Name:_____

Lab day: Tuesday Wednesday

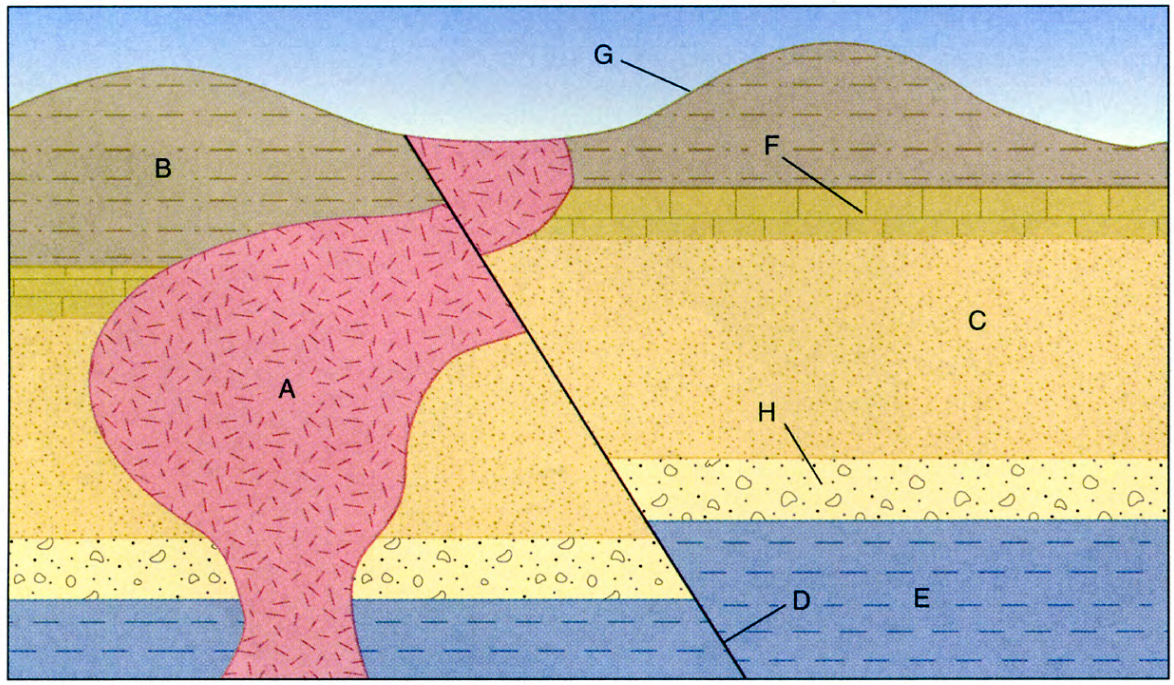
ENVG/SC 11110L-21110L Planet Earth Laboratory

Laboratory #7 Geologic Age

Readings: See the lab handout on the web site and also your textbook and lecture notes on Cross-Cutting Relationships. 80 points.

Objectives: Understanding relative geologic time; recognizing rock types from geologic maps and cross sections.

1) The figure below is a geologic cross section. Determine the sequence of events that led to the present situation and list them in order, from youngest to oldest, in the blank spaces provided. Use the letters on the illustrations to specify rock units or events. Identify the rock types represented by each letter from the symbols given in the cross section; **identify other events by name** (for example, "folding" or "uplift and erosion") and put the corresponding letter after the event name. The number of blanks equals the number of events required.



