



Stormwater Science

Part 3.3

Follow this worksheet as you watch the BEMP Stormwater Science Part 3.3 video. This video will continue to explore how the imaginary watershed model changed AFTER the storm event through data visualizations to better understand how storms might impact the overall water quality of the river.

Don't forget to keep track of all the cards each community releases into the river AFTER a storm event by using the table from the previous worksheet. If you don't have it handy, there is a copy of it at the end of this document. You can also use the last page of this document to draw all your graphs.

1. Based on what you have already learned in the previous videos, would you predict the overall water quality of this imaginary watershed to get better, worst or stay the same AFTER a storm event? Why?
2. Compare the card numbers on your table for the first three communities (Upstream Eco-friendly Town, Cattle Ranch and Agricultural Field) before and after the storm event. Which one do you think suffered the most drastic water quality change? Explain your reasoning.
3. What is the reason why the water next to the Urban City has so many more new cards (like trash or medicine)? Do you remember how they end up in the river?
4. Which community gets the most polluted water right or soon AFTER a storm event?

5. What do you think will be some of the consequences for the organisms living in the water if the **dissolved oxygen** decreases in all five communities?
6. Why do we also use **macroinvertebrates** to study water quality?
Note: We went over that in the last video.
7. Which community seems to have the highest **biodiversity** AFTER a storm event? Why?
8. Which community has the highest amount of **E.coli**? Where do you think it comes from?
9. Which community will have the most polluted water over time AFTER a storm event?
10. What can **YOU** do to reduce the impact of stormwater into the Rio Grande (or any other ecosystem)?

Activity: How can YOU keep the watershed clean?

Use the space below to create a drawing or directly build with recycled materials a possible solution to reduce ONE of the human impacts exposed in this lesson (listed below - circle the one you are focusing on):

- Water Pollution:
 - E. coli (poop)
 - Expired medicine and other chemicals
- Erosion
- Biodiversity lost



Keep track with me!



	Upstream Eco-friendly town		Cattle ranch		Agricultural field		Urban city		Downstream Eco-friendly town	
	Before	After	Before	After	Before	After	Before	After	Before	After
Turbidity	1		1		1		1		1	
Dissolved Oxygen	3		3		3		3		3	
Macroinvertebrates (healthy – unhealthy)	2 0		2 0		2 0		1 1		1 1	
Fish biodiversity (blue – pink – green – grey)	1 1 1 1		1 1 1 1		1 1 1 1		1 1 1 1		1 1 1 1	
<i>Escherichia coli</i>	1		1		1		1		1	
Nutrients	0		1		1		1		0	
Pesticides, Herbicides and Fungicides	0		0		1		1		0	
Trash	0		0		0		1		0	
Oil & Gasoline	0		0		0		1		0	
Medicine (and other chemicals)	0		0		0		3		0	

Use the space below to represent the numbers in you table into a graph to help you understand the changes in the water quality of this imaginary river before and after a storm event:

