for years to come. The cooler is another key component of the McLeod Farm to School Program that grows over a hundred kilograms of vegetables each year that is used in the school's meal programs (breakfast, lunch and weekend meals for families). With the addition of the cooler, the school now has the capacity to store enough food to be able to cook homemade lunches for neighbouring schools that don't have a regular meal program.

Students are involved in every step of the McLeod Farm to School Program, from sowing the seeds in the garden that is located in partnership with the Vanderhoof Community Garden, to harvesting, storing, cooking and serving meals. Students learn skills that will help them become food secure now and into the future.



The McLeod Farm to School Program started in 2011 with a single salad bar, and has grown, through partnerships such as the one with Rio Tinto, to be a diverse, multi-level educational and applied skill building program that has provided a safe and healthy learning space for over 2000 students. The McLeod Farm to School Program is one of several school meal programs in the province that will be used as a template for other schools to follow. With food insecurity so widespread, we are proud that the McLeod Farm to School Program model will be shared province wide to help build a food secure future.

The McLeod Farm to School Program isn't stopping, and is continually looking to the next steps to expand the program further to impact more students and involve more community partners to strengthen the community as a whole.

**LEFT - THE RIBBON CUTTING OF THE WL MCLEOD FARM TO SCHOOL WALK-IN COOLER. STUDENTS, EDUCATORS, COMMUNITY PARTNERS AND FUNDERS WERE ALL IN ATTENDANCE.**

**RIGHT - STUDENTS HARVEST VEGETABLE DESTINED FOR THE COOLER FROM THE SCHOOL GARDEN AT THE VANDERHOOF COMMUNITY GARDEN SPACE.**





## CAFÉ 346

45

E

1Y



Students recreate the restaurant experience for parents, community members and honored guests. Two class groups work collaboratively to develop a menu and food preparation plan. Then over two days students prepare and serve these food items to guests – recreating all the moving parts associated with running a food service establishment.

## JR. ACHIEVEMENT BC & MARKET DAY

1620

E

6Y

Culmination of the 4-week JABC program – student business teams’ market to sell their various products. In addition to adults, parents, and staff - Grade 3 and 6 Elementary students are present as well, spending “market dollars” to facilitate their math and money management skills.

*“I thought it was neat to make stuff and then sell it with people I didn’t know.”* Penelope, Grade 7 at NVSS.

## CARL’S CAR INITIATIVE

450

E

6Y

Elementary students design and build a small wooden car that they ultimately get to race in a District-wide **Carl’s Car Race Day**.

*“I liked racing my car the best.”* André, Grade 2 at WL McLeod.



**CAFÉ 346 - STUDENTS PREPARE TO SERVE FOOD**

**JUNIOR ACHIEVEMENT BC MARKET DAY - ELEMENTARY STUDENTS GO SHOPPING**



## UNBC ACTIVE MINDS

144

E

3Y

One-day science camps for younger students, by UNBC, are an opportunity for exposure of science and engineering for students who might not get that opportunity elsewhere.

## LITTLE CHEF PROGRAM

48

E

2Y

Elementary students plan and prepare a three-course meal that is delivered via a “restaurant” model during the course of a day.

## WATER ROCKET LAUNCH PROGRAM

26

E

1Y



The Water Rocket Launch Program (WRLP) allows students to develop basic skills associated with the design, construction and launch of simple water powered rockets. The WRLP Kits are available to school sites/ teachers looking to deeper explore the engineering, math, aerodynamic and laws of motion principles in a hands-on, interactive, and fun fashion.



Rio Tinto support of Applied Skills Programming

**18 Existing** and **7 NEW** Programs

**6526 students** over **6 years**

**5647** Elementary Students

**879** Secondary Students



**CARL'S CARS INITIATIVE RACE DAY!**

# 'PROJECT' PROGRAMS

1983

E/S

3-6Y

The 'Project' class of programs has been one of the most successful on-going initiatives provided through the School District 91 Career and Trades Program. The key concept of this series of programs is to provide students with hands-on work experience within a skills and/or trades field. What started with a singular focus on large-equipment trades training for senior students, has grown into a multi-faceted program in applied, watershed and technology learning for elementary and Secondary students. Programs in the **Applied Skills** field include:

## AVIATION

48

S

3Y

One-day hands on experience at the airport. A partnership with Vanderhoof Flying Club that has students flying in planes as part of their completion of the aviation program. Only open to students of the Aviation program at NVSS.

