Data Collection Packet

You MUST bring this packet to the field trip!!

On the day of the field trip, report your data to your Class Managers after each test!

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Fullersburg Woods

Oak Brook

Location

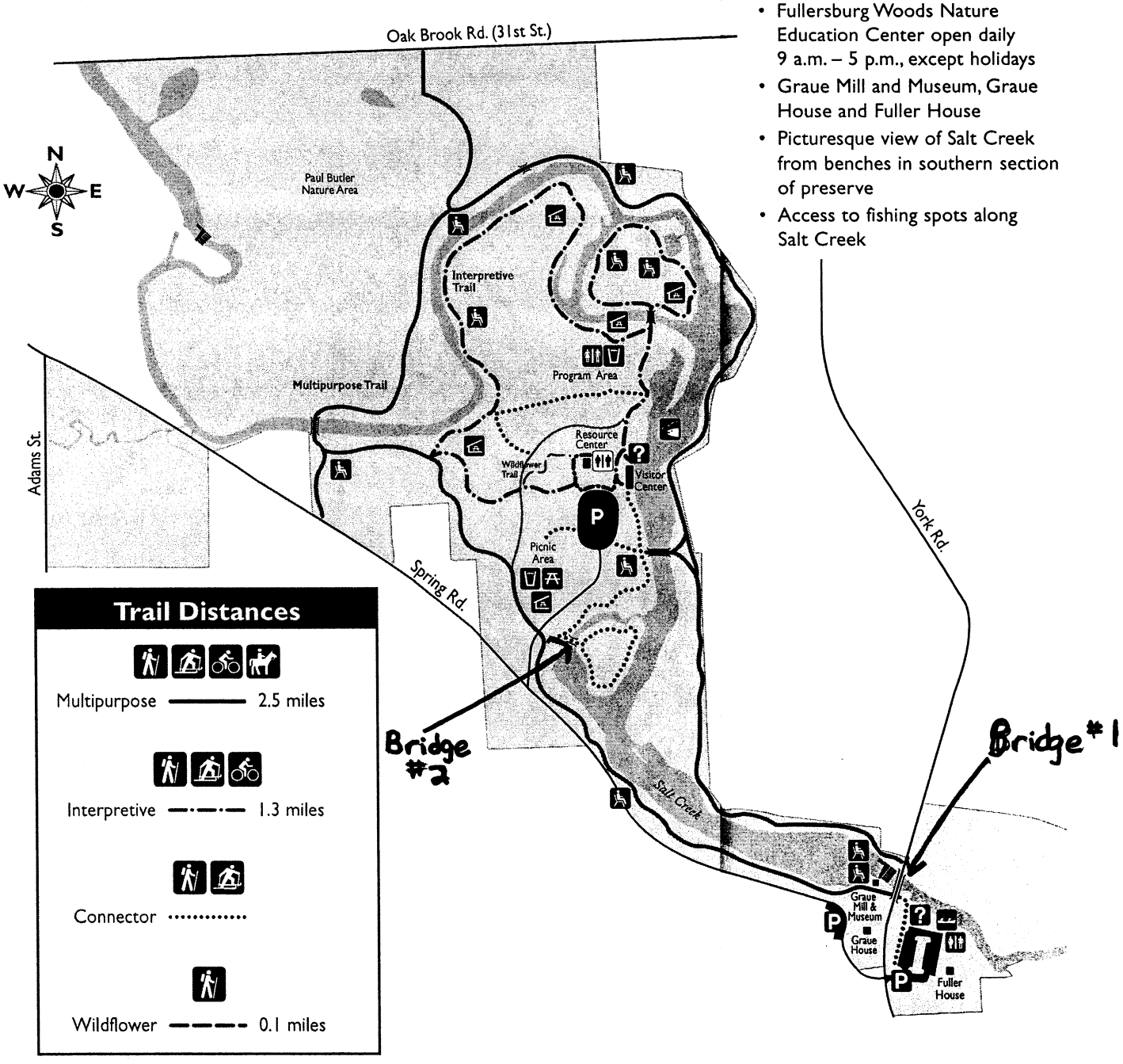
The main entrance is located on Spring Road one-half mile south of 31st Street and one-half mile north of York Road. Parking is also available at the intersection of York and Spring roads.

