



SASKATCHEWAN
SPORTS
HALL OF FAME

STEM in Sports Science

Have you ever wondered about how science, technology, engineering and math connect to sport? They are, in fact, a very large part of sport. In this lesson we will focus on one part of **Science in sport**.

Teachers: Please use this as a starting point. Modify and add in any way that best suits your classroom.

Grade focus:

4-8

9-12

Objective:

To get the students to focus on one part of Science in sport and Sport Medicine in particular. Using our STEM Interactive Gallery in house or analyzing the 5BX Plan developed by our inductee Dr. Bill Orban, how do these simple exercises help to increase and maintain fitness?

Educational Outcomes:

USC4.1	PE5.1	PE6.1	PE7.1	PE8.1	PE9.1
AP4.1	PE5.2	PE6.2	PE7.4	PE8.2	PE9.4
PE4.1		PE6.3		PE8.10	PE9.9
PE4.8		PE6.4			
		PE6.12			

Lesson:

- The 5BX Plan – Five Basic Exercises – was devised by Dr. Bill Orban for the Royal Canadian Air Force in the late 1950's. It is said that this helped launch the modern sport fitness culture. A companion to this was developed for females called the XBX.
- Look up information about these plans and briefly describe what the program is all about. What is the basic premise behind it?
- Analyze each exercise and describe how it is helping the body to stay fit and healthy. If the chart below helps, fill it out completely.
- Do these exercises each day together as a class and discuss your findings. Males completing the 5BX and females the XBX.
- What was one thing about this program that made it so popular for those stationed in remote settings?
- Watch the video <https://www.youtube.com/watch?v=NMGQzMjeO1k>
- If you were to design your own exercise routine, what would you include and why?
- Create your own exercise program and teach it to the rest of the class. Give reasoning why you chose the exercises you did.

In Gallery:

- When you visit the Saskatchewan Sports Hall of Fame, we have installed a STEM Interactive Gallery sponsored by SaskTel.
- There are six pieces of equipment there. Try each one and make notes of your results on the chart below. If you can't visit the SSHF, research each of these pieces of equipment.
- Immediately after each exercise, take your heartrate. Which elevates it the most?
- Once you have recorded your results, try the "Things to try" section for each. Make note of your findings.
- Would there be any other exercises you would include to make the circuit more complete?
- If you were to design your own exercise routine, what would you include and why?
- Create your own exercise program and teach it to the rest of the class. Give reasoning why you chose the exercise:

5BX or XBX? _____

Exercise	How many times a day is this exercise done?	How many minutes do you have to complete this exercise?	What part of the body/muscles is this exercise targeting?	How many days in a row should you do this exercise before progressing?	What would be the target based on your age?
1					
2					
3					
4					
5					

STEM (Science, Technology, Engineering and Math) gallery
Sponsored by SaskTel

Exercise	Results for each (distance, height, ability to complete etc.)	Heart rate after each?	While doing the "Things to try" note any interesting findings	What part of the body/muscles is this exercise targeting?	Which exercise was the easiest for you? Why?	Try them all a second time. Did your results increase or decrease?
Balance board						
Vertical Challenger						
Long jump mat						
Push up mat						
Sit and reach device						
Hand Dynamometer						