

ECOCITY

I. General Plan

- A. Total population is a minimum of 50,000.
- B. For every 50,000 people, there needs to be 1 hospital
- C. For every 50,000 people, there needs to be 1 police station.
- D. You will need one jail or alternate method of addressing crime.
- E. For every 50,000 people, there needs to be 1 fire station.
- F. For every 50,000 people, there needs to be 1 sewage treatment and water treatment facility.
- G. For every 50,000 people, there needs to be 1 energy power plant.
- H. Create an age structure diagram for you city. Include the average life span and family size.
Note: average family in Encinitas is four people, two kids in every family.
- I. Decide the number of schools you need depending on the age demographics of your city.
- J. Decide what your main sources of income will be for your city.

II. Geographical/Topographical map

- A. Longitude and Latitude of your city
- B. Draw a topographic map with a legend – i.e. hospitals, fire stations, etc.
- C. Map should have indication of residential, business, industrial, agricultural, natural preserve zones, etc.
- D. Map should include a general distribution of organisms.

III. Written Description of the city

- A. General Manifest of the City: General goals and overall rules of the city. This includes rationale behind the name, zoning, and use of resources of the city.
- B. Resource Management: water, waste, electricity, food (agriculture, fishing, livestock), minerals. For each category, address the following ideas:
 1. Methods used by the city
 2. How these methods work
 3. Impact on the environment
 4. Possibility of sustainability
- C. Biome: Type of climate: annual precipitation, average temperature, seasons, and geology. This is based off of the longitude and latitude given.
- D. Type of Community: Types of native species. Include food web and trophic levels.
- E. Explanation of how species inhabited area and evolved to that particular biome.....adaptations. Look at the geography/location of the area.
- F. Address Pollution: how does your city address things such as air, water, and land pollution?
- G. City demographics: industrial, residential, preserve, etc.
- H. Explanation of transportation: how do people move about?
- I. Population: # of people, demographics....age, etc.
- J. City public services: schools, hospitals, jails, open spaces (preserves, undeveloped land)
- K. Describe the main sources of income for the city.
- L. Describe how your city is “sustainable”.
- M. Describe unique features to your city.

IV. Making a “Green” House

- A. Goal: to create a house that is comfortable and is friendly to the environment. This will require creativity and thought into how to minimize the impact of humans on the environment. You will be required to submit a blueprint of the house with a legend, a front or side view of the house, and a written description of the house and how it is eco-friendly.
- B. Blueprint Of Your “Green” House. A few parameters:
 1. 1 cm \approx 1 foot. Remember, the larger the house, the more difficult it is to heat during the winter. Average house (not including the property) is 3 Bedroom, 2 Bathroom of about 1700 square feet
 2. Legend to illustrate windows, doors, # & type of rooms, landscaping, insulation, etc...
 3. Direction to orient house...N \longleftrightarrow S, E \longleftrightarrow W
 4. One colored & labeled drawing of the top view (i.e. blueprint)
 5. One colored & labeled drawing of one side of the house including landscaping

C. Written Description:

1. Describe how your house is “green” by addressing the following:

a. Indoors

1. Windows: location, type, amount
2. Insulation: walls, roof, around windows & doors
3. Amount and type of energy consuming devices such as: refrigerator, stove, oven, t.v., stereo, computers & printers & fax, electric chargers, lights, phone, dryer, water heater, air heaters/coolers, etc. Think of.
4. Amount and type of water consuming appliances: faucets, toilets, showers, washing machine, dishwasher, etc.

b. Outdoors

1. Landscaping: type of plants, location
2. Amount and type of energy consuming appliances: pool, outdoor lighting, automated sprinklers, etc.
3. Amount and type of water consuming appliances: hose, sprinklers, pool, Jacuzzi

Overall

- What type of energy sources will your house use?
- How will your house address solid and liquid waste management?
- Where will your house be located? Will there be other homes nearby?
- Students will present to the rest of the class. Each classmate will vote on which grade each of the different cities in addition to voting for the “most sustainable” and “most creative” city.

ECOCITY PROJECT
GRADING SHEET

	POINTS
Topographic Map *Legend & Logical	/10
Zoning Map *Legend & Logical	/10
Organisms Distribution on Map *Logical distribution of animals & complete	/5
Written Description *Name of City & Manifest	/5
*Resource management	/5
*Biome & Type of Community & Source of Colonization	/5
*Pollution Control	/5
*Transportation	/5
*Public Services	/5
*Income	/5
*Sustainability	/5
Creativity	/5
Subtotal	/70
House Blueprint *Top View	/10
House Blueprint *Side view	/5
House Written *Energy Efficiency *Water Efficiency *Other Sustainable Practices	/10
Creativity	/5
Subtotal	/30
TOTAL	/100