Mission Creek Study Area
Mapping Assignment

Problem: How can we familiarize ourselves with the Mission Creek Study Area?

Materials: pencil, pencil crayons, ruler, blank paper.

Procedure:

Obtain the necessary materials and hike with your group to Mission Creek Park.
Walk over the Mindy Tran Bridge. Once you get to the other side, turn around and face the direction from which you came. You are now facing North.

Mission Creek Study Area Map

- ☐ On a piece of blank paper, draw a rough copy of a map that describes this area. Your map will cover an area including the parking lot to the North, the flow diverter to the West, the sediment pond to the South, and the green bridge crossing the Kokanee Channel to the East. Take special care in creating this rough draft. You will use this rough draft to help you create a good copy.
- ☐ Draw a map of the Mission Creek Study Area in good copy. Your map must:
  - have a 1 cm border
  - have a title
  - label the secondary (overflow) channel, primary channel, the sediment pond, the kokanee channel.
  - have a legend which includes symbols for a bridge, the parking lot, the flow diverter, a levee, a weir.
  - be done in pencil and coloured in pencil crayon.

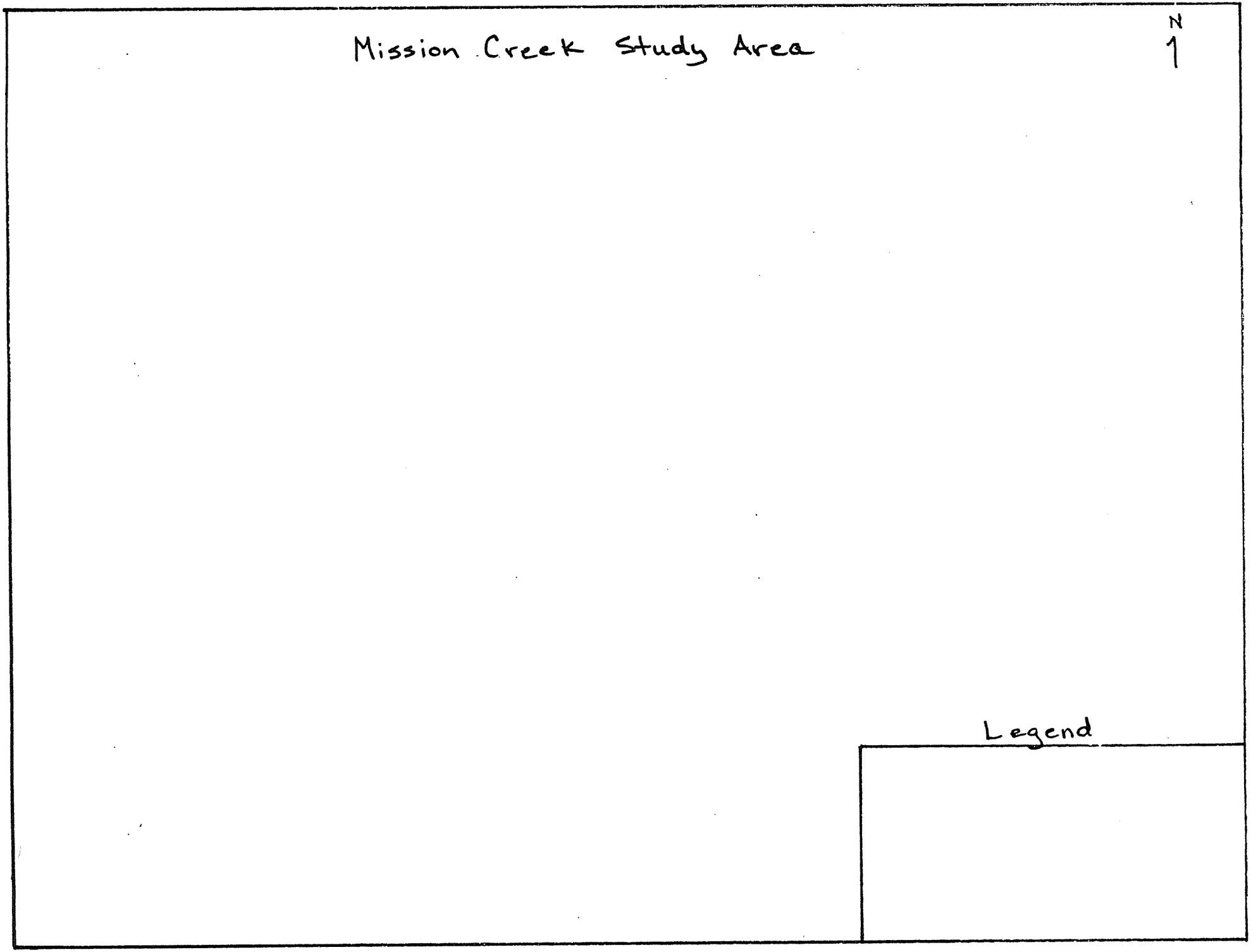
Mission Creek Study Area Cross-Section

- ☐ Imagine that you were able to take a knife and slice the earth in half. The view that you would be able to see from the side is called a cross-section. It allows us to see and area's topography (how hilly or flat an area may be).
- ☐ On a piece of blank paper create a cross-section of the Mission Park Study Area in rough copy. The cross-section should include the parking lot, the secondary (overflow) channel, the primary channel, the sediment pond, and the orchards above the study area.
- ☐ Be sure to label all bodies of water, the levees, and the orchard. This cross-section must be coloured.

