(To be handed promptly on its receipt by the Secretary of every School Board to each Teacher employed within the School Section.)

LOCAL "NATURE" OBSERVATIONS.

This sheet is provided for the purpose of aiding teachers to interest their pupils in observing the times of the regular procession of natural phenomena each season. First, it may help the teacher in doing some of the "Nature" lesson work of the Course of Study; secondly, it may aid in procuring valuable information for the locality and province. Two copies are provided for each teacher who wishes to conduct such observations, *one* to be preserved as the property of the section for reference from year to year; the *other* to be sent in with the Return to the Inspector, who will transmit it to the Superintendent for examination, and compilation.

What is desired is to have recorded in these forms, the dates of the *first* leafing, flowering and fruiting of plants and trees; the *first* appearance in the locality of birds migrating north in spring or south in autumn, etc. While the objects specified here are given so as to enable comparison to be made between the different sections of the Province, it is very desirable that other local phenomena of a similar kind be recorded. Every locality has a *flora*, *fauna*, *climate*, etc., more or less distinctly its own; and the more common trees, shrubs, plants, crops, etc., are those which will be most valuable from a local point of view in comparing the characters of a series of seasons.

Teachers will find it one of the most convenient means for the stimulation of pupils in observing all natural phenomena when going *to* and *from* the school, and some pupils radiate as far as two miles from the school room. The "nature study" under these conditions would thus be mainly undertaken at the most convenient time, without encroaching on school time; while on the other hand it will tend to break up the monotony of school travel, fill an idle and wearisome hour with interest, and be one of the most valuable forms of educational discipline. The eyes of a whole school daily passing over a whole school section will let very little escape notice, especially if the first observer of each annually recurring phenomenon receives credit as the first observer of it for the year. The observations will be accurate, as the facts must be demonstrated by the most undoubted evidence, such as the bringing of the specimens to the school when possible or necessary.

To all observers the following most important, most essential principles of recording are emphasized: Better *no date*, NO RECORD, than a WRONG ONE or a DOUBTFUL one. Sports out of season due to very local conditions not common to at least a small field, should not be recorded except parenthetically. The date to be recorded for the purposes of compilation with those of other localities should be the *first* of the *many* of its kind following immediately after, it. For instance, a butterfly emerging from its chrysalis in a sheltered cranny by a southern window in January would not be an indication of the general climate, but of the peculiarly heated nook in which the chrysalis was sheltered; nor would a flower in a semi-artificial, warm shelter, give the date required. When these sports out of season occur, they might also be recorded, but within a parenthesis to indicate the peculiarity of some of the conditions affecting their early appearance.

These schedules should be sent in to the Inspector with the annual school returns in July, containing the observations made during the whole school year and back as far as the preceding July (if possible) when the schedule of the previous school year was necessarily completed and sent in.

A duplicate copy of the schedule of observations should be securely attached to the school register for the year, so that the series of annual observations may be preserved in each locality. The new register has a page for such records.

Remember to fill in carefully and distinctly the date, locality, and other blanks at the head of the schedule on the next page; for if either the date or the locality or the name of the responsible compiler should be omitted the whole paper is worthless and cannot be bound up for preservation in the volume of The Phenological Observations.

By the aid of the table given at the top of pages 3 and 4, the date, such as the 24th of May for instance, can be readily and accurately converted into the *annual* date, "the 144th day of the year," by adding the day of the month given to the annual date of the last day of the preceding month (April in this case), thus: 24+120=144. The annual date can be briefly recorded, and it is the only kind of dating which can be conveniently averaged for phenological studies. When the compiler is quite certain that he or she can make the conversion without error, the day of the year instead of the day of the month will be preferred in recording the dates.

PHENOLOGICAL OBSERVATIONS, CANADA.

(1906 SCHEDULE.)

For the *year* ending *July*, 190 .

Province.....County..... District .....

Locality or School Section ....No.....

