



DESIGNING A CAMPUS NEEDS ASSESSMENT FOR YOUR SCHOOL



**6th Grade Standards-based Connections Set and Learning Objectives
for the Campus Needs Assessment**

English/Language Arts:

- 1.0 Word Analysis, Fluency, and Systematic Vocabulary Development:
Students use their knowledge of word origins and word relationships, as well as historical and literary context clues, to determine the meaning of specialized vocabulary and to understand the precise meaning of grade-level-appropriate words.
L.O. Students will use correct terminology in discussing and writing about aspects of recycling.
- 2.2 Write expository compositions (e.g., description, explanation, comparison and contrast, problem and solution):
L.O. Students will write results of needs assessment into an informational essay to be presented to the School Board.

Math

Statistics and Data

- 1.1 Compute the range, mean, median, and mode of data sets.
L.O. Students will analyze data including mean, median, and mode from personal and school trash collection
- 1.4 Calculate given percentages of quantities and solve problems involving discounts at sales, interest earned, and tips.
L.O. Students will calculate percentages of trash types from personal and school trash.
- 2.2 Identify different ways of selecting a sample (e.g., convenience sampling, responses to a survey, random sampling) and which method makes a sample more representative for a population.
L.O. Students will gather data from surveys of custodians, students, and teachers about trash generation.
L.O. Students will gather data from random sampling of trash bins at school.

Mathematical Reasoning:

- 1.1 Analyze problems by identifying relationships, distinguishing relevant from irrelevant information, identifying missing information, sequencing and prioritizing information, and observing patterns.
L.O. Students will analyze data from personal and school trash generation.
- 2.2 Apply strategies and results from simpler problems to more complex problems.
L.O. Students will use data from personal trash collection to estimate the same data for the school trash.
- 2.3 Use a variety of methods, such as words, numbers, symbols, charts, graphs, tables, diagrams, and models, to explain mathematical reasoning.
L.O. Students will put personal and school trash collection data into tables and graphs as well as describe their results in writing and verbally to the school board.
- 2.4 Express the solution clearly and logically by using the appropriate mathematical notation and terms and clear language; support solutions with evidence in both verbal and symbolic work.

- L.O. Students will make generalizations about trash generation at our school supported by the data they have collected.
- 2.7 Make precise calculations and check the validity of the results from the context of the problem.
 - L.O. Students will calculate percentages of trash types from personal and school trash.
- 3.0 Students move beyond a particular problem by generalizing to other situations
 - L.O. Students will use data from personal trash collection to estimate the same data for the school trash.
- 3.1 Evaluate the reasonableness of the solution in the context of the original situation.
 - L.O. Students will determine whether their results for the school make sense given their personal trash collection data.

Science:

- 6. Sources of energy and materials differ in amounts, distribution, usefulness, and the time required for their formation. As a basis for understanding this concept:
 - 6a. *Students know* the utility of energy sources is determined by factors that are involved in converting these sources to useful forms and the consequences of the conversion process.
 - L.O. Students will identify the amount of energy taken to recreate recycled materials compared to the amount of energy it takes to make new materials.
 - 6b. *Students know* different natural energy and material resources, including air, soil, rocks, minerals, petroleum, fresh water, wildlife, and forests, and know how to classify them as renewable or nonrenewable.
 - L.O. Students will classify raw materials used to generate products and packaging represented in personal and school trash as renewable and nonrenewable resources.
 - 6c. *Students know* the natural origin of the materials used to make common objects.
 - L.O. Students will classify trash according to origin and ability to reuse
 - L.O. Students will list natural origins of materials used to make objects found in their personal and school trash.
- 7. Scientific progress is made by asking meaningful questions and conducting careful investigations. As a basis for understanding this concept and addressing the content in the other three strands, students should develop their own questions and perform investigations. Students will:
 - 7a. Develop a hypothesis.
 - L.O. Students will use the Scientific Method to conduct the needs assessment for our campus.
 - 7b. Select and use appropriate tools and technology (including calculators, computers, balances, spring scales, microscopes, and binoculars) to perform tests, collect data, and display data.
 - L.O. Students will select appropriate tools to collect data and perform tests.
 - 7c. Construct appropriate graphs from data and develop qualitative statements about the relationships between variables.

