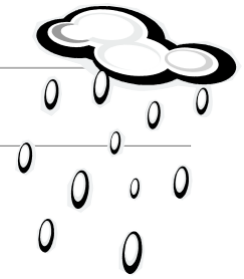




# Practice Task: RAIN GARDENS



## PART 1: RESEARCH (approx. 60-90 mins)

### STUDENT DIRECTIONS:

#### Your assignment:

Your neighborhood council is researching the benefits of installing rain gardens in your community. You will read two articles and watch one video describing what rain gardens are and how they benefit the environment. You will also visit your school's rain garden, taking photos to document its benefits. You will compose and deliver a essay explaining how rain gardens improve the environment, incorporating photos from your school's rain garden in your essay.

#### Steps you will be following:

To plan and compose your essay, you will do all the following:

1. Read two articles and watch one video.
2. Visit your school's rain garden and take pictures
3. Answer three questions about the sources.
4. Compose and deliver your essay

#### Directions for beginning:

You will now watch a video and read two articles about rain gardens, taking notes with the templates provided. You may want to refer to your notes when composing your essay. You may refer to any of the sources as often as you like.

#### Source Information:

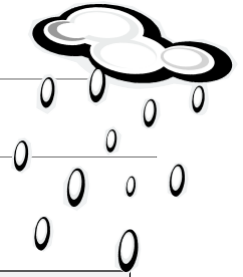
**Source #1:** *Make a Rain Garden!* (4:20)  
Video <https://youtu.be/rZDeIzWDDIY>

**Source #2:** *Introduction to Rain Gardens*  
Article #1

**Source #3:** *4 Steps to Building a Rain Garden*  
Article #2



## Practice Task: RAIN GARDENS



Source	What a Rain Garden Is	How Rain Gardens Benefit the Environment
<i>Make a Rain Garden!</i> Video		
<i>Introduction to Rain Gardens</i> Article		
<i>4 Steps to Building a Rain Garden</i> Article		

# INTRODUCTION TO RAINGARDENS

## NATIVE SOILS AND FORESTS

of Western Washington store, filter, and slowly release cool, clean water to streams, wetlands, and the largest estuary on the west coast—Puget Sound. The rich diversity of life in marine and fresh water, as well as on land, depends on clean water to thrive.

As the region grows, native forests and soils are replaced with roads, rooftops and other hard surfaces. When it rains or snows, more water flows from these surfaces than undisturbed areas, carrying oil, fertilizers, pesticides, sediment and other pollutants downstream. In fact, much of the pollution in streams, wetlands and Puget Sound now comes from stormwater (water flowing off developed areas). The added volume of water and associated contaminants from developed land are damaging water resources and harming aquatic life in western Washington.



Rain garden, City of Maplewood MN

***You can make an important contribution to reduce the amount of stormwater and pollutants coming from your property by incorporating rain gardens into your yard.***

## What is a rain garden?

A rain garden acts like a native forest by collecting, absorbing, and filtering stormwater runoff from roof tops, driveways, patios, and other areas that don't allow water to soak in. Rain gardens are simply shallow depressions that:

- ◆ Can be shaped and sized to fit your yard.
- ◆ Are constructed with soil mixes that allow water to soak in rapidly and support healthy plant growth.
- ◆ Can be landscaped with a variety of plants to fit the surroundings.

## THE BIG PICTURE

Rain gardens are one of the most versatile and effective tools in a new approach to managing stormwater called low impact development (LID). A LID project may incorporate several tools to soak up rain water, reduce stormwater runoff, and filter pollutants. Some examples of these tools include permeable paving, compost-amended soils, vegetated roofs, rainwater collection systems, and rain gardens.



Photo by Seattle Public Utilities

## Rain gardens provide multiple benefits, including:

Reduce flooding on neighboring property, overflow in sewers, and erosion in streams by absorbing water from impervious surfaces.

Filter oil and grease from driveways, pesticides and fertilizers from lawns, and other pollutants before they reach the storm drain and eventually streams, wetlands, lakes and marine waters.

Increase the amount of water that soaks into the ground to recharge local groundwater.

Provide habitat for beneficial insects and birds.



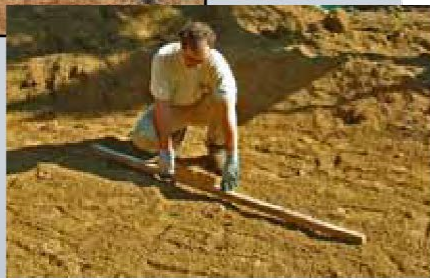
# 4 STEPS TO BUILDING A RAIN GARDEN

## 1 LOCATE



- ◆ Identify areas draining to the rain garden.
- ◆ Identify the best location for the rain garden.
- ◆ Test the soil.

## 2 DESIGN & BUILD



- ◆ Determine the size and shape of the rain garden.
- ◆ Excavate soil (18-30 inches typical).
- ◆ Level bottom of rain garden (**do not compact**).
- ◆ Mix compost with soil.
- ◆ Place soil mix and leave at least 6 inches below edge of rain garden for ponding.
- ◆ Level surface of soil.
- ◆ Create an entry for water (swale, pipe or landscape area) into rain garden.
- ◆ Provide a rock-lined overflow.

