Geoscape Ottawa-Gatineau

Grade 9 - 11 Lesson Plans to accompany the Geoscape Ottawa-Gatineau poster and website

J. Weatherhead and J. Aylsworth

Theme 4 : DIFFERENT ROCKS

OVERVIEW

- Students classify and identify basic rocks and minerals
- Students identify the location of rock formations in the Ottawa-Gatineau Geoscape
- Students explain the formation of the 3 basic rock types
- Students make the connection between geology and economics by examining the resources associated with certain rock types

DURATION **145 minutes (2 periods)**

ACTIVITY

1. As a class students, with note taking, trace the evolution and formation of igneous, metamorphic and sedimentary rock, noting the major tectonic and gradational processes involved.

2. Students complete the accompanying "Rock Cycle" diagram.

3. As a class, students "brainstorm" how different rocks should be classified and identified – colour, hardness, streak, fracture etc. A note-taking summary is completed.

4. On the accompanying "Rock and Mineral Identification" worksheet, students, with lab partners, identify the characteristics of 15 samples of rocks and minerals in the school's geology lab sets. Note those found locally.

5. Referring to the bedrock map of the region on the GSC Urban Geology web site http://gsc.nrcan.gc.ca/urbgeo/natcap/index_e.php, students draw in and label the areas of different rock types on a blank outline map of the Ottawa-Gatineau Geoscape . Locate Hogs Back and Chaudiere Falls. Students may have already done this task in Lesson 2.

6. Students compile a spreadsheet relating rock types to a description of the resulting landscape and to the mineral economic resource, noting especially those found in the region. Students should compare the geology map to the satellite image on the Geoscape poster in order to determine the landscape associated with local rock types.

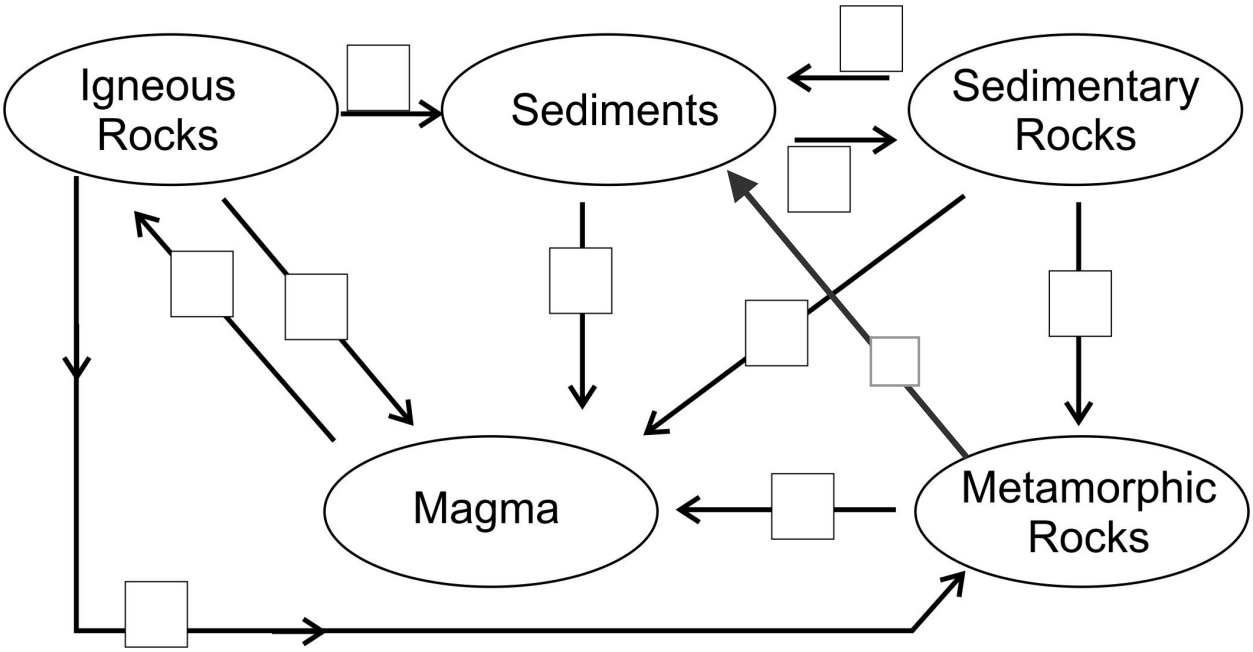
Rock Type	Landscape	Economic Resource
Sedimentary - limestone		
…		