Please Be Aware

- Horses allowed on multipurpose trail only
- Heavy foot traffic on Interpretive Trail

Preserve Features

- Oak woodlands and Salt Creek habitat — beavers, red foxes, herons, egrets, migratory birds, songbirds, wildflowers
- Civilian Conservation Corps-constructed bridges and visitor center
- Fullersburg Woods Nature Education Center open daily 9 a.m. – 5 p.m., except holidays
- Graue Mill and Museum, Graue House and Fuller House
- Picturesque view of Salt Creek from benches in southern section of preserve
- Access to fishing spots along Salt Creek



GENERAL OBSERVATIONS

Riverine Habitat Survey

River or Stream _____ Location _____

Date _____ Time _____

Weather Conditions _____ Weather Previous 24 Hrs _____

Water Conditions _____

School _____ Investigators _____

Other Location Information or Description

_____

General Visual Observation of Current Water Conditions (Such as Water Level, Appearance)

_____

Water Characteristics

~~1. Temperature~~

~~Water _____ °C air: _____ °C~~

~~2. Stream velocity: _____ m/sec~~

Stream Channel Characteristics

~~3. Approximate channel width: _____ meters~~

4. Circle shape of the channel:
   a. narrow/deep
   b. narrow/shallow
   c. wide/deep
   d. wide/narrow

5. Circle approximate depth of runs:
   a. < 30 cm b. 30–60 cm c. > 60 cm

6. Circle approximate depth of pools:
   a. < 30 cm b. 30–60 cm c. > 60 cm

7. Looking upstream from the site, examine the stream channel for the following conditions. Mark 0 if absent, 1 if present, or 2 if clearly impacting the stream.

left		right
____	mud/silt/sand in stream	____
____	stream modified artificially	____
____	garbage/junk in stream	____

Substrate Characteristics

8. Circle any of the following stream habitats that are present.
   a. riffle b. run c. pool

9. Circle the size of the particles in stream bottom.
   a. silt/clay/mud c. gravel 3 mm to 5 cm e. boulders > 30 cm
   b. sand <3 mm d. cobbles 5–30 cm f. solid bedrock

10. Circle presence of logs and debris.
    a. none b. occasional c. common

Count the # of dead logs between site 1 and site 2 ____.

11. Circle presence of natural materials such as twigs, grass, or leaves.
    a. none b. occasional c. common

12. Circle embeddedness of any rocks, cobble, and boulders.
    a. somewhat/not embedded d. completely embedded
    b. halfway embedded e. in gravel on the bottom
    c. mostly embedded

Stream Bank and Watershed Conditions

13. Looking upstream from the site, mark the slope of the stream bank.

left		right
____	vertical/undercut	____
____	sloping >30 degrees	____
____	gradual or no slope (<30 degrees)	____

14. Circle the extent of artificial (human-made) bank cover.
    a. 0–25% c. 50–75%
    b. 25–50% d. 75–100%

15. Looking upstream from the site, examine the stream bank for the following conditions. Mark 0 if absent, 1 if present, or 2 if clearly impacting the stream.

left		right
____	plant cover degraded	____
____	banks collapsed/eroded	____
____	banks artificially modified	____
____	garbage/junk on stream bank	____
____	loam or sheen on bank	____

16. Circle amount of shading of the stream or river site.
    a. open d. mostly shade
    b. mostly open e. shade
    c. half shade

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17. Describe the stream-side natural cover upstream. Mark 0 if absent, 1 if present, 2 if dominant, or 3 if common.

left	a. *At water's edge*	right
____	evergreen trees	____
____	hardwood trees	____
____	bushes and shrubs	____
____	tall grasses, ferns, and so forth	____
____	lawn	____
____	boulders and rocks	____
____	gravel or sand	____
____	bare soil	____
____	pavement/structures	____

left	b. *Back-side to 10 meters*	right
____	evergreen trees	____
____	hardwood trees	____
____	bushes and shrubs	____
____	tall grasses, ferns, and so forth	____
____	lawn	____
____	boulders and rocks	____
____	gravel or sand	____
____	bare soil	____
____	pavement/structures	____

Cultural Factors

18. Look at land uses in the local watershed within 0.5 kilometers (¼ mile) upstream of the site. For each type of land use, mark 0 if absent, 1 if present, or 2 if clearly having an adverse effect on the water.

