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Where Is "Away"?— A Geographic Concept

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When residents throw anything "away," it immediately becomes the responsibility of one of America's thousands of local governments. It is an awesome responsibility, for an increasing number of Americans discard an exponentially growing amount of "waste" per capita. Litter and roadside dumping seemed bad enough, but new specters have arisen in recent years. The world community watched on television as a ponderous barge loaded with solid waste from a New York municipality sailed the oceans, seeking a friendly port to off-load. The summer of 1988 brought closed beaches and the death of Atlantic dolphins to our attention. The decision to build higher and higher stacks of coal-fired midwestern power plants simply turned local

pollution into regional acid rain. Old dumps slowly leaked poisons into aquifers, while local governments sought suitable and affordable space for "sanitary landfills." Meanwhile, the nation needed a SuperFund to pay for past practices and spills of toxic chemicals, which seeped unnoticed by local and state authorities.

In the context of these issues, the concept "away" is worthy of study by students of geography and civics in our middle schools. The following plan of instruction offers teachers one way to engage their students in the geographic and civic aspects of municipal wastes—aspects in which we are all inescapably involved and aspects in which we participate daily.

Instructional Goals and Processes

Specific instructional goals for students include defining the relational concept between "away" and "here." Students should distinguish the differences in the concepts of solid waste, hazardous/toxic waste, and sewage as municipal wastes and give examples of each, using school, home, and community wastes. They need to identify legal and illegal disposal places in the community for each type of waste, mapping the locations and

routes to the legal disposal sites from the school. They can uncover the identity of the government official responsible for the legal disposal of each type of waste, the costs involved, the groups that pay, how the costs are paid, and the issues, externalities, and efficiencies in the community waste disposal. Students need to learn about the compelling state and federal interests that bring the involvement of these governments into local waste disposal issues and the impact of this involvement upon costs, public safety, and federalism. To accomplish this, students must develop cooperative, group research skills and use community resource persons.

The teacher might use a seven-step process to achieve these instructional goals.

Step One. The teacher begins by asking students if they have ever thrown anything away. The teacher might say, "We often use the expression 'I am going to throw this away.' But what have you thrown away?" The students might list items they threw away today, yesterday, or in times past. The teacher might ask about the most important things the students ever threw away, or the biggest, or the ugliest, or the most expen-

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sive. The idea is to get participation and initial reflection on *away*.

The teacher then poses the question: When you throw something away, where is away? Away is a relational concept. Away must be away from someplace. Where is that place? *Away* as a concept contrasts with the concept *here*. The adverb *away* means in or to a different place, and from one's presence or from one's possession. Conversely, the adverb *here* means at or in *this* place where we are, and into one's place or presence. Thus, both concepts have a spatial sense, a sense of place.

But does something cease to exist if one throws it away? If it is away, rather than here, what has happened to it? If students need further encouragement and reflection, the teacher might ask why something thrown into a trash basket in the classroom is "away" rather than "here."

Step Two. After the teacher and the students have contemplated the concepts *away* and *here*, they should focus upon the many labels we use for what we throw *away*. This discussion might focus upon the similarities and differences in such terms as garbage, litter, refuse, rubbish, trash, waste, and sewage.

The point of this discussion is to build a category system for kinds of municipal wastes. The most convenient system is a three-category schema, as shown in Figure 1.

The teacher should direct the students to apply the category system to a study of classroom trash. Using gloves, students can inventory each item found in the trash can and list

Action Activities for Students

1. Design a campaign to promote recycling in the community. Who would be involved? What is the most effective way to secure their involvement?
2. Interview local officials about the costs of community recycling. Are there markets for recycled materials? What costs can be recovered?
3. Do a photographic essay on illegal dumping of wastes in the community. The essay might be displayed in the school library or at a suitable site in the community.
4. Design a campaign to publicize motor oil recycling centers in the community. Involve those businesses that sell motor oil directly to the consumer.
5. Plan and carry out a "letters to the editor" campaign for the local newspapers on one theme. Possible themes range from the promotion of recycling wastes to community compost heaps to recycling greeting cards.
6. Do a hazardous wastes study. Survey a percentage of the adults in the community to determine awareness and knowledge of hazardous wastes in the community, ranging from household product disposal to industrial chemicals.
7. Develop an anti-litter campaign for younger children, and deliver that education campaign through the schools or youth groups in the community.
8. Conduct a school-wide recycling effort. Involve school leaders and local health officers to assist in a study of what can be recycled from school operations. Then initiate such a recycling program.
9. Develop a recycling program for used books and second-hand quality magazines. Collect and provide them to nursing homes and hospitals. Or give them to the local library for sale—proceeds for the acquisition of new library materials.
10. Do a trash art show. Recycle sample solid waste from your community into mobiles, dioramas, posters, paintings, and so on.

the name for each item under the appropriate heading. Of course, most items will be under Category 1: Solid Waste.

The teacher and students might then turn to the cafeteria. What is thrown *away* on a typical day in the school cafeteria? Wearing gloves, students might survey selected cafeteria trash cans, categorizing each item found. Other students might, with the cafeteria manager's permission, search out other forms of waste. Sinks and lavatories are especially important, for they raise the question of sewage as flowing *away*, rather than thrown *away*. The cafeteria inventory should

yield items in each of the three categories.

