

determining  
the most  
sustainable  
action



# Determining the most sustainable action — the decision grid

## goal Goal:

Using the data the community groups have collected and analyzed, students will rate criteria for each of the actions that they have researched, complete Decision Grids and determine the most sustainable action to reach their community's goal. Students will then prepare a presentation of their results.

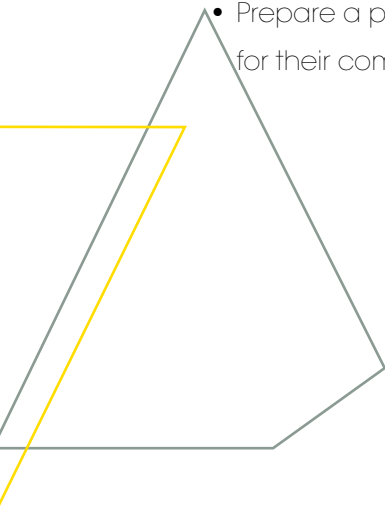
Standards Met: S7, S6, LA1, LA3, LA6, LA7, LA8, GM1, GM4, M2

objectives

## Objectives:

*Students will...*

- Rate criteria
- Complete a Decision Grid for each potential action
- Determine the most sustainable action
- Prepare a presentation for their community



Time Required: Two – 45 to 60 minute class periods



materials

## Materials (for a class of 30):

- 30 copies of Determining the Most Sustainable Action – Student Sheet
- 30 copies of Determining the Most Sustainable Action – Table 1
- Data gathered from research labs
- Criteria from Introduction to Simulation/Role Play lesson
- Six metric rulers
- An assortment of colored markers
- Six computers with Microsoft PowerPoint software (optional)



# Prooc

## Day 1

### Determining the Most Sustainable Action:

- Ask students to arrange themselves into the groups (six groups of five) they have been working in for their community research.
- Explain to the students the next step toward attaining the goal they have set for their community is to determine the most sustainable action.
- Hand out Determining the Most Sustainable Action – Student Sheet and Determining the Most Sustainable Action – Table 1 to each student and review.
- Have them fill in their community’s goal in the box provided.
- Tell the groups to copy the criteria they have set from the Introduction to Simulation/Role Play activity into each of the six tables.
- Have them title (type of action technique) on each of the tables provided.
- Using the rating scale provided and the data they have gathered, have the student groups rate each of the criteria for each of the actions. Explain to the students that they must support each of the ratings with data from their research.
- Have the students average each E within each action.
- Have the students transfer the average for each E onto the Decision Grid provided under each table.
- Tell the students to connect each of their points within each of their Decision Grids and color in the new inner triangles.
- Using the formula for the area of a triangle ( $1/2 \text{ Base} \times \text{Height}$ ), have the students determine the area of each of the new inner triangles and record their calculations in Determining the Most Sustainable Action – Table 1. The triangle with the most area represents the most sustainable action to solve their community’s water problem.

# cedures

## Day 2

### Preparing for the Presentation:

- Explain to the students that each group will be making a presentation to their community on the action plan that they have determined will be the most sustainable solution to their community's water problem. Their presentation must include the following components:
- A Decision Grid of their solution.
- A chart showing criteria and ratings.
- An explanation of the data they used to rate criteria.
- An explanation on the science and human "elements" incorporated into their solution.
- A plan on how to implement their action.
- Tell the students that they can prepare their presentation on a computer or use flip chart paper.

### Homework

- Finish the preparation for the next class period.

### Assessment

- Successful completion of Determining the Most Sustainable Action-Student Sheet.
- Successful completion of Determining the Most Sustainable Action – Table 1.
- Participation in the Community Presentation.



# Decision Grids

Name: \_\_\_\_\_ Date: \_\_\_\_\_

**Directions:** Complete the decision grids by rating your community's predetermined criteria for their stated goal (refer to Introduction to Simulation/Role Play lesson).

