

# Watershed Address

## Cognitive Demand:

Interpreting

Concepts (C)

Science Literacy (D)

Technological Design (T)

Recalling Science (R)

## Overview:

Students will view their school, and identify their watershed while navigating through satellite images, topographic, and terrain maps. They will also “travel” through all the MWCD Reservoirs.

## Materials:

- Computer with web browser, able to access to the Internet and Google Maps
- Composition Notebook for each student
- For optional extensions, teachers will need:
  - A free gmail.com account to store their own map (extension activity 1)
  - A digital camera to upload schoolyard images (extension activity 2)

## **Setting the Stage:**

Have the students imagine for a moment that they are a raindrop. If you fell out of the sky right near the school, which body of water would you end up in? Do you know the path that you would take to get there? Let’s see if we can find out those answers using Google maps.

## **Acquisition of Learning:**

- On the MWEE website, in the *Watershed Address Lesson* Folder, click on the Google Map file: “**Muskingum Watershed Tour MWEE Program**”. A map of the Muskingum Watershed will appear, with green schoolhouse icons representing your schools, and a pin on each MWCD reservoir. Click on the tour box to start the tour.
- Click on your school. Clicking there will re-center the map on your school.
- To zoom in using the vertical slider bar under, click on the (+) sign. To re-center the map, hold down the left mouse button and drag the schools into the center. Click on other schools (*green map icons*) to see what pops up, and on some of the reservoirs. When done, click **Zoom Here** at your school. Zoom back out by clicking on the (–) sign at the bottom of the slider bar.
- Have students investigate the map. To see locations for 7th Grade Field Trip, and where they will collect their water quality data: Click on water droplet icons, and then zoom back out.
- Click on yellow icon to see the location of the Village of Cadiz sonde; Click on **More** in the white bar above and then click box by **Photos** to see an image of the sonde.

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- Locate and identify major **tributaries** to the watershed.
- Zoom back to your school. Have the students record your school's watershed address in their composition book, i.e. the path of surface waters a raindrop might take, beginning with your school yard and ending at the Gulf of Mexico. You may want to flip between **Satellite** image and **Terrain** Maps to see the water body names and slopes.
- School Name: \_\_\_\_\_, closest creek \_\_\_\_\_, next larger creek or river \_\_\_\_\_ etc.

## Closure:

- Check student understanding by reviewing watershed address. Have the students once again imagine they are raindrops and that they follow this path on their way to the Gulf of Mexico.

## Extension Activity 1: How Far from School to the Gulf of Mexico?

If you want to find out distances between places, or perimeter of buildings/structures or the **distance a rain drop travels from your school to the Gulf**; in Edit mode, click on the **Line Tool** and drag it to your beginning point and click. Click again where you wish to stop measuring (i.e. a bend in a stream). Keep clicking and the distance traveled increases. You can name and save this line to your map using the procedure below.

## Extension Activity 2: Creating your Own Schoolyard Map\*

- Take your students outside with a digital camera to conduct a schoolyard investigation.
- Have them take photos of various landmarks including the highest point, the lowest elevation, storm drains, areas of erosion, and other points of interest that might influence the water flow.
- Back in the classroom upload your photos on your school's website.
- Open your gmail account, then go to Google maps: <http://maps.google.com/> Click on **My Maps**.
- Click on: **Create New Map** then **Type in your school address** and **click search**
- Find your school and zoom in on it so you have the full school yard centered on screen.

Click on **Add a Placemark** (the blue bubble) in the top left corner. Drag the **Placemark** to the highest point on your schoolyard and drop it.

- A little conversation box will pop up. Click on the **icon**, scroll down and choose the Red Falling Rocks. Type **Highest Point** into the **Title** text box.
- Description: click on **Rich Text**. Then click on the little blue picture on the right below the words **edit HTML**. A dialog box will pop up and ask you to enter the URL to an image. In a separate browser window, find the image that you posted on your school website. Right click over the image, a dialog box pops up. Select Copy Image Location.
- Go to your maps and click on the little **photo icon** and a dialog box will pop up. Highlight/Copy/Paste the image location address of the web photo you wish to use into the URL text box. Click Ok.
- Type in a descriptive few words about your image...like *elevation 100ft., Stormwater runs downhill from here*, etc. Play with font colors/format if desired. Click Ok and close box.
- In the left side panel type in the **Title** of your map using your school's name. Click **Save**.
- Repeat steps 8 – 14 to add in your lowest point, storm drains (number drains) downspouts to complete your map. Click **Save** after every new change. If you want this map available for others to see, click **Public**.
- Click **Save** after any changes and **Done** when finished.
- You must be logged into Gmail to open and EDIT the Google map.

**\*Alternative option-lesson 6.**