[The estimated length and breadth of the locality within which the following observations were made.....×.....miles. Estimated distance from the sea coast..... miles. Estimated altitude above the sea level.....feet.

Slope or general exposure of the region..... .....

General character of the soil and surface ....

Proportion of forest and its character ....

Does the region include lowlands or intervales?.....and if so name the main river or stream.....Or is it all substantially highlands? .....

Any other peculiarity tending to affect vegetation? ....

....

The most central Post Office of the locality or region..... .....

NAME AND ADDRESS OF THE TEACHER OR OTHER COMPILER OF THE OBSERVATIONS RESPONSIBLE FOR THEIR ACCURACY.	When First Seen.	When Becoming Common.
(WILD PLANTS, ETC.—NOMENCLATURE as in "Spotton" or "Gray's Manual").		
1. Alder (Alnus incana), catkins shedding pollen.....		
2. Aspen (Populus tremuloides), "		
3. Mayflower (Epigæa repens), flowering		
4. Field Horsetail (Equisetum arvense), shedding spores.....		
5. Blood-root (Sanguinaria Canadensis), flowering....		
6. White Violet (Viola blanda), flowering		
7. Blue Violet (Viola palmata, *cucullata*), flowering.....		
8. Hepatica (H. triloba, etc.), flowering.....		
9. Red Maple (Acer rubrum), flower shedding pollen.....		
10. Strawberry (Fragaria Virginiana), flowering.....		
11. " " " fruit ripe.....		
12. Dandelion (Taraxacum officinale), flowering.		
13. Adder's Tongue Lily (Erythronium Am.), flowering		
14. Gold Thread (Coptis trifolia), flowering.....		
15. Spring Beauty (Claytonia Caroliniana), flowering.....		
16. Ground Ivy (Nepeta Glechoma), flowering		
17. Indian Pear (Amelanchier Canadensis), flowering		
18. " " " fruit ripe		
19. Wild Red Cherry (Prunus Pennsylvanica), flowering.....		
20 " " " fruit ripe.		
21. Blueberry (Vaccinium Can. and Penn.), flowering		
22. " " " fruit ripe		
23. Tall Buttercup (Ranunculus acris), flowering		
24. Creeping Buttercup (R, repens) flowering.....		
25. Painted Trillium (T. erythrocarpum), flowering		
26. Rhodora (Rhododendron Rhodora), flowering		
27. Pigeon Berry (Cornus Canadensis), florets opening		

PHENOLOGICAL OBSERVATIONS—*(Continued).*

[Day of year corresponding to the last day of each month.]

Jan.	31.	April	120.	July	212.	Oct.	304.
Feb.	59.	May	151.	Aug.	243.	Nov.	334.
March	90.	June	181.	Sept.	273.	Dec.	365.

(For LEAP years increase each number except that for January by 1.)

