

How is your schoolyard doing? Is it helping to keep the Missouri River and Papillion Creek healthy? Or, is it contributing to flash flooding or pollution in the river? Follow this scorecard and find out...

RAINWATER ON MY SCHOOLYARD

1 Your school roof, parking lots and sidewalks drain rainwater into mostly:
(choose one, estimate)

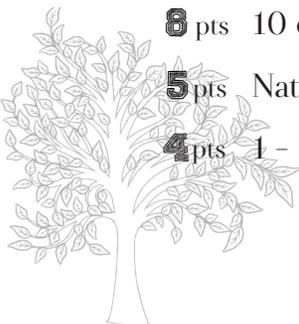
- 10** pts An area where there are many trees, shrubs or tall grass
- 6** pts An even mix of trees, shrubs, tall grass, mowed grass, bare soil and hard surfaces
- 5** pts Mowed grass
- 3** pts Bare soil or hard surfaces like sidewalks, streets or parking lots
- 0** pts The storm sewer – if there are no outside rain gutters or downspouts on the building, that is where rainwater likely drains

2 Look for patches of bare soil and signs of erosion such as areas where rainwater has washed away soil or plants. The schoolyard has: (choose one, estimate)

- 10** pts Very little erosion and few patches of bare soil
- 5** pts Several patches of bare soil or areas where soil is eroding
- 0** pts Mostly bare, exposed soil in unpaved areas

3 Does your schoolyard have any of these green infrastructure practices?
(choose all that apply):

- 10** pts Rain Garden
- 10** pts Green roof on at least part of the school
- 10** pts Permeable pavement – pavement that allows water to soak in, instead of run-off
- 8** pts Rain harvesting or rain barrels
- 8** pts 10 or more canopy trees 20-feet wide or larger
- 5** pts Native plant landscaping, i.e. wildflowers or tall prairie grasses mowed once a year
- 4** pts 1 - 9 canopy trees 20-feet wide or larger



RAINWATER POINTS =



SCHOOLYARD SCORECARD

RAINWATER ON MY SCHOOLYARD

BONUS #1

Follow the instructions below to calculate how much water runs off your schoolyard when it rains 1 inch. First, calculate the area of impervious surface (where water cannot soak into the ground - i.e. parking lots, curbs, sidewalks, tracks, etc).

Hint: Area = Length x Width

1) Take a look at your schoolyard on an aerial photo. Use one of these resources:

Google Maps (<https://maps.google.com>) or the Douglas County GIS maps (www.dogis.org)

Sarpy County GIS (<https://maps.sarpy.com>)

2) Use the area measurement tool or map scale on your schoolyard photo and measure each of the impervious surfaces, including all roof areas.

3) Add up the area of all the impervious surfaces. That is the total area of impervious surface of your schoolyard, where rainfall does not soak in, but instead runs off.

IMPERVIOUS SURFACE AREA =

Using your area of impervious surface calculation, if it rained 1 inch, how many gallons of water would run off your schoolyard? Hint: When it rains 1 inch rain, 1,000 square feet of impervious surface collects 600 gallons of water.

RAINWATER RUNOFF =



0 – 1,200 gallons **10** pts

1,201 – 5000 gallons **8** pts

5,001 – 15,000 gallons **6** pts

15,001 – 30,000 gallons **4** pts

30,001 – 50,000 gallons **2** pts

50,001+ gallons **0** pts

RAINWATER BONUS #1 POINTS =



SCHOOLYARD SCORECARD

RAINWATER ON MY SCHOOLYARD

BONUS #2

Use a random infiltration test, see process below, and determine what percentage of your school yard allows water to soak-in (infiltrate) quickly.

- 1) Have your school’s principal contact the Supervisor of Schoolhouse Planning to advise them of where you will be digging a week before your test. Schoolhouse Planning can then assist you to identify four appropriate locations for the holes to avoid utility lines. Approved locations should include a variety of conditions: grassy areas, landscape bed, playground, under trees, etc.
- 2) Dig a hole approximately 12-inches long, wide and deep. A post-hole digger or sharpshooter shovel works well to create a narrow, but deep, hole. Use all proper safety precautions.
- 3) Fill the hole with water and let it completely drain so that surrounding soil is saturated. Be sure to take proper safety measures to barricade off the hole and post signage when the hole is unattended.
- 4) Place a ruler in the hole and then fill the hole with water. Note where the water level is at the beginning of your test and start a timer. Slowly the water will begin to infiltrate, or drain, into the ground.
- 5) Measure the water level every hour. Note the inches every time.
- 6) When test is complete refill the hole with soil, compact the soil and reseed as instructed by Schoolhouse Planning.
- 7) Repeat this activity in the four other locations in your schoolyard as selected in step #1.

