



National Archery in the Schools Program

BC Middle School Curricular Connections Overview

Revised 2022

“On Target for Life”

The objectives of NASP® are to improve self-confidence, motivation, concentration, focus, academic performance and increase attendance in schools. In addition, safety strategies and techniques necessary to participate in archery learned through NASP® can lead to lifetime enjoyment of the sport. Integrating NASP® into your Grade 6-8 classroom aligns with many of the goals of the BC curriculum to “Know-Do-Understand”.

Curricular Connections

Core Competencies.....	2
Physical and Health Education.....	3
Science.....	3
Mathematics.....	4
Career Education.....	4
Social Studies.....	5
Applied Design, Skills, and Technologies.....	5

Appendices

Appendix A: Brief History of Archery.....	6
Appendix B: Glossary of Archery Terms.....	8
Appendix C: NASP® Scoring Instructions.....	10
Appendix D: NASP® Archery Assessment.....	12
Appendix E: Reducing Barriers.....	13

Note: This document may be used only in conjunction with the National Archery in the Schools certification training and training materials. The activities, enhancements and timeframe of this unit may be adapted to fit specific student or classroom needs. However, the safety procedures and instructional guidelines for teaching archery as developed by the National Archery in the Schools Program MUST be taught throughout the unit. For adaptations to honor the needs of students with disabilities, please see Appendix D.

Curricular Connections

Core Competencies

Competitive shooting matches provide an opportunity to both compete against one's self and to share in personal achievements and team pride in competition. Participating with a team can create feelings of unity between students and allows students to develop self-control. The opportunities to practice and develop Core Competencies are inherent and plentiful within the NASP® setting.

Communication

- **Connecting and engaging with others:** Students participate in intentional and collaborative conversations to maintain a safe range where all students can be active participants in different ways.

Communicating



- **Working Collectively:** Students work together to achieve group tasks, such as team shooting challenges, and adjust their approach and resources as the task proceeds.

Collaborating



Thinking

- **Analyzing & Critiquing:** Students must analyze and adjust their own and other's form and process to improve their shooting over time.

Critical & Reflective Thinking



Personal & Social

- **Self-regulating:** Learning archery requires patience and time.
- **Well-being:** Archery offers opportunities to stay active and relieve stress.

Personal Awareness



- **Identifying personal strengths & abilities:** Students each have different shooting strengths which can be applied to individual and team archery goals.

Positive Personal Identity



- **Contributing to community:** A safe range is only possible when all participants are aware of their impacts and actions.

Social Responsibility



Physical Health Education

Archery adapts easily to individual physical needs and archers face only the challenge of improving their own score, competing against others, or testing their skills. Excellent physical condition is not required for beginning archery classes. Upper body, shoulder and arm strength can be developed, as can hand-eye coordination, and both gross and fine motor skills. See Appendix E: Reducing Barriers for more information.

Big Ideas

- Daily participation in different types of physical activity enables us to practice skillful movement and influences our physical literacy and personal health and fitness goals
- Lifelong participation in physical activity has many benefits and is an essential part of a healthy lifestyle
- Physical literacy and fitness contribute to our success in and enjoyment of physical activity

Curricular Competencies

- Develop, refine, and apply a variety of fundamental movement skills in a variety of physical activities and environments
- Develop and demonstrate safety, fair play, and leadership in physical activities
- Describe how students' participation in physical activities at school, at home, and in the community can influence their health and fitness
- Participate daily in physical activity designed to enhance and maintain health components of fitness
- Describe and assess strategies for promoting mental well-being, for self and others

Science

The establishment of a safe archery range mirrors many of the skills and understandings needed in a science classroom: risk assessment, pattern identification, etc. Additionally, the use of a bow and arrow demonstrates clear relationships between energy and motion.

Big Ideas

- Science 6
 - Newton's three laws of motion describe the relationship between force and motion

Curriculum Competencies

- Demonstrate a sustained intellectual curiosity about a scientific topic or problem of personal interest

- Make observations in familiar or unfamiliar contexts
- Formulate alternative “If...then...” hypotheses based on their questions
- Use equipment and materials safely, identifying potential risks, and ensure that safety and ethical guidelines are followed
- Seek patterns and connections in data from their own investigations and secondary sources
- Communicate ideas, findings, and solutions to problems in a variety of ways

Mathematics

Mathematical concepts can be addressed, taught and real-life connections formed through archery. In particular, the representation of archery scores in a variety of formats can be used to assess and improve on personal archery success over time. See Appendix C: NASP® Scoring Instructions for more information.

