Where Should Development Go?

Grade Level: 5 - 8

Essential Skills: 1,2,3,4,5,7,9

NGSS:
MS-ESS3
MS-LS2
MS-LS2-7
MS-LS4-6

CCSS:
CCSS.ELA-LITERACY.CCRA.R.4
CCSS.ELA-LITERACY.CCRA.R.6
CCSS.ELA-LITERACY.CCRA.R.8
CCSS.ELA-LITERACY.CCRA.SL.1
CCSS.ELA-LITERACY.CCRA.SL.5

Time: 2 class periods

Materials:
*Free maps with all materials available to Oregon educators from our Free Loan Library.

Raised relief map, colored planning blocks- purple, yellow, red and blue and sticky squares.

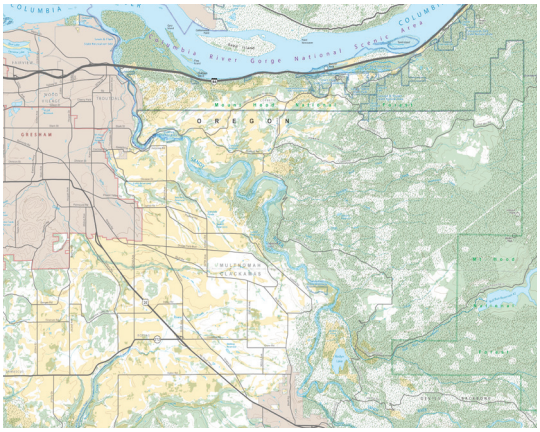
AITC Resources:
Check out these materials online at AITC's Free Loan Library:

More Lessons:
Earth as an Apple & Soil Conservation

1/19

Description:

Students learn about the challenges of planning for development while still protecting important farmland, forestland and wildlife habitat. This two-part lesson allows students to brainstorm creative solutions using critical thinking, math, teamwork and problem solving skills.



Directions:

Lesson I: Background

Part I: Teacher Preparation

Prepare for this lesson by reading the *Teacher Background Material* that is included and that provides information on Oregon's statewide land use planning program.

Part II: Class Discussion on Land Use (15-20 minutes)

1. Lead students in a discussion as follows.

Ask: Where does the food you eat come from? Where does the paper you use and books you read and chairs you sit on come from?

> Food comes from farms and ranches and is sometimes harvested from the environment. Paper, books and furniture come from timber from forests.

Ask: Are there farms and ranches and forests near where you live? Have you ever visited or driven by a farm or ranch? How about a forest or tree farm? What did you notice?

> Discuss the kinds of crops or livestock students have seen and the experience of visiting a forest or tree farm. Explain that farms and forests are not only for food and timber but also provide homes for fish and wildlife and outdoor places for recreation. Ask what types of fish and wildlife might live on farms or in forests (salmon, deer, birds, rabbits, raccoon, fox, bear, cougar, etc.)

Ask: Where do you live? In the city or the countryside? Every year, new people move to Oregon. Where do you think they will live? Have you seen new housing developments go up?

> Every year, cities grow to make room for new people. They grow to provide new houses for people to live in, new places for people to work or go to school, new stores for them to shop in and new parks and libraries. All this new development requires new land to build on outside cities, but most of this land is either farmland, forestland or wildlife habitat.

Ask: So how can we decide where new development should go? How can we plan for new people who come to Oregon and still protect important farmland, ranchland, forests and wildlife habitat that we need for the important things they give us?

Engage students in a discussion of their ideas. Is one type of resource land more important than another to protect? Should newcomers live near the city or in the countryside? What do you like about where you live? Can you walk or bicycle to school, a park or any of your favorite places? Some cities have mostly one-family houses, while other cities have more two-family houses or apartments. What are the pros and cons of each? One protects more resource land and can create more affordable and walkable communities, while the other provides more individual space and privacy.

Ask: Who do you think decides where new development should go?

Land use planners use map, math and research skills to recommend how and where development should go and local governments make the final decisions. Some land use planners help cities grow and are called city planners, while other land use planners help protect farm and forest land, wildlife habitat and other natural resources and are called rural or environmental planners.

Part 3: Student Background Information and Exercises (20-30 minutes)

Hand out the *Land Use Planning Clues* background information to students and walk them through the information and exercises. The teacher copy of this worksheet includes responses that can be used to prompt students if needed. Let students know that tomorrow they will be working with a raised relief map and small blocks representing development.