Relative Geologic Time: (8)

Youngest: _____

_____

_____

_____

_____

_____

_____

Oldest: _____

Name:_____

Lab day: Tuesday Wednesday

Rock-types: (6) http://www.nd.edu/~cneal/PhysicalGeo/Lab-GeologicTime/LabQuestionFigs.html

A. _____

B. _____

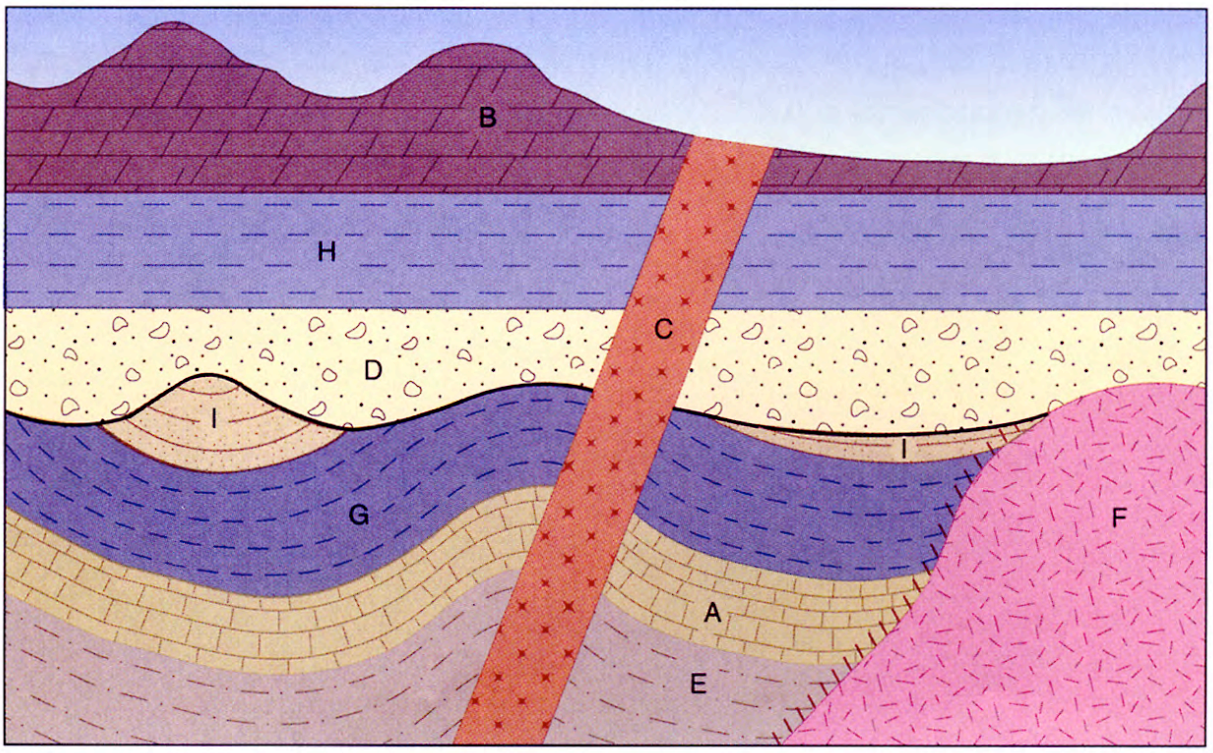
C. _____

E. _____

F. _____

H. _____

2) The figure below is a geologic cross section. Determine the sequence of events that led to the present situation and list them in order, <u>from youngest to oldest</u>, in the blank spaces provided. Use the letters on the illustrations to identify the rock units from the symbols given in the figure; identify other events by name (for example, "folding" or "uplift and erosion"). The number of blanks equals the number of events required. Also, give the type of igneous intrusion where applicable.