AVERAGE INFILTRATION RATES:

LOCATION 1

LOCATION 2

LOCATION 3

LOCATION 4

inches/hour

inches/hour

inches/hour

inches/hour

OBSERVATIONS: (choose one)

- 10** pts All four locations had an infiltration rate of 0.50 inches/hour or faster.
- 8** pts Three of four locations had an infiltration rate of 0.50 inches/hour or faster.
- 6** pts Two of four locations had an infiltration rate of 0.50 inches/hour or faster.
- 4** pts One of four locations had an infiltration rate of 0.50 inches/hour or faster.
- 2** pts All four locations had infiltration rates less than 0.50 inches/hour, but at least one was 0.25 - 0.49 inches/hour.
- 0** pts All four locations had an infiltration rate slower than 0.50 inches/hour.

RAINWATER BONUS #2 POINTS =

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PLANTS ON MY SCHOOLYARD

1 Describe the plants in your schoolyard. (choose one)

10 pts Full-size trees, bushes and/or native grasses cover at least half of the schoolyard

7 pts Small, immature trees, bushes and/or turf grass covers at least half of the schoolyard

4 pts Trees, bushes and/or grass dot the landscape of the schoolyard

1 pt There are few-to-no trees, bushes or grass on the schoolyard

2 Estimate, how much of the schoolyard landscape is mowed regularly?
(choose one)

10 pts Less than 50%

6 pts Between 50% and 80%

1 pt Over 80%

3 Ask your school's maintenance staff how the lawn and landscape beds are fertilized. (choose all that apply)

10 pts Grass clippings are left on the ground as natural fertilizer.

6 pts Lawn fertilizer is used according to recommendations from a soil test.

1 pt Lawn fertilizer is used according to instructions on the bag.

0 pts Lawn fertilizer is used randomly.

4 Describe the plants in the lowest lying part of your schoolyard. (choose one)

10 pts Mostly unmowed wildflowers, prairie grass, trees or shrubs

5 pts Mostly mowed grass

1 pt Bare soil, pavement or concrete

PLANT POINTS =



SCHOOLYARD SCORECARD

PLANTS ON MY SCHOOLYARD

BONUS #3

Find the percentage of your schoolyard that is, or could be, landscaped with plants. Plants protect soil and allow rainwater to soak in, or infiltrate. You will need the impervious surface area calculations from Bonus #1.

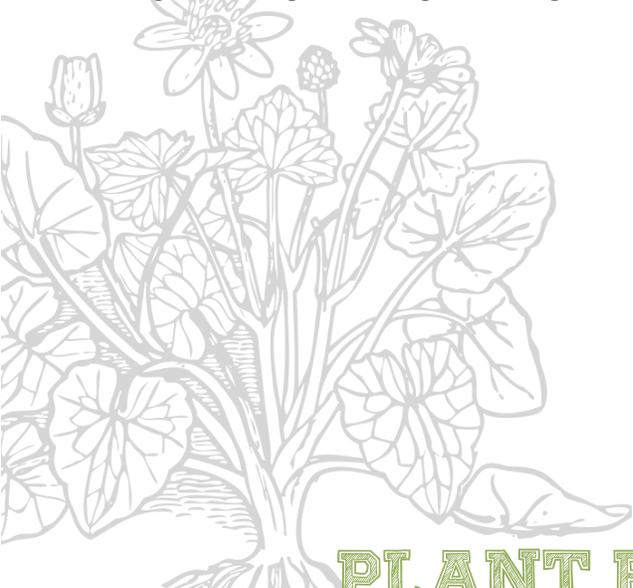
1. Using the maps you used in Bonus #1, find the Total Surface Area of your entire schoolyard. (Area = Length x Width)
2. Subtract the impervious surface area from the Total Surface Area, that is the landscape surface area of your schoolyard.
3. Turn your calculation into a percentage by dividing the landscape surface area by the Total Surface Area. Then multiply your result by 100 and round to the nearest ten-percent.
4. Circle the percentage and number of points earned on the scale below.

All grass, trees, gardens, etc.

Entirely made of cement, pavement, rooftops, etc.