Teachers and students will need consider their definitions of hazardous/toxic waste carefully, because many household trash items are considered toxic. Examples include paints, paint thinners, batteries, cleaning materials, oils, smoke detectors, pesticides, and many gardening products. The Environmental Protection Agency (EPA) and state officials issue lists of such toxic/hazardous wastes and set rules for their safe disposal.

Teachers and students might personalize the questions by undertaking twenty-four hour inventories of what they throw/flow *away*, using the three category system.

Step Three. The teacher or students will need to obtain maps of the local community for this phase. Maps may be obtained from chambers of commerce or real estate firms.

The teacher should divide the class into three teams. One team will focus upon solid wastes. They should loc

FIGURE 1—Types of Municipal Waste

Solid Waste	Hazardous/Toxic Waste	Sewage

the *away* places for solid wastes on their community maps. These places should be coded "Official" and "Unofficial" disposal (away) places. Official places would be sanitary landfills, recycling centers, reclamation centers, and incinerators—all legal disposal methods. The unofficial centers are illegal—litter, roadside and rural dumps, and so forth. Local police and officials are sources of information on illegal disposal.

The hazardous/toxic waste team should use the same system of official (legal) and unofficial (illegal) disposal categories. Once again, local officials are an important source of information to locate these sites. Because few communities are equipped to handle hazardous wastes, however, students may have to consult state or federal officials.

The sewage team has a mess on its hands. Official means of handling sewage will vary—sewage treatment plants, septic tanks, community package plants, and other means are possible. Unofficial (illegal) means will vary. Local health authorities are the best sources for this information.

Once the mapping is completed, students might consider the geopolitical issues involved in waste disposal. Where are the landfills, sewage plants, and other waste sites—legal and illegal—located? Is there any correlation between facility location and land or housing values, between facility location and the political resources of the nearby residents? How do students explain any patterns or relationships?

Step Four: The teacher and students return to their maps. Using the same teams, students should map the routes that their category of waste (solid, toxic, or sewage) takes on its trip *away* from *here* (the school). How does the waste make its journey away, by truck, train, or pipeline? In each case, is the vehicle used safe and effective and efficient? The main idea here is to make the almost invisible systems of waste disposal—conveying wastes *away*—visible to students.



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Burning waste is a historic method of disposal, which converts solid waste into air pollution.

They should see the vast network of community investment in such systems and the potential problems that might arise from not making adequate investments for safety or in failing to account for population growth and per capita growth in such systems.

Step Five: Still using the three teams (solid waste, toxic waste, and

sewage), the teacher redirects students to the cost of disposal systems that carry waste away from us. Each team should collect data that indicate who is responsible for disposal (individual, private firms, public agencies), who pays the costs, how much is paid, and how the cost of disposal is figured? The teams should investigate the possibilities of public subsidies and any *externalities*, such as uncomputed costs in the process that are absorbed by quality of life losses because of air and water pollution. They should determine the stresses and strains on the system and the dangers.

Local newspapers, reporters, and local officials are the best sources for information of this kind. If students focus upon school wastes, the school bookkeeper or finance officer can provide cost data, current and historical.

Step Six: For a variety of reasons, local governments have had trouble gathering the resources to cope with increases in the amount and intensity of municipal wastes in recent years. The resulting problems have attracted



American Hoist and Derrick Co.

Sanitary landfills have been one means of coping with solid waste disposal, but concern for ground-water quality has diminished the benefits of this method.



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Increasing emphasis is placed upon the reclamation and recycling solid waste and its use as a resource for production.

media attention that, in turn, has brought state and federal regulation to such traditionally local matters. In their teams, students might search out the major thrust of state and federal rules governing their category of waste disposal. Two big questions arise: What are the compelling state and federal interests that bring them into regulating local waste disposal activities, and what is the impact upon federalism, as a Constitutional principle, if all levels of government are regulating, and perhaps funding, local waste disposal activities?

Step Seven. Where is *away*? The

teacher should refocus on the opening query about *away*. When can we say that something we have discarded is safely *away*? Certainly, if it is simply no longer here, it is still someplace. In a world community that is becoming an ever-more-crowded global village, can *away* ever be more than *here*? Can we ever throw something away and be certain that it or its consequences are not in our midst, threatening our safety or that of our neighbors or the future of our children? Are we willing to alter our patterns of consumption and to pay the higher costs for recycling, reclamation, incineration, and biodegradation?

These questions involve personal and public morality. They involve students in considering the rights of others, even if yet unborn, who will use our environment with us or after us. What are our obligations to our neighbors, ourselves, and the future as we discard paper, flush toilets, and dispose of used motor oil? Do incineration, recycling, and biodegradation offer safe, if more costly, options?

What Students Will Learn

During this lesson, students have looked carefully at the geographic, political, and moral features of municipal waste disposal. Some teachers and students may go into greater detail than others. All students who encounter this lesson, however, will understand—geographically, politically, and morally—that *away* is not nearly as far as they once thought it was. *Away* is almost always *here*.

Resources for Teachers

- Odum, Eugene P. 1971. *Fundamentals of ecology*. Philadelphia: Saunders College Publications.
- Rau, J. G., and D. C. Wooters, eds. 1980. *Environmental analysis handbook*. New York: McGraw-Hill, 1980.
- U.S. Environmental Protection Agency. 1977. *Waste disposal practices and their effects on groundwater*. Washington, D.C.: Government Printing Office.