Relative Geologic Time: (14)

Youngest: _____

_____

_____

_____

_____

_____

Name:_____

Lab day: Tuesday Wednesday

_____

_____

_____

_____

_____

Oldest: _____

Rock-types: (9) See http://www.nd.edu/~cneal/PhysicalGeo/Lab-GeologicTime/LabQuestionFigs.html

A. _____

B. _____

C. _____

D. _____

E. _____

F. _____

G. _____

H. _____

I. _____

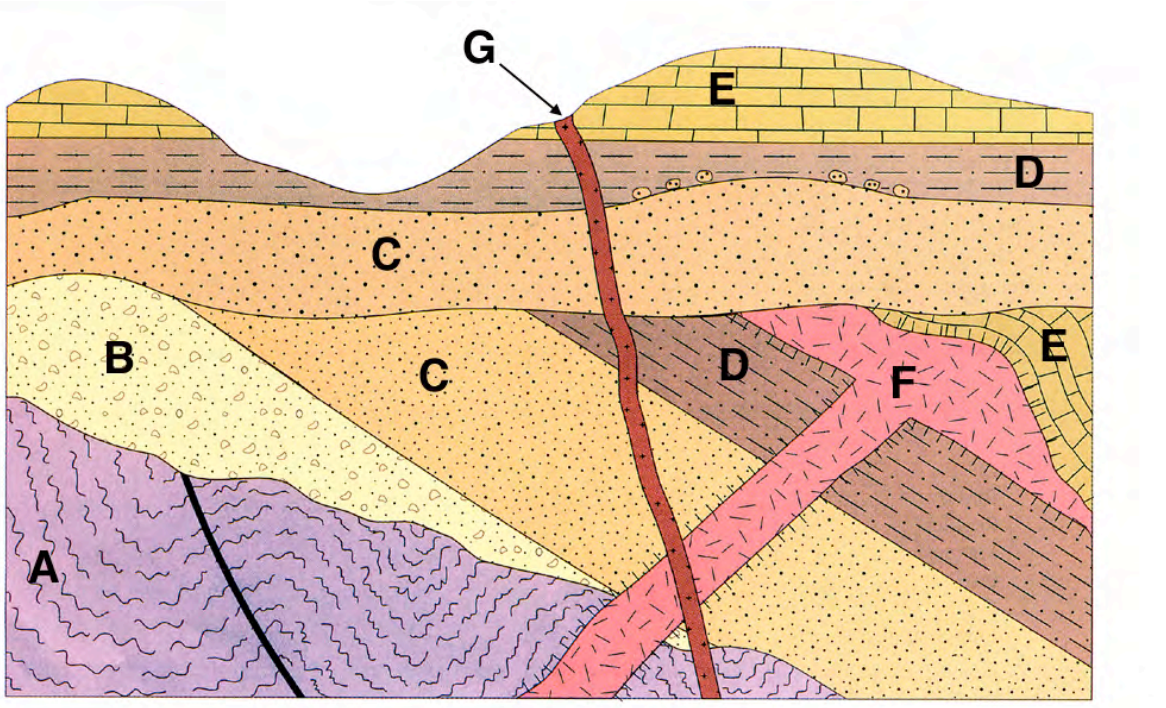


FIGURE 13.11
For Problem 5, determine the sequence of events illustrated in this cross section. Identify rock units from their symbols, and list all the events that led to the present situation. Wide line is a fault.

Name:_____

Lab day: Tuesday Wednesday

3) Identify the rock units from their symbols in the figure above using the key to rock types. Note: the wide black line is a fault. Study the Figure *carefully and label (with numbers) each event on the diagram*. See http://www.nd.edu/~cneal/PhysicalGeo/Lab-GeologicTime/LabQuestionFigs.html a color version of this cross section (7 pts for list below; 17 points for each event, labeled by number [1-17] from the list below)

A. _____

B. _____

C. _____

D. _____

E. _____

F. _____

G. _____

Identify and list all the events in chronologic order (with "1" being the oldest) that led to the present situation. If you cannot determine which of two or more rocks/events is the older, explain why not (Hint: there is <u>one</u> case when this is so). (19)

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____
15. _____
16. _____
17. _____