- L.O. Students will put personal and school trash collection data into tables and graphs as well as describe their results in writing and verbally to the school board.
- 7d. Communicate the steps and results from an investigation in written reports and oral presentations.
 - L.O. Students will write results of needs assessment into an informational essay to be presented to the School Board.
- 7e. Recognize whether evidence is consistent with a proposed explanation.
 - L.O. Students will determine whether their results for the school make sense given their personal trash collection data.
- 7f. Read a topographic map and a geologic map for evidence provided on the maps and construct and interpret a simple scale map.
 - L.O. Students will create a campus map showing location of trash generation and disposal.

History/Social Studies:

6.1 Students describe what is known through archaeological studies of the early physical and cultural development of humankind from the Paleolithic era to the agricultural revolution.

L.O. Students will identify that we know about other cultures by examining their trash or what we now call artifacts.

L.O. Students will identify what parts of our trash will remain and what it will say about us.

Chronological and Spatial Thinking

3. Students use a variety of maps and documents to identify physical and cultural features of neighborhoods, cities, states, and countries and to explain the historical migration of people, expansion and disintegration of empires, and the growth of economic systems.

L.O. Students will create a campus map showing location of trash generation and disposal.

Technology:

4.4.01 Students can generate graphs from spreadsheets.

L.O. Students will put personal and school trash collection data into tables and graphs using Excel after manually creating graphs.

4.4.02 Students can determine and create appropriate type of graph

L.O. Students will put personal and school trash collection data into tables and graphs using Excel after manually creating graphs.

4.4.04 Students can plot information and create a line, stack, bar and/or combination chart including scales and legends.

L.O. Students will put personal and school trash collection data into tables and graphs using Excel after manually creating graphs.

7.2.10 Students can produce a research project using at least three different types sources

L.O. Students will write results of needs assessment into an informational essay to be presented to the School Board.

Lesson Planning for the Campus Needs Assessment

Pre-assessment strategy: Students will complete a Pre-Assessment Survey for Service Learning form to determine their current knowledge and attitudes toward waste generation and recycling.

Remediation strategy for any prerequisite knowledge and skills:

1. Teach students to log on to a computer, use a mouse, manage two screens on a computer monitor using technology teacher.
2. Teach students how to conduct an efficient search using search words that narrow the scope of the search.
3. Teach students how to differentiate between fact and opinion.
4. Teach students how to record data in an organized manner.
5. Define expectations for group work.

Lesson 1

Standards-based Learning objective(s):

- L.O. Students will use correct terminology in discussing and writing about aspects of recycling.
- L.O. Students will identify the environmental impact the amount of trash we generates has on our local ecosystem in their written results.
- L.O. Students will identify the amount of energy taken to recreate recycled materials compared to the amount of energy it takes to make new materials.

Adopted Instructional Materials and Other Resources:

Plastic trash bag for each student labeled with a piece of masking tape.

Focus On Earth Science textbook pp. 613 – 614 “Recycling Matter”, 606-612 “Energy Flow in the Environment”

Sample trash,

Generation earth website (www.generationearth.com)

Summary Description: Using textbook, review lessons taught on biotic and abiotic influences on the environment. Ask students what biotic and abiotic factors we add to the environment that might impact other species in our ecosystem. Have students explore www.generationearth.com to add to the list they generate. Directed lesson teaching the difference between different resources (renewable and non renewable: organics, plastics, metals, glass, compost and non-compost, etc.) using Vocabulary Discovery worksheet have students define, draw and find synonyms for the vocabulary words. Explain assignment to collect all non-organic trash for one week. Organic trash is to be listed on a piece of paper.

Responsible individual(s): Science teacher, English Teacher

Timeline: Trash collection (1 week) Lesson (1 day)

Lesson 2

Standards-based Learning objective(s):

- L.O. Students will use correct terminology in discussing and writing about aspects of recycling.
- L.O. Students will analyze data including mean, median, and mode from personal and school trash collection
- L.O. Students will calculate percentages of trash types from personal and school trash.
- L.O. Students will put personal and school trash collection data into tables and graphs as well as describe their results in writing and verbally to the school board.
- L.O. Students will calculate percentages of trash types from personal and school trash.
- L.O. Students will classify personal and school trash as renewable and nonrenewable resources.
- L.O. Students will classify trash according to origin and ability to reuse
- L.O. Students will select appropriate tools to collect data and perform tests.