Established buildings

a. ___ single-family housing
b. ___ multifamily housing
c. ___ lawns
d. ___ commercial/institutional
e. ___ light industry
f. ___ heavy industry

Roads

g. ___ paved roads or bridges
h. ___ unpaved roads

Construction underway on

i. ___ housing development
j. ___ commercial development
k. ___ light industry
l. ___ heavy industry
m. ___ road bridge construction/repair

Agricultural

n. ___ grazing land
o. ___ feeding lots or animal holding areas
p. ___ inactive agricultural land
q. ___ cropland

Other

r. ___ mining or gravel pits
s. ___ logging
t. ___ recreation

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19. Looking upstream from the site, look for the following possible point-source pollution activities. Note any others you observe. Mark 0 if absent, 1 if present, or 2 if clearly impacting the stream.

left		right
____	plant cover degraded	____
____	yard waste on bank	____
____	livestock in stream	____
____	pipes actively discharging	____
____	pipes entering stream	____
____	ditches entering stream	____
____	people swimming in stream	____
____	other: _____	____

Identify the number of storm drains between site 1 and site 2.

_____

Try to locate their original location

_____

Aesthetic Characteristics

20. Circle any odor the water has.
    a. sewage c. rotten egg e. none
    b. chlorine d. fishy f. other (describe)

21. Circle the best description of the water's appearance.
    a. clear d. light brown, turbid g. oily sheen
    b. milky e. dark brown h. greenish
    c. foamy f. reddish i. other (describe)

Visual Biological Survey

22. Types of wildlife observed in or around the site. (Note the names and number of specific species.)
    ex. blueheron ducks, beaver, squirrels
    ____ amphibians ____ reptiles
    ____ waterfowl ____ mammals

23. Can you observe any fish in the river or stream?
    no yes

24. If fish observed, indicate number in each type of riverine habitat.
    deep pools ____ deep runs ____
    shallow pools ____ shallow runs ____
    riffles ____

25. If fish are present, indicate number in each size range.
    small (2–5 cm) ____ medium (5–15 cm) ____ large (16 cm and over) ____

26. Note any fish barriers visible.
    beaver dam ____ road barrier ____ waterfall ____
    other ____ dam ____ none ____

27. Note the extent of aquatic plants in the stream.
none ____ occasional ____ plentiful ____

28. If aquatic plants are present, are they attached or free-floating?
attached ____ free-floating ____

29. Note the location of aquatic plants.
stream bank ____ pools ____ near riffle ____

30. Note the extent to which submerged stones, twigs, or other material in the stream are coated with a layer of algae "slime." Note also the extent to which clumps or maps of algae are floating in the water.
none ____ occasional ____ plentiful ____

31. If algae are present in this form, note the extent of algae "slime" coating.
light ____ heavy ____

32. If algae are present in this form, note the color of the algae "slime" coating.
brownish ____ greenish ____ other (describe) ____

~~Macroinvertebrate Survey~~

33. If macroinvertebrates were collected from the stream bottom, which type of method was used for this habitat?
____ rock-scraping method, from cobbles and large stones selected from riffles.
____ stick-picking method, from woody objects in streams with sandy, silty bottoms.

34. Note the extent to which macroinvertebrates are present.
none ____ occasional ____ plentiful ____

35. If present, note the types of macroinvertebrates found. Check as many as apply.

	occasional	plentiful
wormlike	____	____
snails/clamlike	____	____
insects	____	____
crayfish	____	____
other (describe)	____	____

Other remarks (describe):

Chemical Analysis A

Find instructions and materials for all tests in "Chemical Analysis Backpack"

→ *Circle one: Above Dam / Below Dam* ←

	Actual Reading (ppm) or mg/L	Circle correct Multiplication Factor (found within instructions)	Calculated Value (ppm)
Dissolved oxygen		10 5	
Nitrate Nitrogen		No factor	
Nitrate		4.43	
Done At School:			
Biological Oxygen Demand (BOD)		10 5	