## 3 PLANT



- ◆ Use a variety of small trees, shrubs, herbs, or grasses.
- ◆ Select plants that enhance the area and have appropriate water needs (native plants and hardy cultivars are preferred).
- ◆ Cover exposed soil with 2-3 inches of mulch.
- ◆ Water to establish plants.

## 4 MAINTAIN



- ◆ Mulch as needed to prevent erosion and weeds.
- ◆ Keep inlet and outlet clear of debris and well protected with rock.
- ◆ Do not fertilize or use pesticides.
- ◆ Water as needed.

Rain garden, City of Maplewood MN

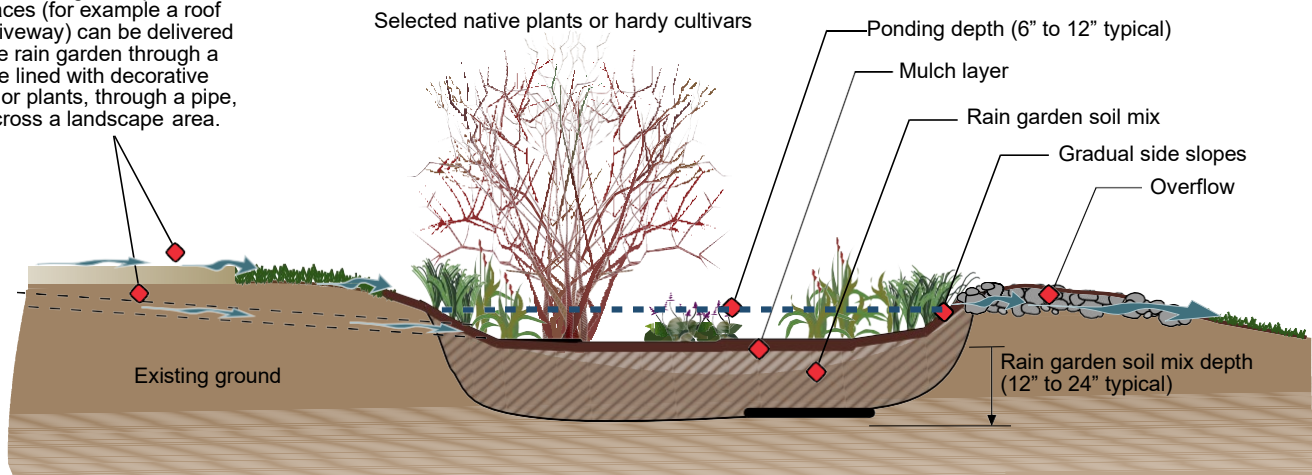
# ANATOMY OF A RAIN GARDEN



Newly planted Seattle rain garden

Photo by Seattle Public Utilities

Water flowing off impervious surfaces (for example a roof or driveway) can be delivered to the rain garden through a swale lined with decorative rock or plants, through a pipe, or across a landscape area.



When properly designed and constructed, rain gardens drain rapidly with surface water present for only 1-2 days. Mosquitos take a minimum of about 4 days (many types of mosquitos take several days longer) to become adults after eggs are deposited in water.



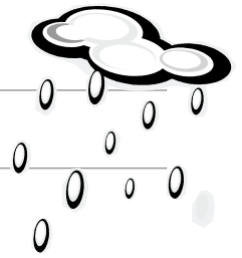








## Practice Task: RAIN GARDENS



### PART 2: Essay (approx. 60-90 mins)

#### Student Directions:

You will now have 60-90 minutes to compose and deliver your essay. While you may use your notes and refer to your sources, you must work on your own. You may also refer to the answers you wrote to earlier questions, but you cannot change those answers. Now read your assignment and the information about how your essay will be scored and then begin your work.

#### Your assignment:

Compose a 3-paragraph essay for your neighborhood council explaining how rain gardens will improve the environment. Include details about the construction and benefits of rain gardens from the video and articles as well as photographs from your school's rain garden to support your ideas.

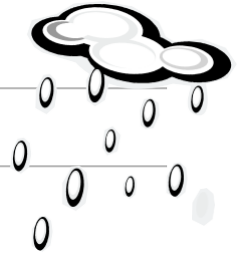
#### How your essay will be scored:

*The people scoring your essay will be assigning scores for*

1. **Focus** -- how well your essay clearly introduces and communicates your ideas
2. **Organization** – how well your ideas flow from the opening to the conclusion and how well you stay on topic throughout the essay
3. **Elaboration of Evidence**– how well you use sources, facts, pictures, and details as evidence
4. **Language and Vocabulary** – how well you effectively express ideas using precise language that is appropriate for your audience and purpose
5. **Presentation** – how well your essay is presented, including eye contact, pronunciation, and awareness of audience and the use of visual/graphics/audio enhancements appropriate to your message (**something else for an essay?**)



# Practice Task: RAIN GARDENS



<b>Outlining My Essay</b>	
Attention grabber:	Picture:
What rain gardens are and how they are constructed:	Picture(s):
Benefits of a rain garden for the environment:	Picture(s):
Closing:	Picture:

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