



Geoscape Ottawa-Gatineau

Grade 9 - 11 Lesson Plans to accompany the Geoscape Ottawa-Gatineau poster and website
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Theme 12 : LAND USE: LIVING ON THE LAND

OVERVIEW

- Students investigate how the components of our Geoscape affect land use.
- Students identify and describe land uses in both rural and urban areas.
- Students acknowledge and appreciate how land uses change over time.

DURATION 110 minutes (1.5 periods)

ACTIVITY

1. As a class, students recall their definitions of Geoscape and re-identify the components of the Geoscape.
2. In a brainstorming session, students list types of land uses in 2 categories, urban and rural. Following each entry, students list components of the geoscape that influence that land use.
3. In small groups, students are assigned specific components of the Geoscape to investigate, using theme maps and the Geoscape satellite image. Students can overlay overheads of maps showing topography, bedrock and surficial geology, watersheds and drainage, natural vegetation types, soil classes, specific hazards, transportation and land use. Each group prepares and delivers a 5 to 7 minute presentation to illustrate how land use is affected by these specific components. The teacher will ensure that all components are encompassed by the presentations.
4. Students take notes as the teacher summarizes, using the overheads, how each component of the geoscape can influence another component. Some examples:

Geoscape component	influences:
<ul style="list-style-type: none">• geology (bedrock and surficial)• geological history and geology• geology• geology• geological material	<ul style="list-style-type: none">• soil type, agriculture• topography• drainage (surface runoff vs. infiltration)• river patterns• intensity of earthquakes (surficial sediments have greater ground motion than bedrock)
<ul style="list-style-type: none">• river – spring snowmelt• geology• hazards	<ul style="list-style-type: none">• flood• hazards• urban development

For example: Champlain Sea > Leda clay > runoff, impact on groundwater and on stream discharge; flooding; landslides; increased ground shaking during earthquakes; good agricultural land; construction problems, etc.

5. Students draw, on a blank outline map of the Ottawa-Gatineau Geoscape, the zones of growth over the last 100 years. Use a legend. Label communities. Students analyze the changes (both where and why) that have occurred during each time frame.

6. Students compare the evolution of an area over time by examining 2 air photos, from different years. It could be the area surrounding their school or the 2 photos of Orleans on the Geoscape poster, etc. The City of Ottawa website has excellent air photo coverage:
http://ottawa.ca/city_services/maps/atlas/index_en.html .

Comparisons in notebooks should indicate:

- what significant changes have occurred and why
- what features from the older photo are discernable on the newer one and why
- what influence did the Geoscape have on urban growth and land use.