## BOAT FLOAT

360

E

6Y

Student teams design and construct a boat that can hold a passenger afloat for a designated period. Grade 3 students build and float a boat in a pool, while Grade 6's build a larger boat that they then get in and attempt to sail.

## HEALTH

144

S

6Y

Two-day career awareness event for Secondary students. Students get exposed to all levels and categories of health-related careers, from care staff and administration to specialists and physicians. Includes a full day in a local hospital and a trip to see the UNBC medical program.

## JUNIOR TRADES

255

E

3Y

Introduces students to a variety of trades at the Elementary level utilizing the school based 'maker-kit' resources for in-class projects.

## SIMPLE MACHINES

1080

E

6Y

A week-long project where participants design and develop a variety of "simple machines" in collaboration with staff and community partners that culminates in a demo-day where students present their machines to community.

## STEAM

96

S

4Y

Students get to participate in the UNBC STEAM program... *"UNBC continues to engage and inspire next-generation leaders with programs in science, technology, engineering, art and math (STEAM), all while getting youth comfortable in a university setting at an early age. These programs are an opportunity for northern youth to have a positive experience with their peers, community leaders, and UNBC students, staff and faculty as they explore post-secondary educational pathways and career trajectories long before they finish Secondary." This Is UNBC, Spring 2019*



## PROJECT LAKE

1983

S

1Y



Project Lake is a three-day career awareness event that provides students with hands-on exposure to activities related to outdoor tourism. These range from presentations from conservation officers, learning to create fly-ties, how to prepare fish for consumption, learning to fly-cast, water safety, and experiencing career opportunities in outdoor tourism.



**PROJECT LAKE - LEARNING ABOUT FLIES FOR FISHING, AND PUTTING IT INTO PRACTICE.**

**PROJECT SIMPLE MACHINES - INTERMEDIATE STUDENTS BUILDING!**

**PROJECT HEALTH - SECONDARY STUDENTS HANDS ON LEARNING.**

**PROJECT BOAT FLOAT - ELEMENTARY STUDENTS BUILD CARDBOARD BOATS AND TEST IF THEY FLOAT.**

## LEGACY PROGRAMS

These 'legacy' programs were offered pre-COVID in alternating years to Secondary students within the entire School District. Funding from Rio Tinto allowed our educators to offer these high-expense opportunities to students that would otherwise be out of reach.

## BAMFIELD

24	S	1Y	
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For senior science students with aptitude for biology and a specific interest marine biology. Five day trip on Vancouver Island with hands-on field experience in biology.

## PHYSICS @ PLAYLAND

24	S	1Y	
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For students that are strong in physics and science. Students learn through play how to relate physics to real-world situations and problem solving.

## LIVE-IT VANCOUVER AQUARIUM

3	S	1Y	
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Students who were keen on video production, were able to travel to Vancouver to participate in all components of the production of the live-stream, from scripting to filming and the technology supporting the process of a *Live-it* live-streaming event.

## YELL - ENTREPRENEURSHIP PROGRAM

66	S	6Y	
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Introduction to entrepreneurship with a focus on an entrepreneurial mindset as it relates to modern business and business risk. Students get to present their work in a 'Dragon's Den' type setting.

## ICUBED

320	S	4Y	
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A tech-based and entrepreneurial conference for youth. Students get to see opportunities and concepts in technology.

## VIRTUAL SANDBOX INITIATIVE

1200	E	3Y	
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Interactive geology tool for younger students. A mobile unit that has cutting edge technology to allow students to manipulate their landscape and see the impacts of change in terms of weather, geography and geology.

## AVIATION PROGRAM

64	S	4Y	
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Supports the flight simulator programming and opportunities in aviation-specific to NVSS.