Adopted Instructional Materials and Other Resources:

Collected trash from the week

“How to Input Data and Create a Chart in Excel” handout for students

Computer access for each student with Microsoft Excel program for charting data

Plastic covers for tables on which students can sort trash

Recycle bins for recyclables

A big trash bin for all the remaining trash

Color printer for students to print charts

Pg 43 Trash Tally chart in *50 Simple Things Kids Can Do to Recycle*

Summary Description: They will divide their trash into plastics, metals, glass, paper, etc. Students will then classify the raw materials that make up the materials in each substance. Students will separate collected trash based on whether the resources used to make the packaging are renewable or nonrenewable. Students will calculate the percent of each trash component in their trash bag and create a bar graph and pie chart using the data. They will then complete the “How to Input Data and Create a Chart in Excel” handout for students. They will then input data into a spreadsheet and create a chart.

Responsible individual(s): Technology and Science teachers working together, Math teacher

Timeline: 2 days (1 day to sort and gather data, one day to input data and print charts)

Lesson 3

Standards-based Learning objective(s):

- L.O. Students will use correct terminology in discussing and writing about aspects of recycling.
- L.O. Students will identify that we know about other cultures by examining their trash or what we now call artifacts.

Adopted Instructional Materials and Other Resources:

Archeological Trash worksheet

Summary Description: Discuss ancient civilizations and how we learn about them through what they have left behind- their “trash”. Ask the question “What are fossils really?” Have students explain why archeologists might prefer we didn’t recycle material and how trash helps them make discoveries.

Responsible individual(s): Science teacher, Social Studies teacher

Timeline: 1 day (walking around and mapping entire campus thoroughly)

Lesson 4

Standards-based Learning objective(s):

L.O. Students will use correct terminology in discussing and writing about aspects of recycling.

L.O. Students will create a campus map showing location of trash generation and disposal.

L.O. Students will identify what parts of our trash will remain and what it will say about us.

Adopted Instructional Materials and Other Resources:

Map of the campus from agenda books or a copy of the map for students without agenda books,

Clipboard or something on which to write

Our Archeological Trash worksheet

Summary Description: Give students the question: “ What would someone in the future learn about us from our trash?” Half of the students will be touring the campus in order to create a map of where recycle bins, trashcans, are located. They will be observing where trash is generated and located, what areas for waste disposal are available? Students will create a map of the initial situation on campus and then save it for later comparison once change takes place. Upon returning to class discuss the various type of archeological finds a future archeologist might find in different areas of the school and what those would say about us.

Responsible individual(s): Science teacher, Social Studies teacher

Timeline:2 days (walking around and mapping entire campus thoroughly)

Lesson 5

Standards-based Learning objective(s):

L.O. Students will use correct terminology in discussing and writing about aspects of recycling.

L.O. Students will use data from personal trash collection to estimate the same data for the school trash.

L.O. Students will use the Scientific Method to conduct the needs assessment for our school.

Adopted Instructional Materials and Other Resources:

Video from the Museum of Television and Radio: Where Does Trash Go?

Information from previous trash collection activity

Summary Description:

Students watch “Where Does Waste Go” and estimate what percentages of each category of trash our school generates based on the percentages they computed for their personal trash collection.

Responsible individual(s): Science Teacher

Time: 1 day

Lesson 6

Standards-based Learning objective(s):

L.O. Students will use correct terminology in discussing and writing about aspects of recycling.

L.O. Students will use the Scientific Method to conduct the needs assessment for our

Adopted Instructional Materials and Other Resources:

Scientific Method worksheet

Summary Description:

Day two: Propose to students that we investigate the actual percentages of trash our school generates. Brainstorm how we would phrase that into a scientific question and have them formulate a hypothesis. Students will form teams to investigate the questions generated through the brainstorming process. Students should list the kinds of information they need to collect and decide how best to get that information.

Responsible individual(s): Science Teachers

Time: 1 day

Lesson 7

Standards-based Learning objective(s):

L.O. Students will use correct terminology in discussing and writing about aspects of recycling.

