Land can be used for many things, such as housing, stores, parks, manufacturing, etc. Building a city is like putting together the pieces of a jigsaw puzzle. Certain land uses, like puzzle pieces, will not fit together well. This is called incompatibility. Only when each piece is in the right place will you have an orderly, attractive, and economically strong community.

Putting together the land use pieces is an important part of what a city planner does. But before the city planner can do that, he or she must talk with people who live in the community to see what kinds of land uses residents would like to have and where different land uses should occur. That is why it is important for people to be involved in their local government.

City planners must also find the right balance between various land uses. What would happen if there weren’t enough homes for the people who work in your community? Where would they live? How would they get to work? Is there enough open space, such as parks, where people can play sports and have picnics?

When it comes to maps, city planners think in terms of land use categories and create color coded Land Use Maps. Categories are called zones, and the general zones include names like Public and Semi-Public, Industrial, Commercial, Residential, Parks and Recreation, and Agricultural. Services such as transportation have no color, but they link one usage area to another. These services may be housed in one of the areas, such as a bus station in a

**OVERVIEW**

Students put together zoning pieces on a puzzle board to design a smooth running community. They then list land uses on sticky notes and categorize them into each of the zones, competing in a contest to see who can put the most types of land uses on their community puzzle board.

**OBJECTIVES**

After participating in this activity, students will be able to:

- Describe 6 different land use categories (zones) and sort them into 10 different land uses.
- Use city planner and land use category vocabulary words and understand difficult vocabulary words.

**BACKGROUND**

Land can be used for many things, such as housing, stores, parks, manufacturing, etc. Building a city is like putting together the pieces of a jigsaw puzzle. Certain land uses, like puzzle pieces, will not fit together well. This is called incompatibility. Only when each piece is in the right place will you have an orderly, attractive, and economically strong community.

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When the most appropriate mix or balance of land use is determined, city or community planners establish a map and a set of rules generally referred to as zoning. These rules and maps tell land owners, neighbors, and local officials what land uses can be built or conducted on which land. Zones or zoning districts vary significantly depending on the use they regulate. Some zones depict areas where very few types of uses are permitted (such as a residential zone that only allows one house for a single family). Other zones, such as commercial zones, may allow a great variety of land uses as long as they meet certain guidelines or criteria, such as providing products for local residents or providing a certain number of parking places.

The important concepts to keep in mind when teaching this lesson are: major land uses are separated into different categories called zones; only certain land uses are allowed in those zones; and zoning laws keep communities, cities, and open land running smoothly (usually).

Zoning is not a perfect land use solution and can be problematic itself. It can cause unnecessary segregation of land uses, which is a characteristic of sprawl. It can exclude uses or people from certain places. It can also be very challenging legally, such as in cases of private property rights versus the use of private land for the good of the public. An example of this occurs when the government requires a private landowner to sell property so that a highway or a public park can be built on that land.

**PROCEDURE**

1. To prepare materials for the lesson, complete these tasks for each group:
   - Make the poster board or butcher paper to look like a puzzle with six pieces to correspond to the six zones (Figure 1).
   - Make a photocopy of the provided Land Use Sentence Strips worksheet. Cut the strips apart, and color them the appropriate color for the zone, or allow students to do this task. (Laminate to reuse them easily.)

2. Begin the lesson by asking students to define the following land use and zoning vocabulary. Coach the students toward these definitions:
   - Land Use: The way that land is used by humans
   - Zones: Areas which allow only certain land uses
   - Commercial Zone: Businesses that sell goods and services to local citizens (retail) or other businesses (wholesale)
   - Industrial Zone: Highly developed factories, warehouses, or plants that produce mass quantities of a product
   - Residential Zone: Places for people to live (homes, apartments)
   - Public/Semi-Public (Civic) Zone: An area that serves or is used by all people
   - Parks/Recreation Zone: A piece of land reserved for public use and recreation
   - Agricultural Zone: Land used for livestock, growing crops, and required farm buildings (barns and farmsteads)

3. Show the students the poster puzzle boards and explain to them that building a city is like putting together the pieces of a jigsaw puzzle. Certain land uses, like puzzle pieces, will not fit together well. This is called incompatibility. Only when each piece is in the right place, will you have an orderly, attractive,
and economically strong community.

4. Break students into groups of three to six. Give them the prepared materials and have them tape one sentence strip into one of their puzzle pieces. Allow them time to determine the best fit for each of their sentence strips into the city zone puzzle pieces (Figure 2).

5. Now, conduct a contest to see which group can list the most land uses. Have the students write a land use example on a sticky note and then place it in the appropriate zone on the puzzle board (Figure 3). Groups compete to post the most land uses in the zones on the puzzle board. The group with the most sticky notes wins.

6. Discuss with the students the results of the contest. Compare sticky notes and the validity of the land uses on them. Did the students realize there were so many different land uses? What types of land uses did they forget? (A comprehensive list of land uses can be found on the Land Use Data Collection sheet in the lesson Walking Neighborhood Surveys.) Were there land uses that can be found in more than one zone? (Houses can be found in residential and agricultural zones).

**ASSESSMENT OPTIONS**

1. While the students are in teams, look for participation from each person and evaluate cooperation.
2. Have each student describe 6 different land use categories/zones and place 10 different land uses in them, or provide a list of land uses and have the student place them in the categories.
3. Ask the student to list 3 land uses they did not realize existed or forgot.

**Adaptations/Extensions**

1. Bring in an actual Land Use Map and display it for the class. Or, display the color land use answer key from the lesson, City Planning is Colorful.
2. To inventory neighborhood land uses (if not done already), complete the worksheet Survey: Land Use in the lesson, Walking Neighborhood Surveys. Have students develop graphs and charts to organize the data.

**Computer Extensions**


**SOURCE**

Lesson developed by Anne Williamson, curriculum consultant for United Growth for Kent County, a grant project of Michigan State University Extension.

**ADDITIONAL RESOURCES**

Contacts:
- American Planning Association (APA)
- Center for Understanding the Built Environment (CUBE)
- Local City Planning Division/Local Planning Commission
- Michigan Land Use Institute
- Michigan Society of Planning (MSP)
- United Growth for Kent County

References and Teacher Resources:

Additional Lessons:
- Walk Around the Block: "Understanding Land Use" page 26 and "Land Usage" page 22.

**CONCEPTUAL FRAMEWORK REFERENCE**

1B6, IIIA2, 1V A
LAND USE SENTENCE STRIPS

Directions:
Cut the Sentence Strips apart on the dotted lines. Color the strips according to the land use (zoning) color. Decide on a good organization for the land uses, and tape the strips to the community puzzle.

Vocabulary Words:
Land Use: The way that land is used by humans
Zone(s): Areas which allow only certain land uses

Commercial Zone (red):
Businesses that sell goods and services to local citizens (retail) or other businesses (wholesale)

Industrial Zone (purple):
Highly developed factories warehouses, or plants that produce mass quantities of a product

Residential Zone (yellow):
Places for people to live (homes, apartments)

Public/Semi-Public (Civic) Zone (blue):
An area that serves or is used by all people

Parks/Recreation Zone (brown):
A piece of land reserved for public use and recreation

Agricultural Zone (green):
Land used for livestock, growing crops, and required farm buildings (barns and farmsteads)