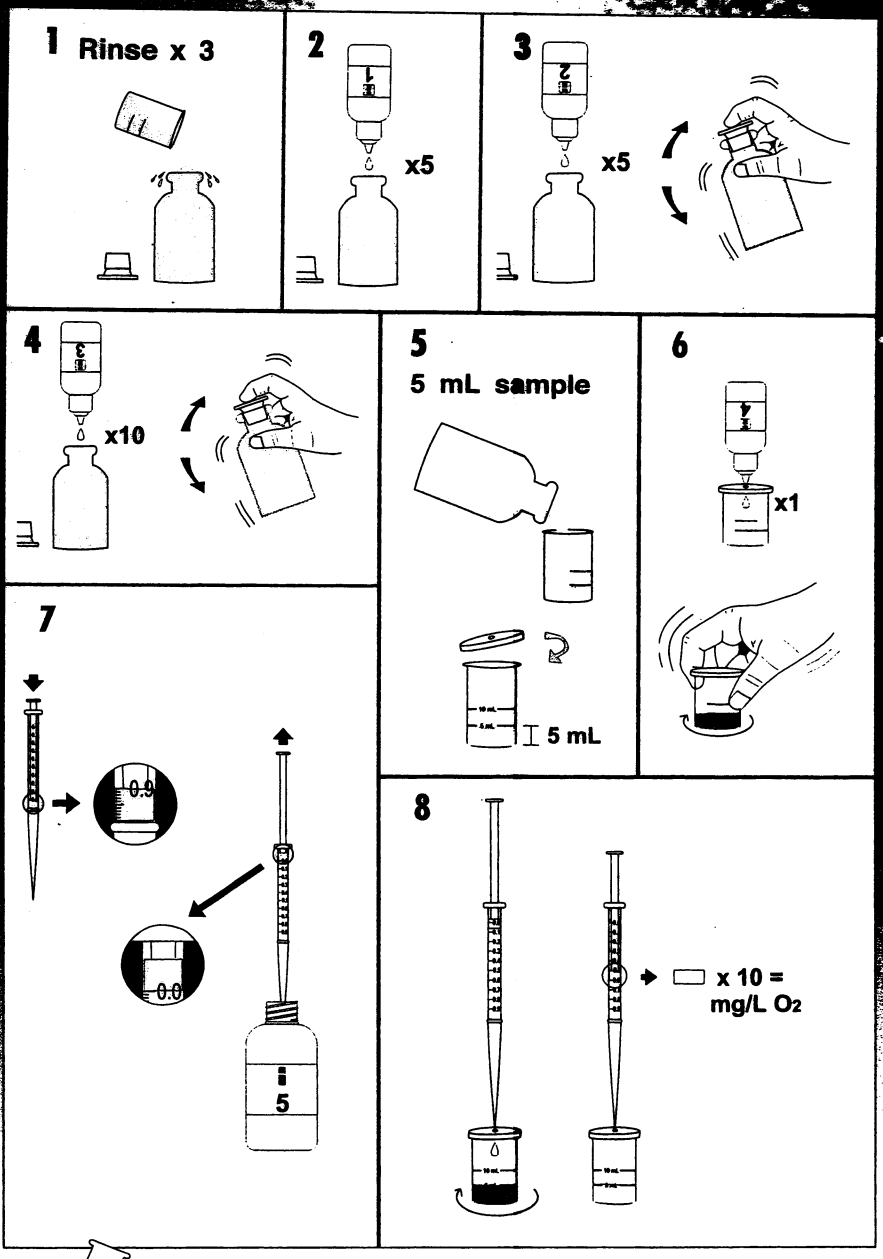
Chemical Analysis B

Find instructions and materials for all tests in "Chemical Analysis Backpack"

→ *Circle one: Above Dam / Below Dam* ←

	Actual Reading (ppm) or mg/L	Circle correct Multiplication Factor (found within instructions)	Calculated Value (ppm)
Phosphate		No factor	
Alkalinity-Phenol		300 100	
Alkalanity-Total		300 100	
Acidity-Methyl Orange Test		500 100	
Acidity Phenolpthaelin test		500 100	
Done At School:			
Fecal Coliform	colonies/mL	100	colonies/100mL

Field Test Procedures- Dissolved Oxygen



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