Big Ideas

- Math 8
 - Number represents, describes, and compares the quantities of ratios, rates, and percentages
 - Analyzing data by determining averages is one way to make sense of large data sets and enables us to compare and interpret

Curricular Competencies

- Use reasoning and logic to explore, analyze and apply mathematical ideas
- Estimate reasonably
- Develop, demonstrate, and apply mathematical understanding through play, inquiry, and problem solving
- Connect mathematical concepts to each other and to other areas and personal interests

Career Education

Understanding one’s strengths and working towards goals makes archery a perfect tool for use in Career Education. Change over time takes commitment and a specific direction for improvement. See Appendix D: NASP® Archery Assessment and Archery Instructor Manual for more information.

Big Ideas

- Practising respectful, ethical and inclusive behaviour prepares us for the expectations of the workplace
- Safe environments depend on everyone following safety rules

- New experiences, both within and outside of school, expand our career skill set and options
- Achieving our learning goals requires effort and perseverance

Curricular Competencies

- Appreciate the importance of respect, inclusivity, and other positive behaviours in diverse, collaborative learning, and work environments
- Demonstrate safety skills in an experiential learning environment
- Set realistic short- and longer-term learning goals, define a path, and monitor progress

Social Studies

From its invention and proliferation to its participation as a recreative sport, archery has experienced an array of innovations, uses and perspective changes. See Appendix A: Brief History of Archery for more information.

Big Ideas

- Social Studies 7
 - Geographic conditions shaped the emergence of civilizations
 - Religious and cultural practices that emerged during this period have endured and continue to influence people
- Social Studies 8
 - Human and environmental factors shape changes in population and living standards

Curricular Competencies

- Use Social Studies inquiry processes and skills to ask questions; gather, interpret, and analyze ideas; and communicate findings and decisions
- Develop a plan of action to address a selected problem or issue

Applied Design, Skills, and Technologies

The use of the bow and arrow throughout history has demonstrated a vast array of materials and methods, matched only by the ingenuity of the people creating them throughout time and place. See Appendix A: Brief History of Archery for more information.

Big Ideas

- Designs can be responsive to identified needs

Brief History of Archery

The bow and arrow are two of the oldest tools known to humankind, dating back to the Stone Age. Experts believe the bow and arrow are one of the three most important inventions in human history – alongside the discovery of fire and the development of speech. Armed with the bow and arrow, humans became the most efficient hunter on Earth, able to shoot prey accurately from a safe distance. The bow and arrow gave humans a diet richer in protein and a more abundant supply of raw materials like bone, sinew and hide for further tool innovation.

62,000 BC: Stone points found in Sibudu Cave, South Africa demonstrate some of the earliest evidence of arrow innovation. Glue used to fasten arrowheads was preserved on the shafts, indicating ancestral African archers used techniques remarkably similar to those still in use today.

13,000 BC: Archery is thought to have been present in North America as early as 20,000 years ago in areas like the Great Lakes and the high Arctic. Intimate relationships with land led to diversity and innovation in bow construction. For example, a lack of wood of the right length led to intricate bows made of multiple pieces of wood held together with sinew in the Arctic.

3500 BC: Ancient Egyptians used two kinds of wooden longbows, a one-piece or “self” bow and the double recurve type. They also used shorter composite bows, made of Oryx horn and wood. Many of these bows were imported from master bowyers in what’s now known as Syria and Turkey. The leaf- and diamond-shaped arrowheads were made of flint and later bronze.

1700 BC: The Assyrians dominated West Asia for centuries and were the first to use mounted archers. Their composite bows were uniquely triangular and short enough to be held on horseback.

1200 BC: The Hittites’ skillful use of archery from chariots was an effective form of mobile warfare. Their light, fast chariots enabled them to out-maneuver and out-shoot their opponents.