L.O. Students will gather data from surveys to custodians, students, and teachers about trash generation.

L.O. Students will gather data from random sampling of trash bins at school.

L.O. Students will use the Scientific Method to conduct the needs assessment for our school.

Adopted Instructional Materials and Other Resources:

Computer Access with Microsoft word for 5-6 groups

School maps

Student lists from office

Summary Description:

Day three: Students will divide into groups based on area of interest and submit a proposal for their investigations. After approval by the teacher, students will develop the necessary materials to conduct their investigation. Those wishing to conduct the survey of teachers will write that survey, those wishing to survey students will write that survey, those wishing to interview custodians will write their list of questions; those wishing to physically look at trash in different areas will decide how to randomly choose those areas and create an action plan using their campus map, those wishing to observe students will determine how to randomly select students to watch then get those schedules from the office.

Responsible individual(s): Math and Science Teachers

Time: 2 days

Lesson 8

Standards-based Learning objective(s):

L.O. Students will use correct terminology in discussing and writing about aspects of recycling.

L.O. Students will gather data from surveys to custodians, students, and teachers about trash generation.

L.O. Students will gather data from random sampling of trash bins at school.

L.O. Students will use the Scientific Method to conduct the needs assessment for our school.

L.O. Students will use appropriate tools to perform tests.

Adopted Instructional Materials and Other Resources:

Completed surveys from students

Campus maps

Data sheets

Tape recorders

Access to teacher's email or boxes

Access to students from random selection

Summary Description:

Days 5,6 Students will issue survey, observe students, and weigh trash to collect data

Responsible individual(s): Science Teachers

Time: 2 days

Lesson 9

Standards-based Learning objective(s):

L.O. Students will use correct terminology in discussing and writing about aspects of recycling.

L.O. Students will analyze data including mean, median, and mode from personal

- and school trash collection
- L.O. Students will calculate percentages of trash types from personal and school trash.
 - L.O. Students will analyze data from personal and school trash generation.
 - L.O. Students will put personal and school trash collection data into tables and graphs as well as describe their results in writing and verbally to the school board.
 - L.O. Students will make generalizations about trash generation at our school supported by the data they have collected.
 - L.O. Students will determine whether their results for the school make sense given their personal trash collection data.
 - L.O. Students will classify personal and school trash as renewable and nonrenewable resources.
 - L.O. Students will use the Scientific Method to conduct the needs assessment for our school.
 - L.O. Students will select the appropriate tools to perform tests and collect data.

Adopted Instructional Materials and Other Resources:

Video from the Museum of Television and Radio: Where Does Trash Go?

Trash collection information from the city

Information from previous trash collection activity

Summary Description:

Students will bring all information gathered to class and analyze and graph the results by category of trash.

Responsible individual(s): Math and Science Teachers

Time: 2-3 days

Lesson 10

Standards-based Learning objective(s):

- L.O. Students will use correct terminology in discussing and writing about aspects of recycling.
- L.O. Students will analyze data from personal and school trash generation.
- L.O. Students will make generalizations about trash generation at our school supported by the data they have collected.
- L.O. Students will use the Scientific Method to conduct the needs assessment for our
- L.O. Students will determine whether their results for the school make sense given their personal trash collection data.

Adopted Instructional Materials and Other Resources:

Trash collection information from the city

Information from surveys and observations

Summary Description:

Students will look at data from the City of Beverly Hills Public Works Department. The city took one day's worth of trash from the schools only, and weighed it for each category of trash. Students will use this data to check the accuracy of their own data collection.

Responsible individual(s): Science Teachers

Time: 1 day

Lesson 11

Standards-based Learning objective(s):

L.O. Students will use correct terminology in discussing and writing about aspects of recycling.

L.O. Students will put personal and school trash collection data into tables and graphs as well as describe their results in writing and verbally to the school board.

L.O. Students will make generalizations about trash generation at our school supported by the data they have collected.

L.O. Students will determine whether their results for the school make sense given their personal trash collection data.

L.O. Students will classify personal and school trash as renewable and nonrenewable resources.