## BID CONNECT

24 | S | 2Y  ★

BID Connect provides students direct hands-on exposure to careers in the mill fabrication sector. The students engage with employees on the floor, chat with the management team and are encouraged at the end of the day to complete and submit an application under the supervision of the HR Department.

## CANFOR CONNECT

36 | S | 2Y  ★

CANFOR Connect provides students with direct hands-on exposure to careers in the sawmilling sector. The students engage with employees on the floor, chat with the management team and are encouraged at the end of the day to complete and submit an application under the supervision of the HR Department.

## FORESTRY CONNECT

18 | S | 1Y  ★

Forestry Connect provides students with direct hands-on exposure to careers in the forestry management sector. The students engaged with employees at their place of work, presentations from the management team and experienced a field day of hands-on activities. Students were exposed to riparian zones, plant identification, road engineering, enforcement, and various forestry sciences.



BID CONNECT

FORESTRY CONNECT

APPLIED SKILLS



# LIVE-IT: LIVE STREAMING

*Live-it* is a live-streaming business that offers experiential educational opportunities to rural and remote schools. There is a wide variety of live-streaming and interactive learning sessions available for educators, as well as entire schools, in which to participate. Because of continued funding, this program scope has expanded to cover new areas that support reconciliation.

## AUGMENTED REALITY - FIRST NATION ELDER WELCOME

**3600** **E/S** **1Y**  

In the spirit of the reconciliation journey, School District 91 is proud to have partnered with Live-It to create a series of territorial welcomes at the entry to every facility across the School District. Created by students and with deep input from local elders – using a cell phone, staff, students, and visitors are welcomed by a local elder speaking in their territorial dialect of the Dakelh language. Viewers experience the welcome in an augmented reality environment.

## CHIEF KW'EH

**500** **E/S** **1Y**  

School District 91 partnered with *Live-It* to create a multi-media educational program centered around the life and journey of Chief Kw'eh. Graphic & Media Arts students from School District 91 supported the development of the production in the form of interviewing, filming, and editing the work. The production has since been added to the extensive line-up of multi-media educational content at Live-It. School District 91 students have developed new and deeper skills and are now able to create even more local content based on the new skillsets.



The screenshot shows the Live-It website interface. At the top, there is a pink navigation bar with the 'LIVE IT.' logo on the left and 'Help EN' on the right. Below the navigation bar, there are links for 'Programs', 'Resources', 'Calendar', and 'Collections'. A search bar and a notification bell icon are also present. The main content area features a large video player with a background image of a forest and a lake. The video title is 'Chief Kw'eh | How can one ancestor influence a whole community?'. Below the title, there is a short description: 'Did you know there once lived a great chief who influenced the lives of his people for generations? In this show, we'll be learning about Chief Kw'eh's life and story from Indigenous knowledge holders, how he influenced the lives of the Nak'azdli Whut'en, and why stories like his are important to learn about and share!'. At the bottom of the video player, there are two buttons: 'Start Show' and 'Watch Trailer', along with a plus sign icon.



**LIVE-IT - FIRST NATION WELCOME - POSTERS SIMILAR TO THIS ONE CAN BE FOUND ON ALL SCHOOL DISTRICT BUILDINGS. USE YOUR PHONE TO LISTEN TO ARLENE JOHN SPEAK IN THE SAIK'UZ FIRST NATION DIALECT OF THE DAKELH LANGUAGE TO WELCOME YOU TO THE SCHOOL BOARD OFFICE IN VANDERHOOF.**

## ORCA

1320

E/S

6Y



Students were able to interact with biologists out in the field, on a boat in the ocean, while they search for whales and spoke about their biology and conservation.

## SEA LION

1860

E/S

6Y



Students were able to interact with a sea lion expert in a live format.

## WILDFIRE

1560

E/S

6Y



Students were taken on a tour by a forest-fire expert through a forest that had been impacted by wildfire.

## SALMON RUN

1200

E/S

6Y



Students were able to ask questions of fisheries biologists as they watched them work stream-side enumerating and assessing salmon during an active salmon run.