500 BC: The Scythians were nomadic female warriors who perfected horseback archery. Their ferocity and effectiveness in battle became legend. Their descendants, the Parthians, invented the “Parthian Shot”: twisting in the saddle to shoot backwards while at full gallop. This acrobatic maneuver enabled them to ride swiftly through enemy ranks, shooting arrows in any direction.

100 BC: Although the Romans were unparalleled in hand-to-hand combat, they were ineffective archers. Instead, they hired professional bowmen under the Latin name “Cohortes Sagittariorum”.

250 AD: Archery on the western Plains of North America continues to demonstrate incredible variety and specific knowledge of place. Indigenous Peoples of the Plains, such as the Siksika, Piikani, Kainai, Dakota, Stoney Nakoda, Cree, Assiniboine and Tsuut’ina, reinforced short bows with sinew-backing, making them powerful and tensile enough to hunt buffalo.

AD 1066: The Vikings introduced the longbow to the French when they settled in Normandy, its efficiency persuading later generations of Englishmen to adopt it as their main weapon.

AD 1200: The Mongols, armed with composite bows and iron-tipped arrows, conquered most of the world known to them. All of Asia and Europe trembled before these disciplined, nomadic horse-archers, who, led by Genghis Khan, perfected the art of mobile warfare.

AD 1400: English archers, shooting the longbow and “cloth yard” (37”) shafts, gained fame in the 13th-14th centuries by defeating the French in such battles as Crecy, Poitiers and Agincourt.

The evolution of archery continues as extremely skilled archers continue to live using the bow and arrow. Indigenous societies in Amazonia construct extremely long bows with arrows that double as spears. North Sentinel Island in the Bay of Bengal continues to defend itself from colonial forces through the focus and skill of their archers. In North America, bows made from horn, similar to those made by the Kutenai or the Nez Perce Tribe west of the Rocky Mountains, have competed successfully in tournaments against archers using fiberglass bows and are known for their accuracy.

Today, the “twang” of over six million archers’ bowstrings can be heard at schools, municipal parks, club ranges and in the programs of various youth groups in North America. The reasons for this popularity are simple. It is a sport that can be practiced at any time of the year, indoors or out, in any part of the world, with friends or alone. It is relatively inexpensive. Unlike athletes in many other sports, an archer can improve with age since endurance and skill are far more important than brute strength. Archers in their 80s have won competitions!

Originally developed in the United States, NASP® began as a program for schools, but now spans 5 countries and 3 continents in schools, camps, community groups, and others. The B.C. Wildlife Federation is proud to serve as the regional headquarters for NASP® in BC. NASP BC provides teacher training, support to NASP schools, instructors, and volunteers, and coordinates tournaments.

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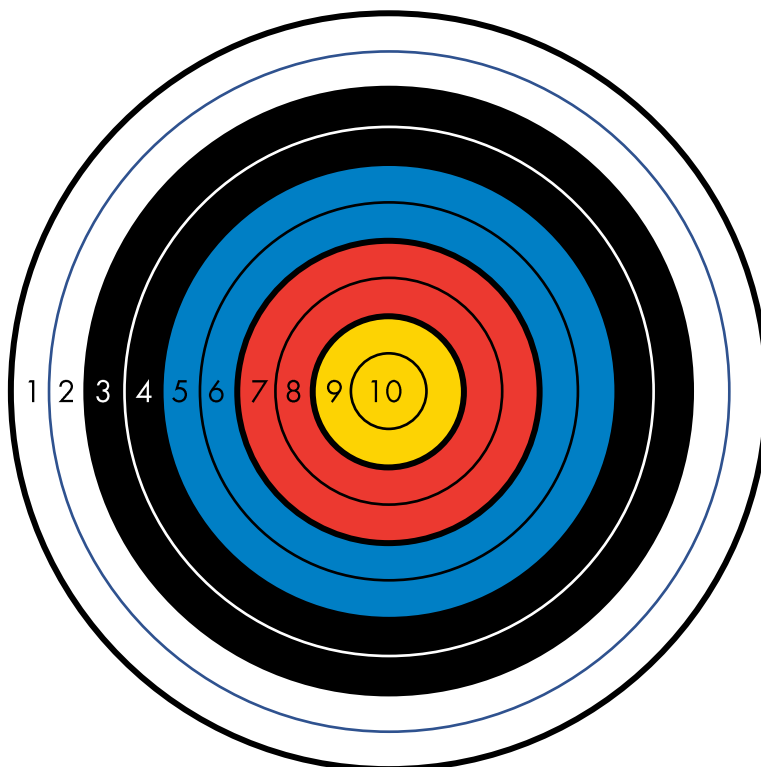