Lesson II: Mapping

Part 1: Introduce Maps, Materials and Roles (10-15 minutes)

Introduce the raised relief maps and discuss its features, including the legend, scale, north, topography, major identifying features, and land use layers. Point out city boundaries showing developed land, and farmland, forest, wildlife habitat, floodplain and steep slopes. Identify the city and its boundary and remind students that they will be planning for future development for that city. (Students should assume that all vacant land within the city limits has already been developed).

Next, show students the small building blocks and explain what types of development the four colors represent, and how much acreage (62 acres for Gresham, 80 acres for Medford and 10 acres for Pendleton) each block represents. Yellow blocks may be stacked (use a sticky dot) to double the residential density (i.e. planning for two-family housing verses one-family housing, if desired). Explain the function of the adhesive squares and how to attach them to the bottom of the blocks (they can easily be repositioned).

Next, divide students into four teams at four large tables and assign a student in each team to one of the following roles: Timekeeper, Calculator, Recorder, Facilitator, Placer and Reporter.

- The Timekeeper keeps the team on track with the suggested timeline
- The Calculator does the math calculations in task one
- The Recorder fills in the student worksheet with the team's input
- The Facilitator makes sure that each student's input is heard and considered
- The Placer applies the sticky squares to the small blocks as needed and places the blocks on the map in the locations the team together decides on, the placer will also remove the sticky squares after the presentation
- The Reporter presents the team's planning scenario to the class
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If there are more than six students per team, then two Placers or two Reporters can be assigned. Finally, distribute a W*here Should Development Go? Student worksheet* to each of the team Recorders and briefly walk the teams through it.

Part 2: Student Team Work (20-25 minutes)

Students should start with the Worksheet and respond to questions 1-3 while studying the map before actually placing blocks on the map. Teachers can roam from team to team to provide direction or answer questions, as needed. Teams should be encouraged to discuss alternative development scenarios and their pros and cons, but should ultimately agree on a single scenario. All types of development may be grouped together or spread apart in any fashion.

Part 3: Student Presentations (10-15 minutes)

When all four teams have reached a consensus and finished placing their blocks, the designated Reporter of each team should present that team's planning scenario, with the class gathered around the map, and describe the reasons for the chosen development pattern and its pros and cons and trade-offs. Teachers who choose to may adapt this part of the lesson to the Philosophical Chairs approach used in some educational settings. For more information, see this link: https://www.ocde.us/AVID/Documents/Philosophical-Chairs.pdf

Part 4: Teacher/Student Review of the Activity and Land Use in Oregon (10 minutes)

After the presentations, teachers should lead a short discussion, emphasizing common approaches that students have proposed and lessons that appear to have been learned. Note: there is no correct solution for this activity, as the value lies in the development of students' critical thinking skills. Finally, teachers should provide a brief summary of Oregon's statewide land use planning protections for farm and forest land that is described in the provided *Teacher Background Material*. Including the actual urban growth boundary (UGB) for the city featured. Analyze how Oregon's approach is similar to or different from the approaches proposed by the class.

- Gresham, shown here as part of the larger Metro UGB: https://www.oregonmetro.gov/sites/default/files/2016/10/21/UGBCurrent.pdf. Note: the map shows future land designations for all Portland Metro cities, not just Gresham.
- Medford: http://www.ci.medford.or.us/Files/GLUP_Oct2018_Production.pdf
- Pendleton: https://pendleton.or.us/sites/pendleton.or.us/files/File/planning/Comp%20Plan%20Map%202014.pdf

Teacher Background Information

In the late 1960s and early 1970s, Oregon faced rapid population growth, unrestrained development and environmental changes that alarmed Oregon's Governor, Tom McCall, and inspired his support of a number of environmental initiatives including the Bottle Bill, Beach Bill and Oregon's statewide land use planning program. Adopted by the state legislature in 1973, Senate Bill 100 has for 45 years been instrumental in protecting the state's best farmland and forestland and directing most growth and development into urban growth boundaries around cities. Our land use planning program is nationally recognized as being the most effective state program to effectively manage growth and development.

The program includes 19 statewide planning goals ranging from citizen involvement to agricultural and forest land to open space, scenic and historic areas and natural resources, to economic development, housing, transportation, urbanization and other issues that affect all of our lives.