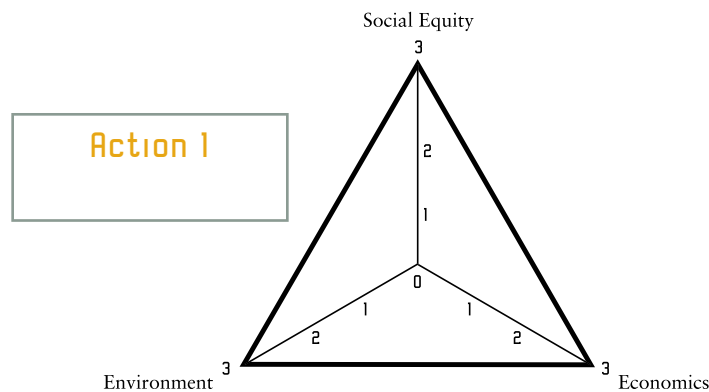
**Rating Scale:**

- 3 – Meets all or nearly all of the criterion
- 2 – Meets most of the criterion
- 1 – Meets some of the criterion
- 0 – Meets little, if any of the criterion

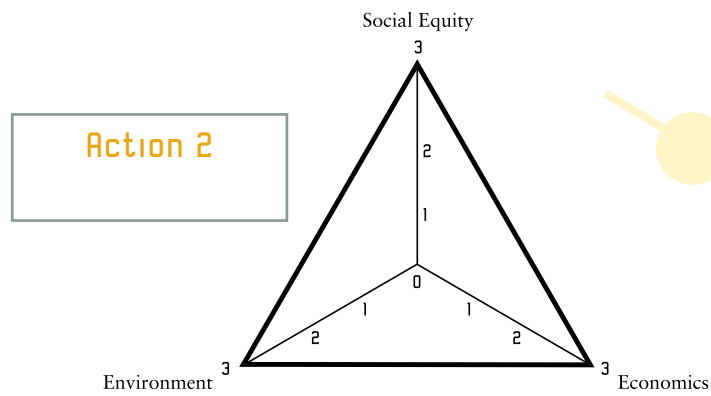
**Goal:**

**Title:** \_\_\_\_\_ **Action 1** \_\_\_\_\_ **Supporting Data** \_\_\_\_\_

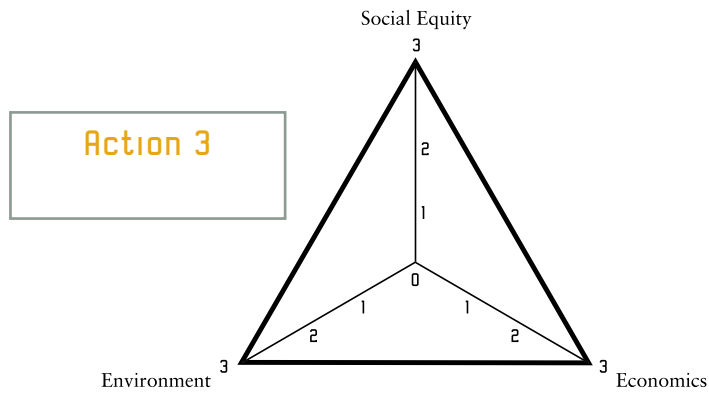
Environment	Action 1	Supporting Data
Criteria	Ratings	
<b>Average Rating:</b>		
Social Equity		
<b>Average Rating:</b>		
Economics		
<b>Average Rating:</b>		



Title:	Action 2	Supporting Data
<b>Environment</b>		
Criteria	Ratings	
<b>Average Rating:</b>		
<b>Social Equity</b>		
<b>Average Rating:</b>		
<b>Economics</b>		
<b>Average Rating:</b>		



Title:	Action 3	Supporting Data
<b>Environment</b>		
Criteria	Ratings	
<b>Average Rating:</b>		
Social Equity		
<b>Average Rating:</b>		
Economics		
<b>Average Rating:</b>		

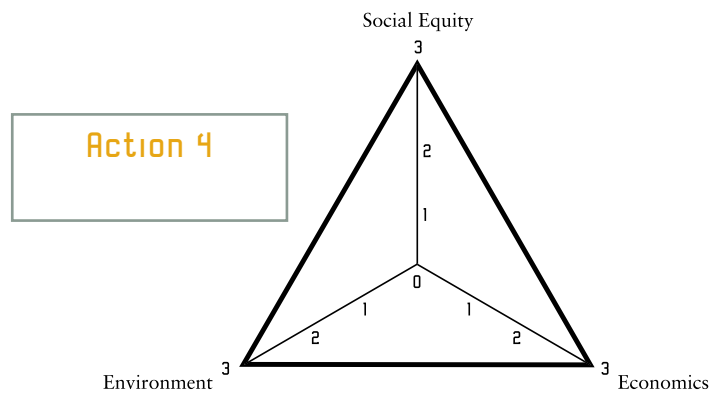


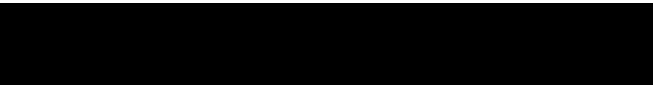
Title:

Action 4

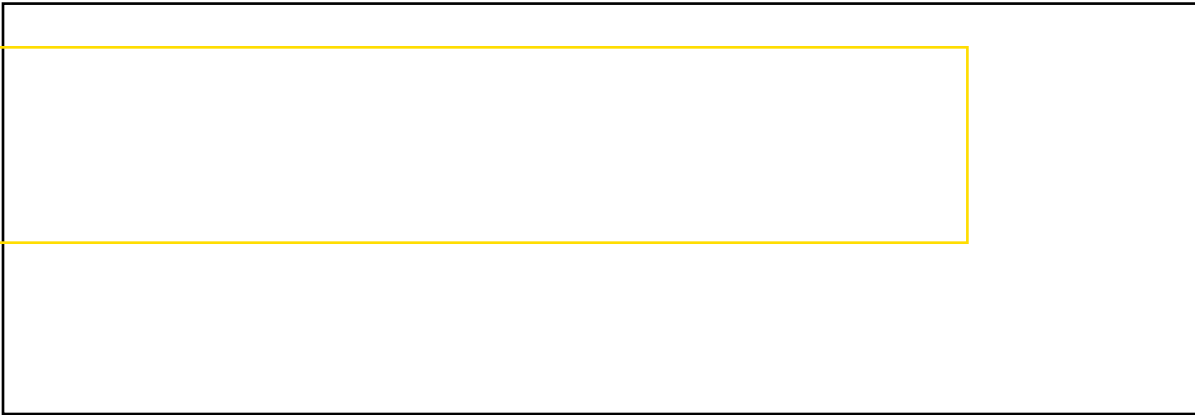
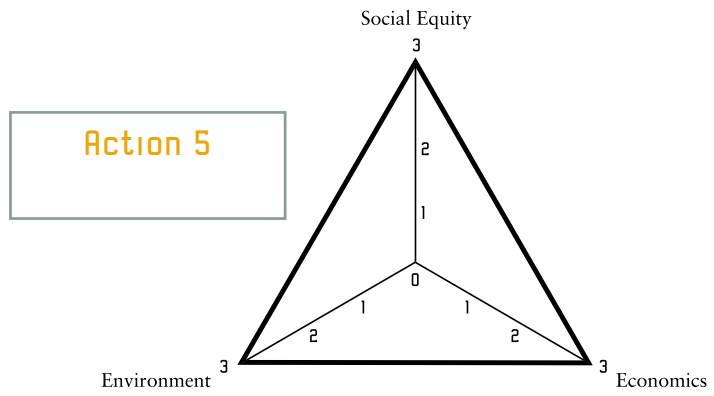
Supporting Data

Environment		
Criteria	Ratings	
Average Rating:		
Social Equity		
Average Rating:		
Economics		
Average Rating:		

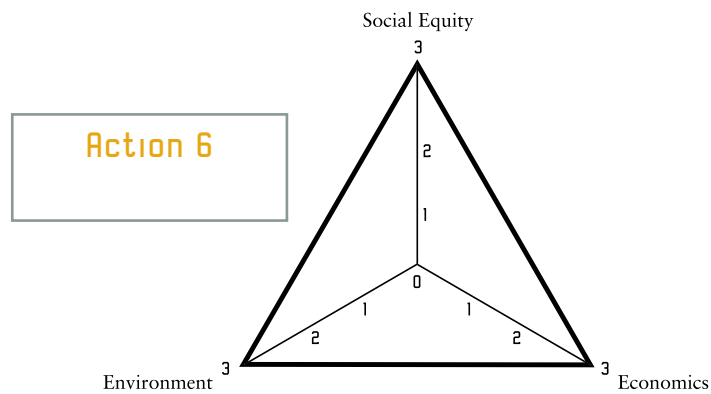




Title:	Action 5	Supporting Data
<b>Environment</b>		
Criteria	Ratings	
<b>Average Rating:</b>		
<b>Social Equity</b>		
<b>Average Rating:</b>		
<b>Economics</b>		
<b>Average Rating:</b>		



Title:	Action 6	Supporting Data
<b>Environment</b>		
Criteria	Ratings	
<b>Average Rating:</b>		
<b>Social Equity</b>		
<b>Average Rating:</b>		
<b>Economics</b>		
<b>Average Rating:</b>		



Calculating Degree of Sustainability – Table 1

Action	$\frac{1}{2}$ Base	Height	Area
1.			
2.			
3.			
4.			
5.			
6.			

# Student Sheet