Glossary of Archery Terms

- Aim:** Any method used to point the arrow in the directions you want it to go.
- Anchor:** Consistent placement of the drawing hand to a position on the face, mouth, or jaw.
- Arm Guard:** A piece of stiff material such as leather used to protect the bow arm of the bowstring upon release. It is worn on the inside of the forearm of the bow arm.
- Arrow rest:** The horizontal projection on the bow upon which the arrow lies.
- Back:** The side of the bow away from the bowstring.
- Barebow:** A style of shooting –without a bow sight.
- Blunt tip:** An arrow point usually made of rubber and used in some archery activities.
- Bow:** A device made of a piece of flexible material with a string connecting the two ends, used to propel an arrow.
- Bow sight:** A mechanical device placed on the bow, which the archer uses for aiming at the target.
- Bow square:** A “T” shaped device used to measure brace height and for placing nock locaters.
- Bow stringer:** A device used to string a bow safely.
- Brace height:** The distance between the pivot point to the string when the bow is strung. Also called the string height and once called the fistmele.
- Broadhead:** A sharp, razor bladed arrow point used for hunting.
- Butt:** Any backstop to which a target face is attached.
- Cant:** To tilt the bow left or right while at full draw.
- Cast:** The ability of a bow to propel an arrow at a given distance.
- Center serving:** The material in the center of the bowstring where the arrow is nocked. Protects the string from wear.
- Composite bow:** A bow made of several materials.
- Compound bow:** A hand-held, hand-drawn bow that uses a pair of cables and wheels to store more energy.
- Crest:** The colored bands around the shaft of an arrow, which aid in its identification.
- Draw:** To pull the bow string back. Also the distance the bowstring is pulled back.
- Draw weight:** The weight, measured in pounds, used to bring the bow to full draw. Also the weight on a bow, using 28 inches to front of bow as the standard draw length.

- End:** A set number of arrows that are shot before going to the target to score and retrieve.
- Finger Tab:** A flat piece of smooth material, which protects the fingers of the drawing hand.
- Finger Sling:** A small strap that attaches to the thumb and index finger of the bow hand.
- Fletching/Fletch:** The feathers, plastic vanes or other devices attached to the arrow shaft, which stabilize the flight of an arrow.
- Flu-Flu:** An arrow with large untrimmed feathers, which restrict the distance it will travel; used for shooting aerial targets.
- Follow-through:** Maintaining the motion of the upper body muscles after releasing the string.
- Full-draw:** The position of the archer when the bowstring has been draw to the anchor point.
- Group:** To shoot arrows in a pattern, or the pattern of the arrows in the target.
- Laminated bow:** A bow made of several layers of material glued together, usually two layers of fiberglass and a hardwood core.
- Letdown:** Returning from full draw to the undrawn position with control and without releasing the string.
- Limb:** Upper or lower part of the bow that bends when the string is drawn back. The part of the bow where the energy is stored.
- Nock:** To place the arrow on the string. Also the attachment to the rear end of an arrow, which is placed on the bowstring and holds the arrow on the string.
- Nock locator:** The mark or device that indicates where the arrow is to be placed on the string.
- Recurve bow:** A bow with limbs that bend away from the archer when the bow is held in the shooting position
- Serving:** The wrapping of material around the loops and center of the bow string to protect it.
- Spine:** The stiffness or amount and arrow bends, determined by hanging a 2# weight from the center of the arrow and measuring the bend.
- Stabilizer:** A rod attached to the handle riser. Usually has a weight on the end of the rod. Absorbs the vibration of the bow when the string is released.
- Toxophilite:** A lover of the bow: an archer.
- Tune:** To adjust the variables in the bow and arrow system to achieve the best arrow flight and arrow groups.
- Vane:** Any fletching made of a material other than feathers, usually plastic.
- Windage:** The left-right adjustment of the bow sight.