		When First Seen.	When becoming Common.
28.	Pigeon Berry (Cornus Canadensis), fruit ripe		
29.	Star Flower (Trientalis Americana), flowering		
30.	Clintonia (Clintonia borealis), flowering		
31.	Marsh Calla (Calla palustris), flowering		
32.	Lady's Slipper (Cypripedium acaule), flowering		
33.	Blue-eyed Grass (Sisyrinchium ang.), flowering		
34.	Twinflower (Linnæa borealis), "		
35.	Pale Laurel (Kalmia glauca), flowering		
36.	Lambkill (Kalmia angustifolia), "		
37.	English Hawthorn (Cratægus oxyacantha), flowering		
38.	Scarlet-fruited Thorn (Cratægus coccinea), "		
39.	Blue Flag (Iris versicolor), flowering		
40.	Ox-eye Daisy (Chrysanthemum Leucanthemum), flowering		
41.	Yellow Pond Lily (Nuphar advena), flowering		
42.	Raspberry (Rubus strigosus), flowering.		
43.	" " " fruit ripe		
44.	Yellow Rattle (Rhinanthus Crista-galli), flowering		
45.	High Blackberry (Rubus villosus), flowering		
46.	" " fruit ripe		
47.	Pitcher Plant (Sarracenia purpurea), flowering		
48.	Heal-All (Brunella vulgaris), "		
49.	Common Wild Rose (Rosa lucida), "		
50.	Fall Dandelion (Leontodon autumnale), "		
51.	Butter-and-Eggs (Linaria vulgaris), "		
52.	Expanding leaves in spring made trees appear green—(a) first tree, (b) leafing trees generally.		
	(CULTIVATED PLANTS, ETC.)		
53.	Red Currant (Ribes rubrum), flowering		
54.	" " fruit ripe		
55.	Black Currant (Ribes nigrum), flowering		
56.	" " fruit ripe		
57.	Cherry (Prunus Cerasus), flowering		
58.	" " fruit ripe		
59.	Plum (Prunus domestica) flowering		
60.	Apple (Pyrus Malus), flowering		
61.	Lilac (Syringa vulgaris), flowering		
62.	White Clover (Trifolium repens), flowering		
63.	Red Clover (Trifolium pratense), "		
64.	Timothy (Phleum pratense), "		
65.	Potato (Solanum tuberosum), "		
	(FARMING OPERATIONS, ETC.)		
66	Plowing begun		
67.	Sowing "		
68.	Planting of Potatoes begun		

PHENOLOGICAL OBSERVATIONS—*(Continued).*

69.	Shearing of Sheep		
70.	Hay Cutting		
71.	Grain Cutting		
72.	Potato Digging		
	(METEOROLOGICAL PHENOMENA.)	(a)	(b)
73.	Opening of (a) Rivers, (b) Lakes without currents		
74.	Last Snow (a) to whiten ground, (b) to fly in air		
75.	Last Spring Frost (a) "hard" (b) "hoar"		
76.	Water in Streams, Rivers, &c., (a) highest, (b) lowest		
77.	First Autumn Frosts, (a) "hoar" (b) "hard"		
78.	First Snow (a) to fly in air, (b) to whiten ground		
79.	Closing of (a) Lakes without currents, (b) Rivers		
80.	Number of Thunder Storms (with dates of each)		

Jan....., Feb....., Mar....., Apr....., May.....
..... June .....
July..... ....., Aug..... .....
Sept....., Oct....., Nov....., Dec.....

[Day of year corresponding to the last day of each month.]				Going North or coming in Spring.	Going South or leaving in Fall.
Jan. 31.	April 120.	July 212.	Oct. 304.		
Feb. 59.	May 151	Aug. 243.	Nov. 334.		
March 90.	June 181	Sept. 273.	Dec. 365.		

(For LEAP years increase each number except that for January by 1.)

	(MIGRATION OF BIRDS, ETC.)		
81.	Wild Duck migrating		
82.	Wild Geese migrating		
83.	Song Sparrow (Melospiza fasciata)		
84.	American Robin (Turdus migratorius)		
85.	Slate coloured Snow Bird (Junco hiemalis)		
86.	Spotted Sand Piper (Actitis macularia)		
87.	Meadow Lark (Sturnella magna)		
88.	Kingfisher (Ceryle Alcyon)		
89.	Yellow Crowned Warbler (Dendrœca coronata)		
90.	Summer Yellow Bird (Dendrœca aestiva)		
91.	White Throated Sparrow (Zonotrichia alba)		
92.	Humming Bird (Trochilus Colubris)		
93.	King Bird (Tyrannus Carolinensis)		
94.	Bobolink (Dolychonyx oryzivorus)		
95.	American Gold Finch (Spinus tristis)		
96.	American Redstart (Setophaga ruticilla)		
97.	Cedar Waxwing (Ampelis cedrorum)		
98.	Night Hawk (Chordeiles Virginianus)		
99.	Piping of Frogs		
100.	Appearance of Snakes		

(OTHER OBSERVATIONS AND REMARKS.)