Funding for this project came from Natural Resources Canada and the Ontario government

Rock Cycle

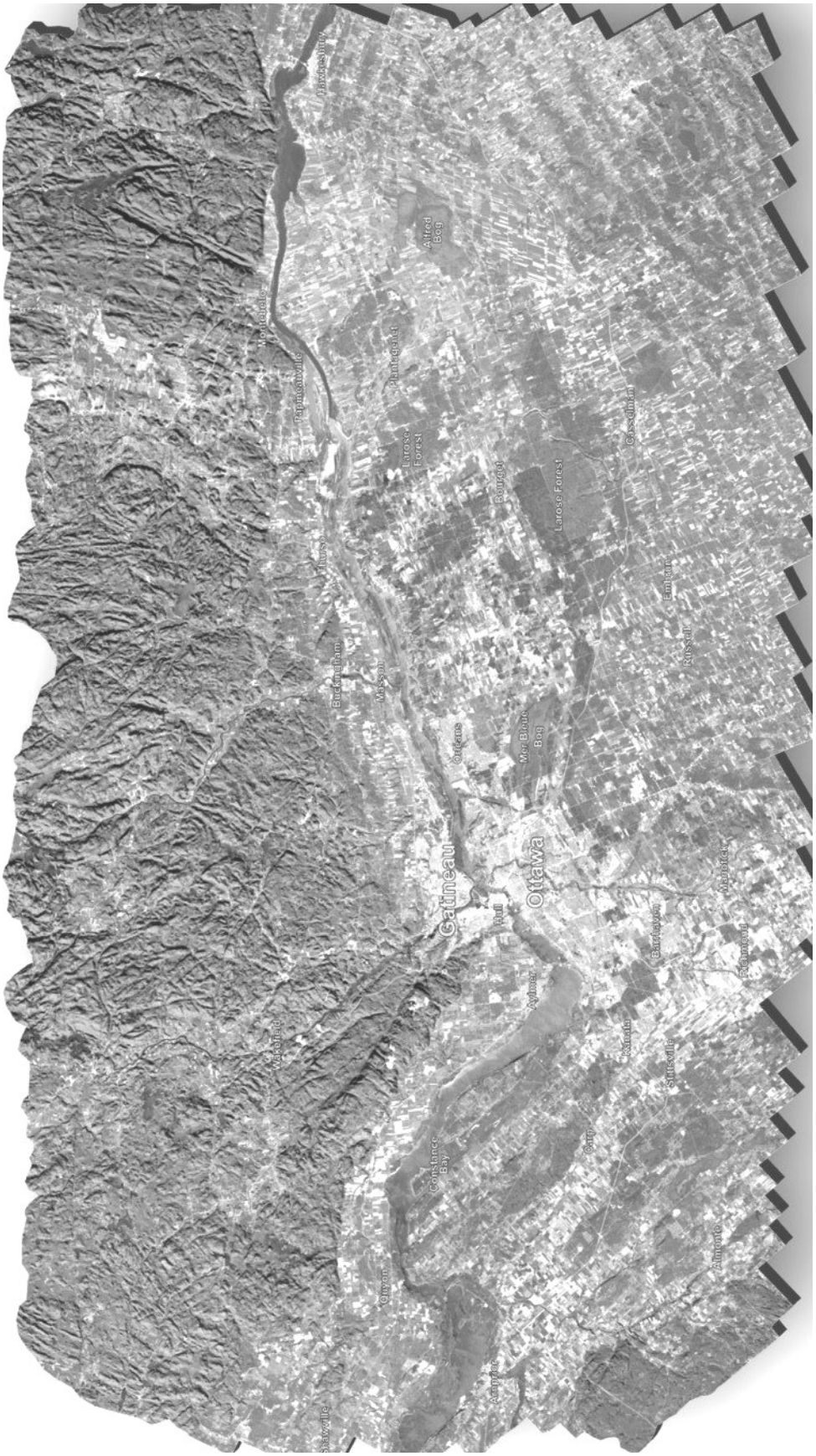
For each arrow, write, in the box, the number that corresponds to the appropriate process.