NASP® Scoring Instructions



After each stand of arrows, the target should have 10 arrows in each face: five of one colored nocks (student 1); five of another color (student 2). Scoring is from 1 for the outside ring to 10 points for the inner yellow ring.

- Anytime the arrow cuts and is touching the line of the next higher scoring ring – the higher ring value is awarded.
- If the arrow is outside the total target circle or misses entirely, it is a zero.
- Arrows that hit the target and bounce off should be left blank and then after all shooting is over, students will be allowed to shoot again for “bounce outs.”

No scorer should pull arrows until after they are scored and marked on the score sheets/clipboards. Indicate the number of 10s/Xs for final ranking purposes. Upon completion of the 15-meter round, scorers and students will check the accuracy of the scores and then sign the scorecard before turning them in to the scorers’ table. See below for an example of a student’s scorecard as well as a blank template.

Sample Student Scorecard

Name: <i>Anjali</i>						Date: <i>February 12</i>		
Grade: <i>7</i>			Shooting Lane: <i>6</i>					
10m sets	1	2	3	4	5	End Total	Running Total	X
	7	8	9	10	10	44	44	2
	9	9	6	10	8	42	86	1
	10	9	8	9	10	46	132	2
TOTAL SCORE							132	5
15m sets	1	2	3	4	5	End Total	Running Total	X
	7	8	9	10	10	44	176	2
	10	9	6	10	9	44	220	2
	6	8	9	10	10	43	263	2
TOTAL SCORE							263	6
OVERALL TOTAL SCORE							263	11

Scorecard Template

Name:						Date:		
Grade:			Shooting Lane:					
10m sets	1	2	3	4	5	End Total	Running Total	X
TOTAL SCORE								
15m sets	1	2	3	4	5	End Total	Running Total	X
TOTAL SCORE								
OVERALL TOTAL SCORE								

NASP® Archery Assessment

Task	Mastery	Advancing	Developing	Beginning	Date: Score
String Bow	Consistently uses string bow to improve form, shooting and aiming. Follows all 11 Steps to Archery Success.	Mostly works with string bow. Follows most of 11 Steps. Attempts to improve a consistent release.	Sometimes works with string bow.	Rarely works with string bow.	
Shooting Prep (Steps 1-5)	Consistent preparation; stance, nock, draw hand set, bow hand set, and pre-draw.	Mostly prepares for shooting using 3-4 steps correctly.	Sometimes prepares for shooting using 1-2 steps correctly.	Rarely prepares for shooting using 0-1 steps correctly.	
Shooting (Steps 6-11)	Consistently uses the last 6 steps; draw, anchor, aim, shot setup, release & follow through/reflect	Mostly uses shooting steps by using 4-5 steps correctly.	Sometimes uses shooting steps by using 2-3 steps correctly.	Rarely uses shooting steps by using 0-1 steps correctly	
Safety	Consistently follows all whistle commands and arrow safety in nocking, aiming, retrieval and carrying.	Mostly follows the previously mentioned safety rules.	Sometimes follows the previously mentioned safety rules.	Rarely follows previously mentioned safety rules.	
Scoring	Consistently follows scoring protocol; remain on feet, accurately call out and score partner's arrows, remain aware of partner calling out and scoring your arrows, initial box after each end, stay behind target waiting line while partner is pulling arrows.	Mostly follows scoring protocol; following 3-4 guidelines.	Sometimes follows scoring protocol; following 1-2 guidelines.	Rarely follows scoring protocol; following 0-1 guidelines.	
Etiquette	Consistently follows etiquette procedures; remain in half of the lane, remain quiet while shooting, and positive interactions with partner.	Mostly follows etiquette procedures; Some talking while shooting or exciting/discouraging sounds after shots.	Sometimes follows etiquette procedures; doesn't pay attention to half of the lane, talking to partner while shooting, shows frustration in shots.	Rarely follows etiquette procedures; horsing around while waiting, "trash talking", putting others down.	