100% 90% 80% 70% 60% 50% 40% 30% 20% 10% 0%

10 pts 9 pts 8 pts 7 pts 6 pts 5 pts 4 pts 3 pts 2 pts 1 pt 0 pts



PLANT BONUS #3 POINTS =

BIODIVERSITY ON MY SCHOOLYARD

1 How many different types of mature trees are in your schoolyard? Count the different types of leaves. (choose one)

10 pts 10 or more

3 pts 2-4

8 pts 7-9

1 pt 0-1

5 pts 4-6

2 How many different types of woody shrubs are in your schoolyard? Look for different types of leaves and/or flowers and fruit to help you. (choose one)

10 pts 10 or more

3 pts 2-4

8 pts 7-9

1 pt 0-1

5 pts 4-6

3 How many different types of grass are in your schoolyard? Look for different types of blades, flowers and/or seed heads to help you. This is easier to do when the grass is tall, before it is mowed. (choose one)

10 pts 10 or more

3 pts 2-4

8 pts 7-9

1 pt 0-1

5 pts 4-6

4 How many different types of flowering leafy plants are in the gardens on your schoolyard? Look for different types of leaves, flowers and/or fruit to help you. (choose one)

10 pts 10 or more

3 pts 2-4

8 pts 7-9

1 pt 0-1

5 pts 4-6

5 Below are examples of habitats for animals and insects. Which ones apply to your schoolyard? (choose all that apply)

3 pts Woodland with many different layers of plants and trees

3 pts Tall grassy field, meadow

2 pts Thick brush and brambles

2 pts Dead standing trees or rotting logs on the ground

2 pts Garden or rain garden with wildflowers or tallgrasses

2 pts Fruit and/or vegetable garden

BIODIVERSITY POINTS =



SCHOOLYARD SCORECARD

BIODIVERSITY ON MY SCHOOLYARD

BONUS #4

Complete a year-long tally of the different kinds of birds, squirrels, butterflies, insects and other wildlife you observe in your schoolyard.

- 20** pts In a year-long tally, your school attracts more than 20 different kinds of wildlife.
- 10** pts In a year-long tally, your school attracts more than 10 different kinds of wildlife.
- 5** pts In a year-long tally, your school attracts less than 10 different kinds of wildlife.
- 2** pts In a year-long tally, your school attracts less than 3 different kinds of wildlife. Or, a tally was not kept.

EXAMPLE TALLY

Tree Squirrel = 5
Monarch Butterfly = 15
Opossum = 1
Blue-jay = 2
Hummingbird = 3
Woodhouse's Toad = 4
Total Different Types of Wildlife = 6



BIODIVERSITY BONUS #4 POINTS =

AWARENESS ABOUT MY SCHOOLYARD

1 Does your school have any of the following classes/clubs? (choose all that apply)

- 5** pts Environmental or Ecology Club
- 5** pts Environmental Science Class
- 5** pts Nebraska Environment Unit in Science Class
- 5** pts Green Team
- 5** pts Horticulture

2 Does your school have a well maintained outdoor classroom that is used for outdoor teaching? (choose one)

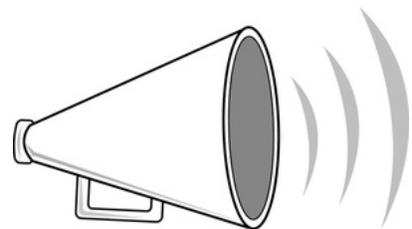
- 10** pts Yes, it is used about six times each month.
- 5** pts Yes, it is used about three times each month.
- 3** pts Yes, but it is poorly maintained and rarely used.
- 0** pts There is no outdoor classroom.

3 Does your school have installed habitats for animals? (choose all that apply)

- 5** pts Bird house, bluebird boxes or purple martin houses
- 5** pts bat boxes
- 5** pts butterfly or pollinator garden – planted with specific flowers that attract butterflies and pollinators
- 5** pts Other: _____

4 Does your school have an inventory of the trees and plants on site? (choose one)

- 5** pts Yes, it is updated annually.
- 3** pts Yes, but it has not been updated in a while.
- 1** pt No, but we are planning to get one started.
- 0** pts No, and we probably will not do one.



AWARENESS POINTS =

AWARENESS ABOUT MY SCHOOLYARD

5 Find your school's head custodian or engineer. Does your school have an Operation and Maintenance guide for the schoolyard? (choose one)

- 5** pts Yes, and it is followed closely.
- 4** pts Yes, and it is followed pretty well, but we could do better.
- 3** pts Yes, but it sits on a shelf and is not followed very often.
- 3** pts No, but we are writing one this year.
- 0** pts No, and we probably will not have one for a few years, if ever.

