Get your clicker

Step 1: Turn it on: On = 1 Off = 0
(auto off – use enter to wake it up!)

Step 2 - Join the class

Clicker scans for channel number: <1>
Or … you can press that number 2-3x

Let’s try some............
Today’s weather is:

A. Snowy
B. Rainy
C. Sunny and warm
D. Sunny and cold

You would expect to find many normal faults at …

A. A convergent boundary.
B. A transform boundary.
C. A divergent boundary.
D. A passive margin.
Enter your 700 (student) number:

Entering text information……
• Go to closest letter (A-E, T or F)
• Scroll up/down with arrow keys to get to the right letter

Enter your mix username.
Example, if …
msmilley5@mix.wvu.edu
Enter: msmilley5

Outline
• Stratigraphic contacts
  – Unconformities
• Primary Sedimentary Structures
  – Younging direction
• Intrusive contacts
  – Sills and dikes
  – Batholiths
• Strike and Dip
• Folds
  – Anticlines, synclines
• Fault Contacts
  – Normal, thrust, strikeslip

Map-Scale Structures and Contact Relationships

Reading Ch. 2

Stratigraphic Succession
Basalt Flows- Snake River Plain
Sedimentary Succession
North Slope, AK

Basic Question:
Is the section conformable?
• Is the sedimentary pile continuous?

Unconformities

Angular unconformity
Death Valley

Is the sedimentary succession
right-side up?
• How can we tell?

North Slope Basin, AK
Is the sedimentary succession right-side up?

- How can we tell?

Symmetric Ripple Marks

- Cross bedded sandstones
- Up

Intrusive Contacts (of igneous rocks)

- Dikes
- Sills
- Stocks
- Batholiths

Intrusive Structures

- Stock or batholith
Geologic history of an area
Based on contact relationships
How old is the dike relative to the surrounding rocks?

A. Younger than Forster City Fm.
B. Older than Larson Fm.
C. Younger than Larson Fm, but older than Forster City Fm.
D. Older than Forster City Fm.
Orientation of a Plane

Strike and dip on a map

Folds

- Syncline
  - (concave up)

- Anticline
  - (concave down)

Domes and Basins

Trend and Plunge

- Used for linear features
- Trend = Azimuth of a line
- Plunge = Inclination of a line
Plunging Fold

Does the arrow point at a syncline or anticline?

A. Syncline  
B. Anticline  
C. Neither

Sheep Mountain Anticline, WY

Fault Contacts

- Normal
- Thrust, reverse
- Strike-slip
Key concepts

- Stratigraphic contacts
  - Unconformities
  - Way up
- Intrusive contacts
  - Sills, dikes and Batholiths
- Interpreting sequence on events
- Strike and Dip of planes
- Trend and plunge of lines
- Folds
  - Anticlines, synclines
- Fault Contacts
  - Normal, thrust, strike-slip