1. Pressure and cementation
2. Weathering and erosion
3. Melting
4. Heat and pressure
5. Cooling

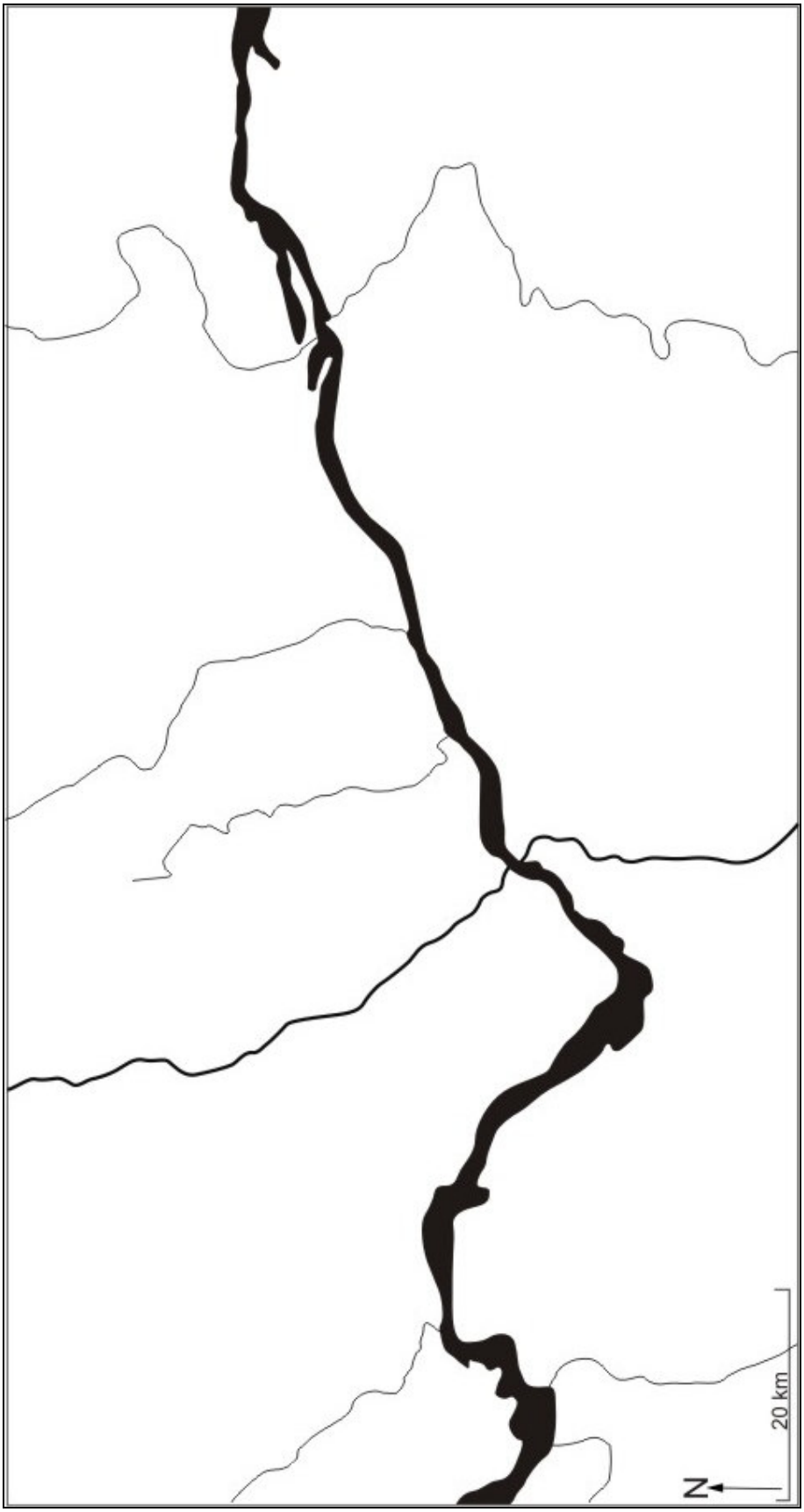


Rock and Mineral Identification

#	Type	Classification	Colour	Streak	Luster	Crystal form	Fractures/ cleavage	Hardness	Specific gravity	Special characteristics



Landsat TM (5/7) Shaded Relief Fusion (Landsat TM 7.) Data collected by USGS/EROS Data Center and provided courtesy of Canada Centre for Remote Sensing.


20 km
N