**LEARN TO DRIVE - DRIVING SIMULATOR READY FOR USE**





## LEARN TO DRIVE: DRIVING SIMULATOR

120

S

1Y



The Learn to Drive: Driving Simulator (LTDDS) provides students equitable access to a 'learn to drive' training aid in a controlled environment. Students learn vehicle handling and traffic law basics in urban and non-urban environments – these environments can be programed with a variety of weather conditions. Driving is assessed by the software program and provides feedback to the student and teacher.

## 3D PRINTER FARM INITIATIVE

390

E/S

1Y



The 3D Printer Farm Initiative is adding much needed production and flexibility capacity to graphic and media arts programs throughout the district. The initiative allows students to create and produce larger and more complex multi-piece projects in addition to reducing wait times for small to mid-sized projects. Students in graphic/media arts programs collaborate with their peers in the art programs to intricately colorize many of these projects.

**3D PRINTER FARM INITIATIVE -  
VARIOUS 3D PRINTERS AND A  
3D PRINTED NVSS VIKING**

Rio Tinto support  
of Technology  
Programming

**9 Existing** and

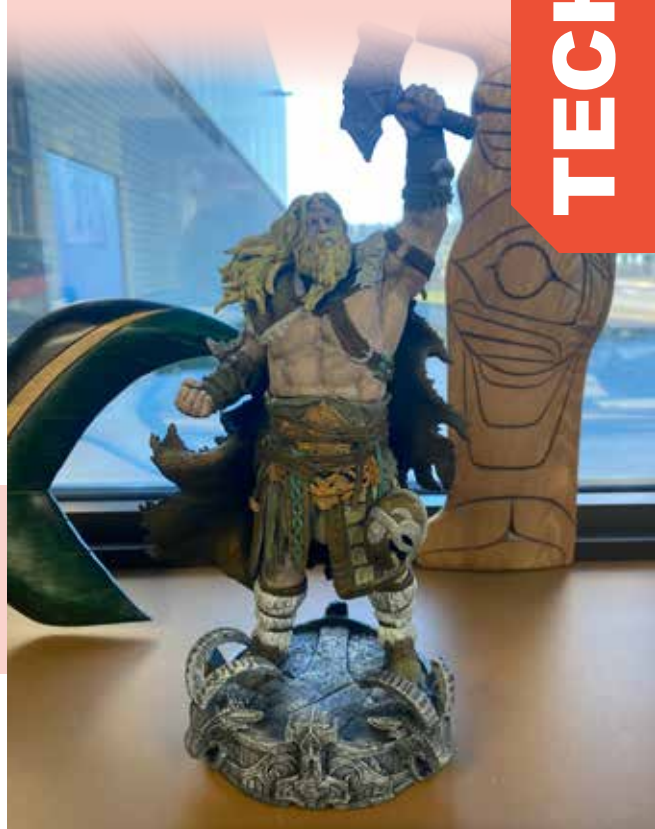
**6 NEW** Programs

**11,454 students**

over **6 years**

**8762** Elementary  
Students

**2692** Secondary  
Students



**TECHNOLOGY SKILLS**

## LEGACY PROGRAMS

These 'legacy' programs were offered to Secondary students within the entire School District. Funding from Rio Tinto allowed our educators to offer these high-expense opportunities to students that would otherwise be out of reach.

### BC TECH SUMMIT

40	S	1Y	■
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Opportunity that allows Secondary students one-day access to the conference floor of the BC Tech Summit to interact with all the large technology companies. Real-life exposure to industries and businesses specializing in robotics, 3D printing, AI, and all things related to tech.

### DOORS TO TECHNOLOGY

12	S	1Y	■
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Two-day event for Secondary students interested in technology, with exposure to different products and aspects of technology.

## DRONE PROGRAM

96	S	6Y	■
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Drone certification program over a semester. Students receive certification in drone operation that is the industry standard.

### ROBOTICS PROGRAM: SUPPORT/EXPANSION

192	E	6Y	■
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Beginner programming and coding resource for K-1 students. These students learn to move a robot through a simple course.