6 Who helps out with your school grounds? (choose all that apply)

- 5** pts A "Champion" that is the leader for the projects, care and maintenance on the grounds that include things like, but not limited to, an outdoor classroom, garden, butterfly garden, green infrastructure, prairie area, porous pavement, green roof, rain barrel, etc.
- 5** pts Parent volunteers that help out at least a few days each month.
- 5** pts Community volunteers (who are not parents of students) that volunteer at least a few days each month.
- 5** pts Students help keep-up the school grounds at least a few days each month.
- 5** pts Other: _____

7 Mark all that apply for more Awareness points. (choose all that apply)

- 5** pts Our school encourages water conservation inside and outside the building
- 5** pts Our school's academic standards include water conservation, water reuse and/or stormwater management.
- 5** pts At least two of our school's teachers or staff have participated in training or workshops that include water education.
- 5** pts Our school participates in water projects that benefit the community, such as stream cleanups, community gardens or water monitoring.
- 5** pts Our school talks about its schoolyard and green infrastructure features in the classroom; or on the school's website; or out in the community through fliers, newsletters, TV media or social media.
- 5** pts Our schoolyard has informational signs about the plants, green infrastructure or features of our landscape.
- 3** pts per trip! One class has gone on a field trip to a water treatment plant, a wastewater treatment plant, a stream to collect water data or a green infrastructure project in our community.

AWARENESS POINTS =



SCHOOLYARD SCORECARD

RAINWATER ON MY SCHOOLYARD	_____
RAINWATER BONUS #1	_____
RAINWATER BONUS #2	_____
PLANTS ON MY SCHOOLYARD	_____
PLANTS BONUS #3	_____
BIODIVERSITY ON MY SCHOOLYARD	_____
BIODIVERSITY BONUS #4	_____
AWARENESS ABOUT MY SCHOOLYARD	_____ pg 1
AWARENESS ABOUT MY SCHOOLYARD	_____ pg 2

TOTAL POINTS =

200+ = SCHOOLYARD SUPERSTAR

Your schoolyard is leading the way to make sure that clean water is sent to the Missouri River and Papillion Creek! You have green infrastructure that protects waterways, reduces flooding and provides healthy habitats for local wildlife. Students and school staff are learning about water and making choices that are water-wise.

100-199 = SCHOOLYARD CHAMP

Your schoolyard has great green infrastructure practices on site. You are protecting the local waterways and providing some great wildlife habitat. What else can you do to decrease impervious surfaces, reduce runoff and get more students involved in their waterways?

50-99 = WORK IN PROGRESS

You are on the right track but there is more work to do if we want to protect Omaha's waterways!

0-49 = LET'S START TODAY!

Many schools fall into this category, so please help us make your schoolyard more friendly to the Missouri River and Papillion Creek. What small projects can students do to reduce runoff or increase wildlife habitat in the schoolyard? Identify key staff or volunteers to help this project take off!



SCHOOLYARD SCORECARD

Want to Improve Your Score?
Try These ideas!

RAINWATER

- 💧 Build a rain garden [View GI lesson plan ideas online >>](#)
- 💧 Plant a tree near pavement
- 💧 Plant wildflowers and grasses and go no-mow

PLANTS

- 💧 Plant pollinator friendly plants
- 💧 Remove unnecessary turf
- 💧 Allow an area to become no-mow
- 💧 Collect seeds from wildflowers and grasses to plant in approved areas
- 💧 Plant trees

BIODIVERSITY

- 💧 Plant trees, shrubs and flowers to attract wildlife
- 💧 Identify what local animals need and restore their habitat

AWARENESS

- 💧 Study Nebraska native plants
- 💧 Go on field trips to see green infrastructure projects across Omaha
- 💧 Create and design educational signage for schoolyard features
- 💧 Go visit the Missouri River and Papillion Creek
- 💧 Find out more about your school's watershed and the watershed you live in
- 💧 Set up a volunteer group made up of students, parents or other community members to care for the schoolyard
- 💧 Send a teacher or administrator to a conference on water and/or environmental education
- 💧 Establish academic curriculum that promotes student engagement with stormwater and/or water conservation - water as STEAM
- 💧 Collaborate with local water-based groups & stormwater programs



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