L.O. Students will use the Scientific Method to conduct the needs assessment for our

Adopted Instructional Materials and Other Resources:

Data from surveys and observations that has been verified by the city's information
Computer access with Excel

Summary Description:

Students will graph the final verified data using Excel.

Responsible individual(s): Science and Technology Teachers

Time: 1 day

Lesson 12

Standards-based Learning objective(s):

L.O. Students will use correct terminology in discussing and writing about aspects of recycling.

L.O. Students will write results of needs assessment into an informational essay to be presented to the School Board.

L.O. Students will put personal and school trash collection data into tables and graphs as well as describe their results in writing and verbally to the school board.

L.O. Students will make generalizations about trash generation at our school supported by the data they have collected.

Adopted Instructional Materials and Other Resources:

Graphic organizer for informational essays
Final data verified by the city
Access to computers with Microsoft Word

Summary Description: Individually students will summarize their finding in an informational essay. Students will make generalizations about the current status of the school's trash generation. They will describe the categories of trash and the percentages of each category contained in the school's trash. They will use the data they collected as supportive details. Two days will be allotted for writing and two for revising. The top essay from each school will be presented to the School Board. Students will be encouraged to attend the meeting in support of their classmates.

Responsible individual(s): English Teacher and Science Teacher

Timeline: 4-6 school days plus one evening fro school board meeting

Assessment Strategy(ies) for Campus Needs Assessment:

Completion of Post – Assessment Survey for Service Learning
Presentation and attendance at School Board meeting

Collaborative Instructional Team

Educators and school staff:

Hawthorne: Kimberlie Wick (6th Science), Daniella Kamp (6th English), Charles Kertesz (6th Math, Jane Geletco (6th History), Amanda Shultz(6th Science), Erica Cobain (K-8 Technology), Richard Woodward (6th Science), Kerry Mazor (6th Science), Rex Comer (Ass't Superintendent)

Jennifer Boone, Steve Fisher, DonnaLyn Murakawa-Leopard, Irene Stern (K-8 Principals)

Patricia Galante (K-8 Ass't Principal)

Jim Fahey (Maintenance and Operations)

Cheryl Plotkin (Purchasing)

Coach :Kimberlie Wick

Community partners: City of Beverly Hills, Malibu Foundation, Generation Earth

Additional support mechanisms: SEER, CIWMB, LAUSD, Hawthorne USD

Teaming considerations:

Timeline for Developing the Campus Needs Assessment:

Celebration: January 2003. Students will attend School Board meeting to hear the presentation of their findings.

Workplan for Year One of Your School's UES Program

Team leader(s): Kimberlie Wick

Leadership team (include disciplines and grade levels represented on team):

Daniella Kamp	6 th grade English
Charles Kertesz	6 th grade Math
Jane Geltco	6 th grade History
Amanda Shultz	6 th grade Science
Erica Cobain	Technology
Richard Woodward	6 th grade Science
Kerry Mazor	6 th grade Science
Rex Comer	Assistant Superintendent
Patricia Galante	Assistant Principal
Jim Fahey	Maintenance and Operations
Cheryl Plotkin	Purchasing

School and district administrative support that the teams should engage: School Board, PTA, Beverly Hills Education Foundation

Community partners and stakeholders that the teams should engage: City of Beverly Hills, Malibu Foundation, Generation Earth

Timeline

Task	Responsible Person(s)	Due Date
Complete design of Campus Needs Assessment	Kimberlie Wick	10/10/03
Implement Campus Needs Assessment	Kimberlie Wick, Richard Woodward, Amanda Shultz	11/07/04
Team reviews results of Campus Needs Assessment and begins implementation planning	Entire team	1/31/04
Submit 1st draft of Year 2 Implementation Plan to SEER for review	UES Grantees	February 15, 2004
Review and comment on Implementation Plan	SEER	March 1, 2003
Final Year 2 Implementation Plan completed	UES Grantees	March 15, 2004
Submit Year 2 Implementation Plan for CIWMB approval	UES Grantees	March 15, 2004
CIWMB staff review Year 2 Implementation Plans	CIWMB staff	April 2004
CIWMB considers Phase Two funding	CIWMB staff	May 2004

Phase Two agreements sent to Grantees and returned to Grantees	CIWMB staff and Grantees	May 2004
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