One of the main purposes of the planning program is to support Oregon's agricultural and forest economic sectors – still our number two and three economic sectors today, after high technology. On the rural side, this is done mainly through zoning standards that counties adopt that limit development and land divisions in agricultural and forest areas. On the urban side, this is done by requiring all cities to plan for the future by adopting urban growth boundaries that include enough vacant, buildable land to accommodate 20 years of future growth and development. The use of these two coordinated approaches on a statewide basis is unique in the nation.

The program has had the support of a wide variety of organizations, including those representing the agricultural and development industries. However, the program has also been very controversial at times. Opposition has come from some rural counties and rural landowners, primarily from ranching and timber areas, where there is concern about a perceived loss of land value. The land use planning program is periodically reevaluated and adjusted to respond to concerns and to meet future needs. The agency implementing the program is the Oregon Department of Land Conservation and Development.

This learning activity is intended to introduce students to the same issues that local governments and land use planners grapple with, and to get them thinking about creative and common-sense solutions to managing future growth and development, while protecting important natural and working landscapes. As a note, the acreage assigned to the small blocks is accurately scaled to the map, so that students see the actual land area that they propose to be developed.

The emphasis of this learning activity is on minimizing development pressure on agricultural, forest and other important natural resource lands - reflecting the work of rural planners, which involves identifying important physical land capabilities and constraints. This activity only incidentally addresses appropriate locations for specific future development sites, which is a later step involving social considerations, undertaken by city planners. For this reason, equity and inclusion considerations are here addressed in simple form only, in the option provided to students to choose higher density housing that promotes greater affordability and more walkable/accessible neighborhoods and communities. In addition, the activity honors the likely different perspectives of students from urban, suburban and rural backgrounds, by not involving a "correct" response as students choose from among different potential development and protection scenarios.

Where Should Development Go?

Name: _____

Land Use Planning Clues
Student Background

What Types of Development?

As a land use planner, you must first decide what types of development will be needed for new people moving to the city of Gresham. Below are the types of development. Match the descriptions on the left to the proper photo on the right by drawing a line between them.

Housing: These are the places where people live, also called dwellings or residential uses. There are one-family houses, two-family houses and apartments.

Industry: These are the places that make things, like cars or computers or clothes.

Shops: These are the places that sell things, like cars or computers or clothes, or that provide services for people, like restaurants or doctor's offices. These are called commercial uses.

Public Uses: These are uses that everyone can enjoy and use for free, like schools, parks and libraries.

Where Should Development Go?

Land Use Planning Clues
Student Background

Which Land Should be Protected?

Before land use planners identify which land should be developed, they decide which land should NOT be developed. This includes land with special natural resource values, or land that is difficult or hazardous to develop because it could pose a danger to people. Match the descriptions on the left to the proper photo on the right by drawing a line between them.

Farm Land: This is land with soils that are productive for growing crops or supporting livestock.

Forest Land: This is land with soils that are productive for growing timber.

Wildlife Habitat: This is land that supports fish and wildlife, and can include farmland, forestland and floodplain.

Floodplain: This is land next to rivers that sometimes floods areas where people live or work.

Steep Slopes: These are the slopes of hills and mountains, where it can be dangerous to build.

Where Should Development Go?

Land Use Planning Clues
Student Background

Which Land Should be Developed?

Now you're ready to decide which land should be developed to accommodate new people moving to the city of Gresham. Land use planners use clues to help them find the best places for new development, using maps and other information.

Clue #1: They try to find land that is close to the edge of the city and near roads. Why? Because then people won't have to drive too far to get to the places they want to go and can even walk or bicycle to some of these places.

Clue #2: They try to find land that isn't very good for growing farm crops, livestock or timber. Why? Because the food we eat and forest products come from farm land and forest land, and because productive farm and forest soils can't be replaced once they're developed.

Clue #3: They try to find land that isn't very important for fish and wildlife. Why? Because we enjoy fishing and wildlife and because they are part of the same ecosystem we live in.

Clue #4: They try to find land that isn't hazardous to develop. Why? Because these lands are dangerous to live on or work in. Hazards include floodplains and steep slopes.

Clue #5: They avoid state and federal parks, local parks, Indian reservations, scenic areas and forest lands. Why? Because decisions have already been made to protect these areas.

Sometimes land use planners can't find land for development that meets all five clues. When that happens, they have to think about which clues are more important than others, or what the trade-offs are of choosing some clues over other clues. A trade-off is when you have to give up something you want in order to get something else you want even more. When land use planners think about trade-offs, they consider the pros and cons, or the advantages and disadvantages, of each clue. Depending on the situation, some clues may be more important than others. It's important to understand the pros and cons of land use decisions.