Reducing Barriers

NASP® receives many emails and phone calls from educators, coaches, and parents, inquiring about how they can enable participation in NASP® for individual students with specific physical challenges. NASP® certainly wants to see as many students as possible enjoy archery. Compiled from the shared experiences of others that have successfully helped a specific student experience the joy of archery, this is no way intended to be a comprehensive guide for every situation, but more of a starting point based on the previous success of others.

Support examples include reducing barriers around vision, hearing, stance, draw hand set, and bow hand set. Safety is the ultimate priority. Any participating student must be capable of safely operating the Genesis bow and maintaining its direction toward the intended target. Students must be capable of comprehending and following NASP® rules and safety protocols. While this may not be possible for every student, this guide was intended to increase participation for many.

As each child is a unique individual with individual circumstances, anyone seeking options to enable participation by a student in NASP®, should first consult with the student, student’s parents, teachers, and school administrators. These trusted individuals would know best as to the specifics of any existing educational support or modification plan that is in place for an individual student seeking to experience archery.

In each of the following examples, all NASP® rules and protocols must be followed. Archers and all equipment must remain within their 30” space of the shooting line. Care must be taken to prevent impacting adjacent archers as assistance is provided. Although program participation is desired, everyone’s safety must be maintained as the priority.

Vision

If a student is unable to see the target.

A coach or support person may be permitted to stand directly behind the archer. With the support person looking over the archer’s shoulder, audible instructions may be provided to guide the archers aim to the target, and when to release. The support person may also accompany the archer to and from the target and assist with the pulling of arrows and scoring. Care must be taken to prevent impacting adjacent archers as assistance is provided. The following is a video link that may be of assistance. <https://youtu.be/5Wju5wdRUnY>

Hearing

If a student is unable to hear the whistle commands.



A coach or support person may be permitted to stand directly behind the archer. Light taps on the shoulder or suitable area can replace the whistle commands. If any emergency arises the support person is there to make sure the archer is aware and responds accordingly. The support person may also accompany the archer to the target and assist with pulling of arrows and scoring, if necessary. Care must be taken to prevent impacting adjacent archers as assistance is provided. An assisting adult may also provide an option for other circumstances.

Stance

If a student is unable to stand at the shooting line.



A chair or wheelchair may be placed on the shooting line, straddling the shooting line, in a manner similar to what is described in "Stance", and to what is pictured below. A support person may be allowed to assist if necessary. The archer may shoot from a seated position. Depending on available space, and situation, the archer may be moved to a different lane. However, in most cases archers can share a lane with another archer without issue. The support person may also assist with the retrieving of arrows and scoring if necessary.

Draw Hand Set

If a student archer has restricted ability to hold and draw the bowstring. *Note: release aids are not permitted in NASP®.*



A mouth tab can be added to the bowstring. The archer can then hold the mouth tab in their mouth securing it with their Molars and pre-molars (side teeth). The bow arm is pushed forward to “draw the bow”. When the desired aim is achieved, the archer relaxes their jaw muscles and lets the tab go, releasing the bowstring.

Instructions for installing one type of mouth tab and several reference videos:

- <https://www.naspschools.org/resources/general-resources>
- <https://www.youtube.com/watch?v=mjgWS0MU430>
- <https://www.youtube.com/watch?v=Z8HBsQipsdE>
- <https://www.youtube.com/watch?v=OgtKc6yY-6w>

Bow Hand Set

If a student archer has any condition restricting their ability to physically support the bow on their own.



A device may be used to support the bow for the archer. The device can only take up the available 30" space of the shooting line that each archer is provided. The device must not interfere with, or pose any risk to, archers in adjacent lanes.

One such device we have seen is manufactured by Archery Shooter Systems, The Shooter Assist Stand. This is a device that has worked for many archers. The Shooter Assist Stand may be used independently or in conjunction with other methods to accommodate a wide range of challenges. Archery Shooter Systems can help with each situation and provide specific information for use. NASP® provides this option only as an example.

Archery Shooter Systems can be contacted at:

Tony and Doreen Bergh 109 N Wagner St Endeavor, WI 53930

608-587-2554

www.bowhanger.com

Additional video with several archers featured:

- <https://www.youtube.com/watch?v=RldgwHAcYIO&feature=youtu.be>