Name:_____

Lab day: Tuesday Wednesday

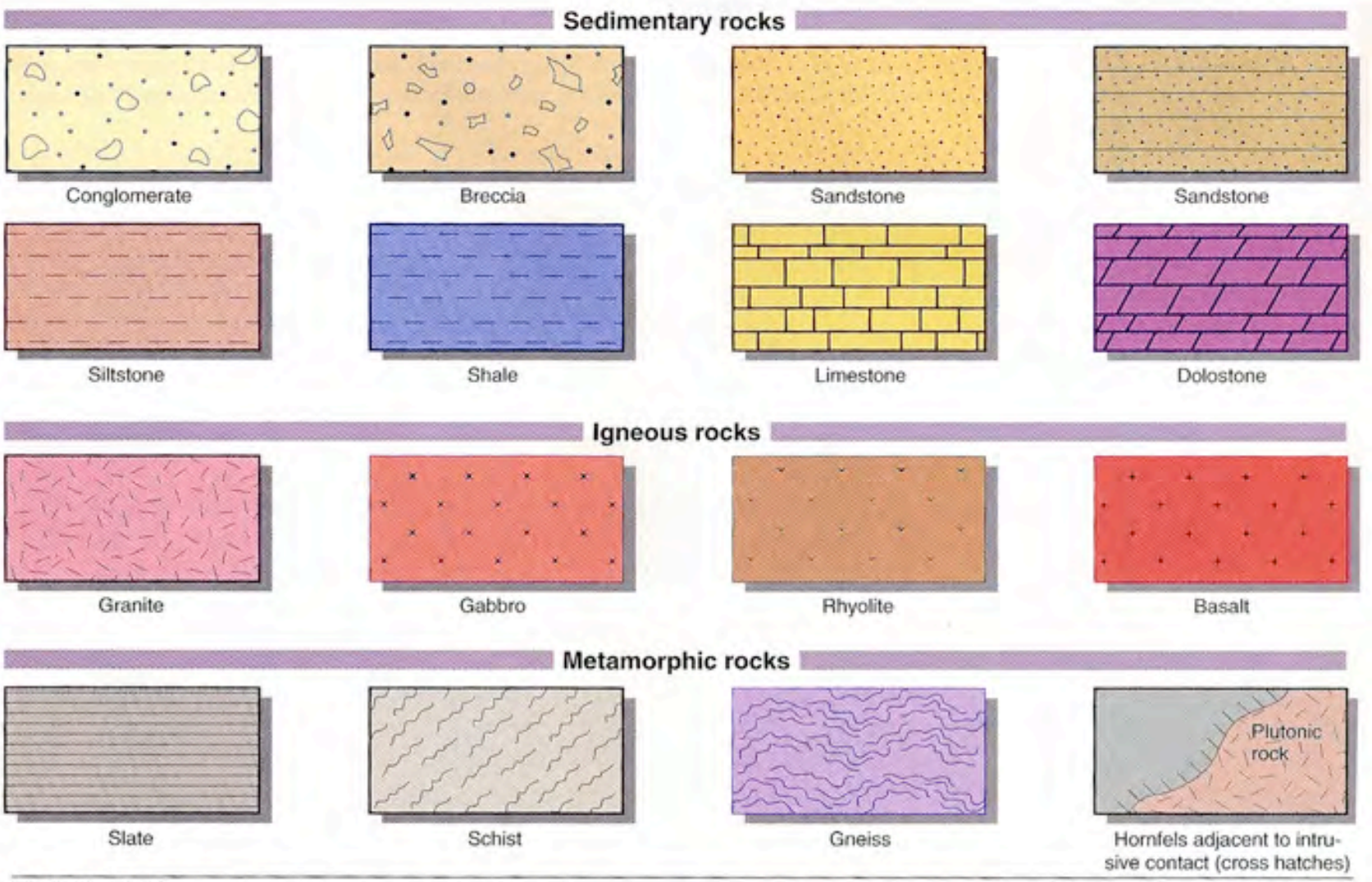


FIGURE 13.10
Symbols commonly (but not universally) used to show different kinds of rocks.

GABBRO = "X"; BASALT = "✙".