

Community Recycling CMap/GPS Project

Summary

This lesson was intended to determine if there was a community interest in recycling in Wasatch county. It involved students conducting surveys of interested citizens, marking their residences on a GPS unit & later downloading & creating a map which plots the data.

Time Frame

6 class periods of 70 minutes each

Group Size

Small Groups

Materials

GPS units will be needed for students checkout, ArcGIS Software with accompanying computers, copies of student surveys.

Background for Teachers

When this project was planned, Wasatch County didn't appear to have a curbside recycling service. We hoped to survey residents to see if there was sufficient interest to get something started.

Student Prior Knowledge

Students will need to have some prior knowledge in using GPS. They should be able to mark, edit & delete waypoints. They should also have some exposure to ArcGIS and be able to download waypoints into ArcGIS and be able to edit their data within the program.

Intended Learning Outcomes

UTAH CORE Standards: Standard 4: objective 3b Determine the role of government in contemporary and historical world issues. Standard 5: objective 1 Explore how humans change the environment and how the environment changes humans Standard 5 objective 2 Assess the importance and use of human and natural resources. Intro. To Comm. Standards: Objective 2-1 Students will know the steps of the design process. Objective 4-1 Students will understand, identify, and use electronically communicate information. Objective 4-3 Students will be able to send, receive, and confirm electronic communication. Essential Questions: How can humans use resources without destroying the environment? How involved should government be in the lives of the people they govern? How has the technology of today allowed us to understand and communicate in the world we live in today?

Instructional Procedures

The Community Partners were: Paul Kennard (Wasatch Economic Development) Recycling Zone Diamond K Waste Brad Mertz (Recycline Coalition of Utah) Mr. Jeppson is credited for finding the community partners & their roles mainly would kick in after completion of the project as they determined whether-or-not there was sufficient interest to take the project to the next level. Project Time Line: 1) Week 1: 1)Project overview was presented to students. 2)Students were shown PPT on GPS. 3)Students were trained on GPS units. 4)Students began checking out units and collecting data & administering surveys. 2) Week 2: 1)Students were introduced to ArcGIS by the use of a overhead projector. 2)Students learned to download their data into ArcMap & to create a map. 3) Students continued to collect data, administer surveys & download waypoints into ArcMap. 3) Week 3: 1)Students should wrap-up with collecting data & importing it into ArcMap. 2) Students should finalize

their maps. 3) Students should present their information to Wasatch County with community partners present. Project Evaluation: We had many unforeseen issues which arose such as labs tied up for core testing, technology issues (not able to combine layers) Difficulty in distributing and collecting GPS units from students, not enough time allotted to work out all the bugs & wrap-up project. Suggestions: Make sure you have all the equipment necessary & that you have plenty of time for the project. Next year we will start early, which will allow enough time to jump through every hoop.

Strategies for Diverse Learners

Gifted students may be assigned to help work with ArcGIS in creating the maps. This will challenge their intellect. Students with special needs or ELL students may be paired with other students while collecting data & learning to use the GPS units and the ArcGis software.

Extensions

If this project takes off, students could continue to help recognize those residents of Wasatch County who are interested in recycling & mark their residences' waypoint for a curbside location.

Assessment Plan

Students will be assessed by a quiz, completion of survey, return of gps unit, proper recording of waypoints, completion of map, presentation.

Rubrics

[GIS/GPS Recycling Project](#)

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