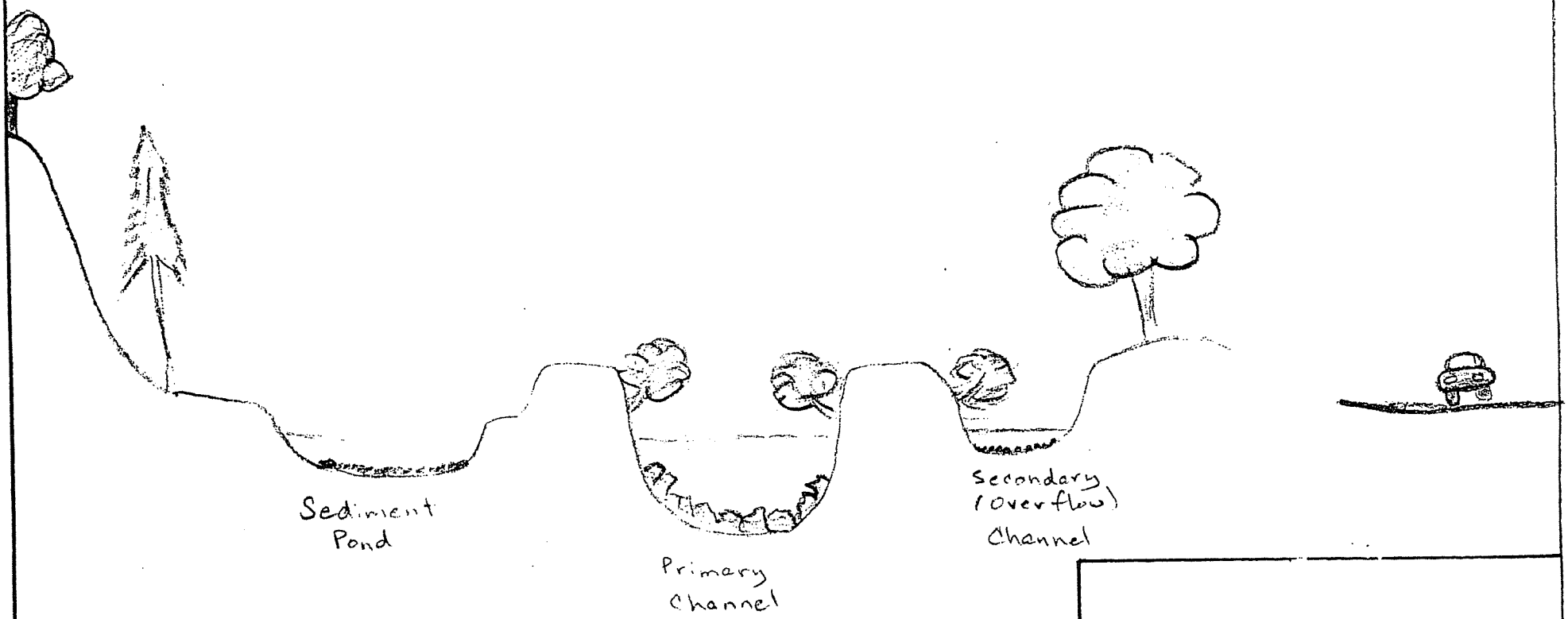
Summary (answer the problem in the space below)

Mission Creek Study Area

N



Mission Creek Study Area
Cross - Section



Name:_____
Marked by:_____
Score:____/30

STREAM FLOW ANALYSIS OUTDOOR LAB

Problem: Can we determine how many cubic meters (m3) of water that will pass a point in the kokanee channel each second?

Materials: stopwatch, measuring device, 10m styro line, clipboard, paper, and pencil

Procedure:

1. Obtain the necessary materials from the counter and hike with your group to the Mindy Tran bridge on Mission Creek. Cross over the bridge, turn right and go down to the kokanee bridge. From the bridge, walk along the bank of the channel until you have a 10m stetch of the channel to study.
2. Quickly do all the measurements outlined in the "Observation" chart being careful to ***not disturb the banks or the bottom of this sensitive channel!***
   a) When measuring the depth, be sure that the small stick on the end of the measuring device is vertical (90 degrees to the stream bed). Remember that you are measuring in meters so 25cm on the meter stick would be .25m.
   b) When measuring the width, measure the actual water surface and do not include the stream bank.
   c) When measuring the speed, record the length of time that it takes the float to unravel the string, while holding the loose end.
3. Report to your teacher, then return to the school being sure to have all of your equipment with you.

Observations: (Diagram)

Draw a cross-section of the channel here. Be sure to include the rocky streambanks and vegetation. Label this back in the classroom. /10

Observations: (Calculations) /12

	Trial #1	Trial#2	Trial#3	Average
DEPTH (m)				
WIDTH (m)				
TIME (s)*				

NOTE: To find the average, find the sum of the 3 trials and divide by 3.

* To determine the time that the float travels each meter, be sure to divide each of these readings by 10 (move the decimal point one place to the left).

Discussion:

Calculation of the velocity (speed) of the channel
in cubic meters per second (m3/s):

Formula: V=WxDxAxR

V= Speed of the channel
W= Width of the channel
D= Depth of the channel
A= A constant value (0.9) which accounts for the amount of friction of the water on the stream bottom ie. gravel, sand, rocky with logs
T= Time it takes the water to move each meter

From **your** measurements (averages):

W=_____(m) D=_____ (m) A= (0.9) T=_____(sec.)

Therefore: V= (___)x(___)x(0.9)x(___)
W x D x A x T

=_____m3/s (cubic meters per second) /5

Summary:

_____

_____

_____ /3