Evaporation 4  Transpiration 1  Precipitation 2

Color the runoff arrow in RED.
Color the infiltration arrow in BLUE

Which tube has the greater permeability? B
Which tube has a greater capillarity? A

What happens to the porosity if beads from tube A are mixed with beads from tube B?

porosity ↓
What is the highest possible point on the map? 569 ft.
What is a possible surface elevation of Lake Lackawanna? 460 ft.
Which general direction is Maple Stream flowing? S or SSW or SW
How can the shape of the contour lines determine the direction of flow? Contour lines point uphill.
How can you tell the southern slope of Holland Hill is steep by only looking at the contour lines? Contour lines are close together.

Draw the profile of line AB
Connect the following isotherms, 20°C, 22°C and 24°C. Be sure the lines extend to the edge of the field.

Determine the gradient from point A to point B.

Formula: \( G = \frac{\Delta \text{ in F.V.}}{\text{Distance}} \)

Substitute with units: \( \frac{8^\circ C}{8 \text{ m}} \)

Solve with proper units: \( 1^\circ C/\text{m} \)

What is the approximate latitude and longitude of point Y?

32°N    55°W

Label 15°S, 105°W with a ■

Label 30°N, 30°W with a ▲

If it is 1 am at location ■, what time is it at location ▲? 6 am
Which direction is the Green River flowing? SE
What is the elevation of A? 80 ft.
What is the highest possible elevation of D? 259 ft.
What is the gradient between points G and H? 50 ft/mi

Rock Review

Quartz  Amphibole  Pyroxene  Galena

Which mineral has cubic cleavage and a hardness of 2.5? Galena
Which mineral is the primary mineral in basalt? Pyroxene
Which mineral is used in jewelry and electronics? Quartz
Which mineral has titanium in its composition? Amphibole
Rock Classification Flowchart

- **Sed.**
  - Clastic
    - Shale
  - Bioclastic
    - Rock salt
  - **Clastic**
    - Rock salt
  - **Limestone**
  - **Basalt**
  - Gabbro
  - **Greiss**
  - Quartzite

- **Igneous**
  - Extrusive
    - Intrusive
  - Foliated
  - Non-Foliated

- **Metamorphic**

Name the clastic sedimentary rock with the greatest range in particle size: **Conglomerate**

Name an additional bioclastic sedimentary rock: **Coal**

Some Igneous Rocks

- **Molten (melted) rock**
- **Magma below Earth's surface**
  - Cooling rate
    - **A**
      - Intrusive Igneous rock
        - Very coarse texture
          - Grain size:
            - 10 mm or larger
              - Example: Pegmatite
        - Coarse texture
          - Grain size:
            - Less than 1 mm
              - Example: Basalt
      - Cooling rate
        - **B**
          - Extrusive Igneous rock
            - Glassy texture
              - Grain size:
                - Non-crystalline
              - Example: Obsidian
  - Lava on or near Earth's surface

- **Cooling rate**
  - Slow
  - Fast

- **Grain size**
  - 1 mm - 10 mm

- **Type of Rock**
  - A: Conglomerate
  - B: Breccia
  - C: Sandstone
  - D: Shale
  - E: Limestone
  - F: Rock salt
Use the letters to fill in the boxes below

<table>
<thead>
<tr>
<th>Texture</th>
<th>clastic</th>
<th>bioclastic</th>
<th>crystalline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rock</td>
<td>A, B, C, D</td>
<td>E</td>
<td>E, F</td>
</tr>
</tbody>
</table>

Weathering and Erosion Review

Which location has the fastest moving water? C

Which locations are deposition dominant over erosion? D, A, B

Draw the river bottom profile between points B and C.
Why are the particles sorted in this orientation? Stream velocity ↓
deposition ↑

Name a possible sediment that will be found at location X. clay

Explain how the speed of the river changed at locations A and B after the earthquake:

Velocity ↑ @ A
Velocity ↓ @ B

b/c changes in SLOPE
Draw what a sand dune would look like in the dotted box.

Present Day, Dry Climate

Prevailing wind

Depression X: Loose sand (mixture of grain size)

Area of sand dune development

Sandstone

After a volcanic eruption, describe the deposition of the material.

ći Describe how the density of the particles would affect the sorting.
Denser particles will settle first

ći Describe how the size of the particles would affect the sorting.
Larger heavier particles will settle first

Volcano

Global temp ↓
Blc ash blocks sun

Dynamic Crust

Which location is near the San Andreas Fault? __B__

Which location is located on the Aleutian Trench? __A__

Which location is located on a hot spot? __E__ Name the hot spot. __Canary Island H.S.__

Which location is not likely to experience an earthquake? __F/D/H__ Why is the likelihood so low?

NOT Near a plate boundary

Draw in and label the Mid Atlantic Ridge.

What happens to the age of the bedrock as you move from location G to location H? __gets older__
How far is location B from the epicenter?

\[ \text{(7 min diff)} \]

How far is location C from the epicenter?

How can you tell location B is farther from the epicenter by simply looking at the seismographs?

There is a larger difference between the P + S arrival times.

What type of plate boundary is represented in the diagram?

Ocean + continental \( \underline{\text{CONVERGENT}} \)

Name this specific plate boundary.

Peru-Chile Trench

Label with a series of X’s where earthquakes would occur.
Describe what is happening at location 1.

Continental-Continental
CONVERGENT

Describe what is happening at location 2.

TRANSFORM

Describe what is happening at location 3.

Plates moving away from each other “ridge”
DIVERGENT

Describe what is happening at location 4.

Ocean-Continental
CONVERGENT