

Spring Valley School District has decided to develop some of its land as an environmental park. Your engineering team has been asked to submit a proposal for the development of this land. Consider the following criteria when developing your plan:

Versatility:

- Is the park suitable for people of all ages?
- Can the park be used at night as well as during the day?
- Is the park useful in all seasons?
- Is there a wide range of activities available within the park?

Safety:

- How safe is the design for young and old users?
- Are there any possible hazards?

Aesthetics:

- Is the design pleasing?
- Would people of all ages enjoy the park?

Cost Effectiveness:

- Was the money well spent?
- Is energy used efficiently in the park?

Innovation:

- Is the design unusual?
- Are materials used in new and interesting ways?

Your team will choose a draftsman, a finance officer, an engineer, and a public relations person. The major responsibilities will be:

Draftsman: Draws design to scale and displays the finished design.

Engineer: Responsible for design and safety.

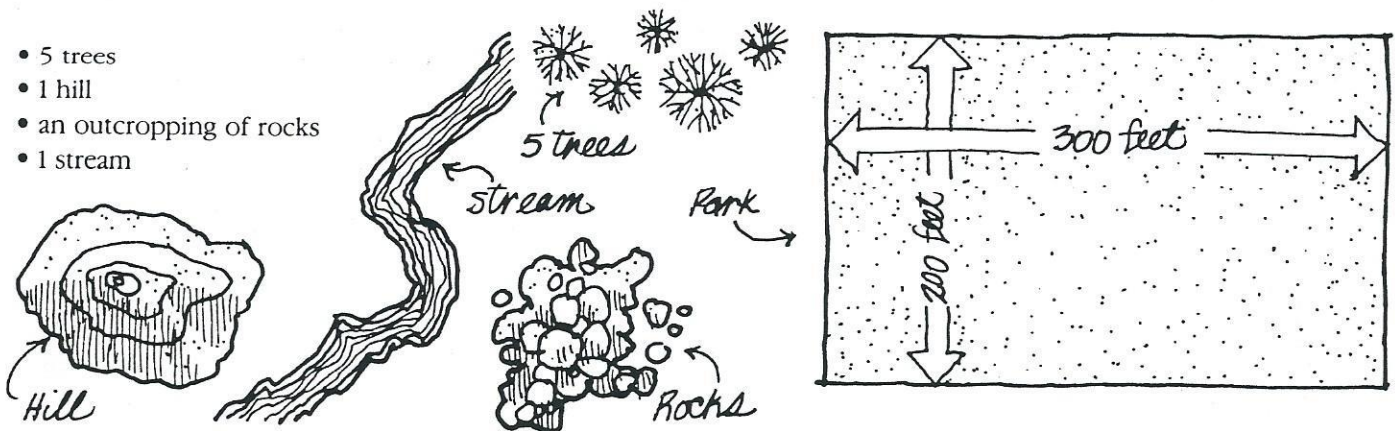
Finance Officer: Keeps track of and presents the budget.

Public Relations Person: Keeps track of special features of the design and presents the team proposal. Prepares a five-sentence written summary of the proposal pointing out why this plan should be chosen over others.

The Problem

The area is 300 feet long and 200 feet wide (approximately the length of a football field and 1½ times as wide). The size of paper that you will use for your design is approximately 3' by 2'. The area has the following natural features which must be included:

- 5 trees
- 1 hill
- an outcropping of rocks
- 1 stream



Your team decides where to put these natural features in your design. Worksheet II lists some possible materials and costs for the development of the land. You are free to use as much or as little of these as you wish. If you wish to use something that is not on the materials and equipment list, check with your teacher on whether the item is appropriate for an environmental park and what is the approximate cost. You have a budget of \$5,000.

GROUP #

ENVIRONMENTAL ENGINEERING

Worksheet II

MEMBERS:

COST OF MATERIALS AND EQUIPMENT

	Cost	Unit	Quantity	Total Cost
Rope	\$1	per 10'		
Bricks	\$1	each		
Sand	\$1	cubic foot		
Stepping stones	\$5	each		
Plants and shrubs	\$10	each		
Trash barrels	\$10	each		
Benches (6' long)	\$15	each		
Old telephone poles (10' long)	\$25	each		
Wire fencing (6' high)	\$30	per 10 running feet		
Asphalt pavement (4' wide)	\$40	per 10 running feet		
Picnic tables with two benches	\$50	each		
Community garden plot and seedlings	\$50	10' x 10'		
Animals Small	\$20	each		
Large	\$100	each		
Drinking fountains	\$75	each		
Pond	\$100	each		
Playground equipment	\$100	per item		
Bike racks	\$150	each		
Barbeques	\$150	each		
Street lights	\$250	each		
Public telescope	\$300	each		
Stage (20' square)	\$300	each		
Bathrooms (one each, men and women)	\$350	pair		
Bleachers (grandstand)	\$750	each		
Bridge	\$1000	each		
Other (list)	\$			
	\$			

TOTAL COST: \$ _____