

Name: _____

Date: _____

BMP Mapping

You will work with your group to create a soil erosion and sediment control plan.

Do ... the activity

1. Begin by collaboratively making a list with your group on all the best management practices for soil erosion and sediment control.
2. Each group will be given a map of a land area and a different scenario that asks you to consider how you will use the land and implement best management practices.
3. Work together in your group to apply your ideas and decide which practices you think should be implemented on the map of the construction or agricultural site.
4. Use the guide on the column to the right for instructions on reading topographic maps. Lines farther apart indicate a gentle slope, and lines closer together denote a steeper slope.
5. Note bodies of water, vegetated areas, cardinal directions and existing roads or buildings.
6. Provide a synopsis of the scenario and justify your use of BMPs in a short presentation of your ideas in front of the entire class.
7. Students from the other groups should ask questions about your plan and offer constructive comments, potentially leading to a spirited debate.

How to Read a Topographic Map:

1. Thin **brown** lines represent contours or points of similar elevation. The closer together they are, the steeper the terrain.
2. Contour lines form "v" shapes in valleys or along stream beds. The point of the "v" points uphill.
3. The **blue** coloring represents water.
4. The **green** spaces represents orchards and forested areas.
5. The **purple** markings are those that have been "photorevised," or added to the map since the original map was published.
6. The **red** areas represent urban areas, although the maps will often indicate special buildings of significance within the urbanized area.
7. Roads and highways are represented in **black** and **red**.
8. The scale on 1:24,000 topographic maps means that one inch equals 2000 feet

Erosion Control	Sediment Control
<ul style="list-style-type: none"> • Crop Rotation • Cover Cropping • High Density Planting • Conservation Tillage • Contour Tillage • Terracing • Grassed Waterways • Establish Vegetation • Mulches <ul style="list-style-type: none"> • hydromulches • erosion blankets • straw • decomposed leaves 	<ul style="list-style-type: none"> • Silt Fences • Rock Check Dams • Fiber Check Dams • Sediment Basins • Baffles • Skimmers and other surface outlets

General Cost Estimates of Best Management Practices

BMP	Cost Estimations
Excelsior - Erosion Blanket	\$1.25/ square yard
Jute - Erosion Blanket	\$1.25/ square yard
Coir - Erosion Blanket	\$1.65/ square yard
12" Fiber Check Dam	\$2.50/ linear foot
Hydroseeded Mulch	\$0.30/ square yard
Decomposed Leaf Mulch (Covers 10 sq.ft.)	\$15/ yard
Straw Mulch	\$0.15/ square yard
Grass Seed	\$0.15/ square yard
Sediment Basin (Cost include excavation contractor and equipment rental)	\$1000/ basin / 2-3 acres
Coir Baffles	\$150/ 3 baffles per basin
Skimmer (depends on size of skimmer)	\$500-\$1,000/ per basin
Silt Fencing	\$1.00/ linear foot
PAM	\$0.15/ square yard
Terracing (depends on type of terrace and soil, estimate for the purpose of the exercise)	\$100-\$250/ acre
Cover Cropping (depends on cover crop)	\$15-\$40/ acre
Contour tillage	\$10/ acre
No-till (estimates of conventional tillage can cost a little more at \$290/ acre)	\$275/ acre

*1 Acre = 43,560 sq. ft.

Talking it Over: BMP Mapping

Share... what you did

Why is it important to understand soil erosion? How did you feel about soil erosion before these activities? Now?

Generalize... to your community

How will learning about soil erosion help you in your life? How might you use your new skills at home? What are some situations when you will need to use the skills you have learned throughout this unit?"

Apply... to your community

As this unit on soil erosion wraps up, reflect on how the information you have learned is applicable in other ways in your life.

- "What did you like about the activities the past few days?"
- "What was your favorite way of learning?"
- "What skills did you gain as a result of this unit?"
- "Were there problems that came up over and over? Why? How were these resolved?"
- "What was hard about trying to participate in a group?"
- "How did this differ from the way you are usually taught in school?"
- "What did you learn about your own skills in making decisions?"
- "In what ways do other people help you learn new things?"
- "What do you feel like you need to work on to be effective in being a leader and communicating your ideas?"
- "What did you learn by participating in this process that will help you in the future?"