### MICRO-BITS INITIATIVE

360	E	6Y	■
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Next level from Bee-Bots where Grade 2-3 students expand their coding abilities to operate robots through a more advanced course.

### ROBOTIC LEGO LEAGUE

180	E	4Y	■
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The third level in the elementary coding, this is a more challenging experience for Grade 4-6 students. These students develop their programming skills over the course of a school year, with all teams coming together for the annual robotics Lego League Competition.



SD91@MICROSOFT

## SD91@MICROSOFT

12 | S | 1Y ■ ★

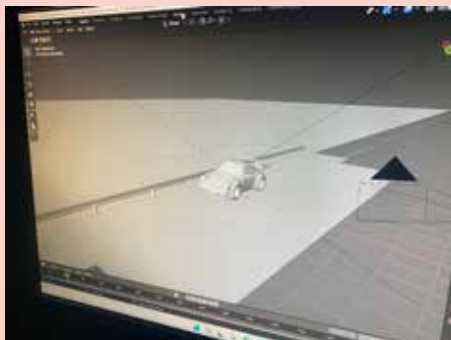
School District 91 has partnered with Microsoft (Vancouver) to provide students the opportunity to directly observe and interact with its employees and managers. Students can chat and work with programmers, web-designers, developers, and data scientists in a workplace purpose built for the digital work environment.



## SD91@SFU@SIAT

12 | S | 1Y ■ ★

SD91@SFU@SIAT provides students the opportunity to take a deep dive into the world of graphic design and its many iterations. The School of Intergrated Arts & Technology @ Simon Fraser University has partnered with School District 91 to allow students direct access to their faculty, students, and programs. This is reciprocated with faculty and students coming to interact with elementary and high school students.



SD91@SFU@SAIT - DRAWING

TECHNOLOGY SKILLS





# SCIENCE & SELECTIVE FISHING PLATFORM

24

S

2Y



The Science & Selective Fishing Platform (SSFP) is a multi-year development partnership between School District 91, the Nak'azdli Whut'en, and RiverTrap Systems. Students were afforded hands-on access to the design, fabrication, and final additions of the platform. Upon completion, students, and our area 'Partner in Education' experts will utilize the platform to conduct water-based science activities in several different lake and/or river-based watershed systems. In addition, the platform is designed to have a selective fishing capability that will further enhance its functionality for students and community partners. The SSFP will increase students' hands-on access to conduct a broad range of educational activities in addition to making deeper connections with local knowledge holders and area experts.

**SSFP - STUDENTS INVOLVED IN HANDS-ON CONSTRUCTION AND FABRICATION OF THE BOAT, AS WELL LEARNING TECHNICAL AND RESEARCH SKILLS FROM THE PONTOON IN OPERATION.**



WATERSHED SKILLS





**PROJECT JR.  
OUTDOOR LEARNING**



## STREAMKEEPERS - KOH INITIATIVE

720

E/S

6Y

Community specific activities throughout the school district related to stream monitoring, data collection and rehabilitation.

*"It was a fun experience to help the creeks and to go to the same place twice because you can see how the creek can change."* Penelope, Grade 7 student, NVSS



## OUTDOOR LEARNING FOR K'S

120

E

6Y

Hands-on learning for grade K-1 students utilizing "real tools" to facilitate collaborative learning and problem-solving skills.

## PROJECT JR. OUTDOOR LEARNING

144

E

6Y

Hands-on learning for Grade 2-4 students utilizing "real tools" to facilitate collaborative learning and problem-solving skills.

Rio Tinto support  
of Watershed Based  
Programming

**9 Existing** and  
**4 NEW** Programs  
**5768 students**  
over **6 years**

**4888** Elementary  
Students

**880** Secondary  
Students



**OUTDOOR LEARNING  
FOR K'S**

**WATERSHED SKILLS**

## REDMOND WETLAND EDUCATION CENTRE

800

E/S

2Y



The Redmond Wetland Education Centre is being actively developed into a regional learning space. The site provides hands-on learning activities for students from K to 12. The active ecosystem provides a broad range of educational activities for teachers and students. Low impact trails, movable picnic tables, and a storage facility for educational resource washrooms have been built and installed by students to date. Additional add-ons such as a solar power array and washrooms are in the works. The use of the site is rapidly expanding year over year.

## WL MCLEOD WETLAND EDUCATION CENTRE

400

E/S

2Y



The WLM Wetland Education Centre will be developed over the next two years. Working with our many 'Partners in Education' the project will develop an interpretive, educational trail system, with a virtual component, within a naturally occurring urban wetland inside the municipal boundary of Vanderhoof, BC. The wetland is situated next to the Nechako River and two schools, making it an excellent showcase for school and community-based education and awareness. The interpretive trail would be accessible locally to K-12 students from Vanderhoof and Saik'uz First Nation, CNC students, community residents and tourists. The virtual component – creating a virtual digital resource of the wetland – would be accessible by all students across School District 91 in addition to the general public.

## NANCY & RICHARD MARTENS EDUCATION CENTRE

280

E/S

2Y



The Nancy & Richards Martens Education Centre site provides hands-on learning activities for students from K to 12. The site has an active stream surrounded by a wooded area that provides a broad range of educational activities for teachers and students. The structure (working with local contractors) and interior add-ons such as the metal stove were constructed by area students. Low impact trails, storage facility for educational resource, and washrooms have also been installed by students to date. The use of the site is rapidly expanding year over year.





**MCLEOD WETLAND -  
WILDLIFE VIEWING  
PLATFORM**



DAVID MARTIN & SONS LTD  
BRITISH COLUMBIA  
CAPTIVENS ASSOCIATION  
2019 ENVIRONMENTAL  
'S LEADERSHIP AWARD

**REDMOND WETLAND -**



**WATERSHED SKILLS**



# ECHO NETWORK

4

S

1Y

**ECHO - Environment, Community, Health Observatory**

**LEGACY PROJECT** - Student attended the National symposium that addressed health, environment and community impact of resource development, with specific emphasis on rural, remote and Indigenous communities.

# STURGEON RELEASE

3000

E

6Y

Full day conservation event. Students directly participate in naming and releasing a one-year old endangered Nechako White Sturgeon into the Nechako River. Up to 600 students from across School District 91 participate in the event. Collaboration between the Nechako White Sturgeon Recovery Initiative, School District 91, Rio Tinto, Department of Fisheries, District of Vanderhoof, Carrier Sekani Tribal Council, and more. During COVID the event was cancelled, however students from across the District could watch the live-streamed sturgeon release.

*"The sturgeon release is the most fun event in Vanderhoof." Kate, Grade 7, NVSS*

# STURGEON STORM DRAIN PROJECT

144

E

6Y

Students in Vanderhoof, Fraser Lake and Fort St. James paint sturgeon and salmon images at storm drains to promote conservation within the watershed.



**STURGEON STORM DRAIN PROJECT**

**STURGEON RELEASE - STUDENTS AT THE STURGEON RELEASE EVENT.**



**WATERSHED SKILLS**



## INDIGENOUS FILM ACADEMY

12

S

2Y



A partnership with the University of Victoria to develop media arts (film making) program for First Nation students.



## TRU INTEGRATED LAB

96

S

6Y



A partnership with Thompson Rivers University (TRU) where laboratory level water and/or soil sample testing is facilitated remotely between the school and TRU.

## PROJECT SMELTER & SKINS LAKE SPILLWAY

24

S

2Y



A career awareness opportunity for Secondary students to tour and interact with staff at Rio Tinto operation sites in the Nechako Watershed and in Kitimat. Students have toured the Rio Tinto Aluminium Smelter and most recently the Skins Lake Spillway.







**PROJECT SMELTER - SKINS  
LAKE SPILLWAY**

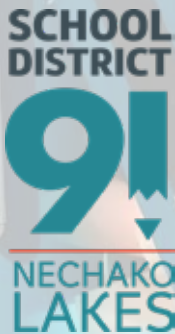


**WATERSHED SKILLS**



# *“Making Education Real & Relevant”*

## ADST APPLIED DESIGN



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