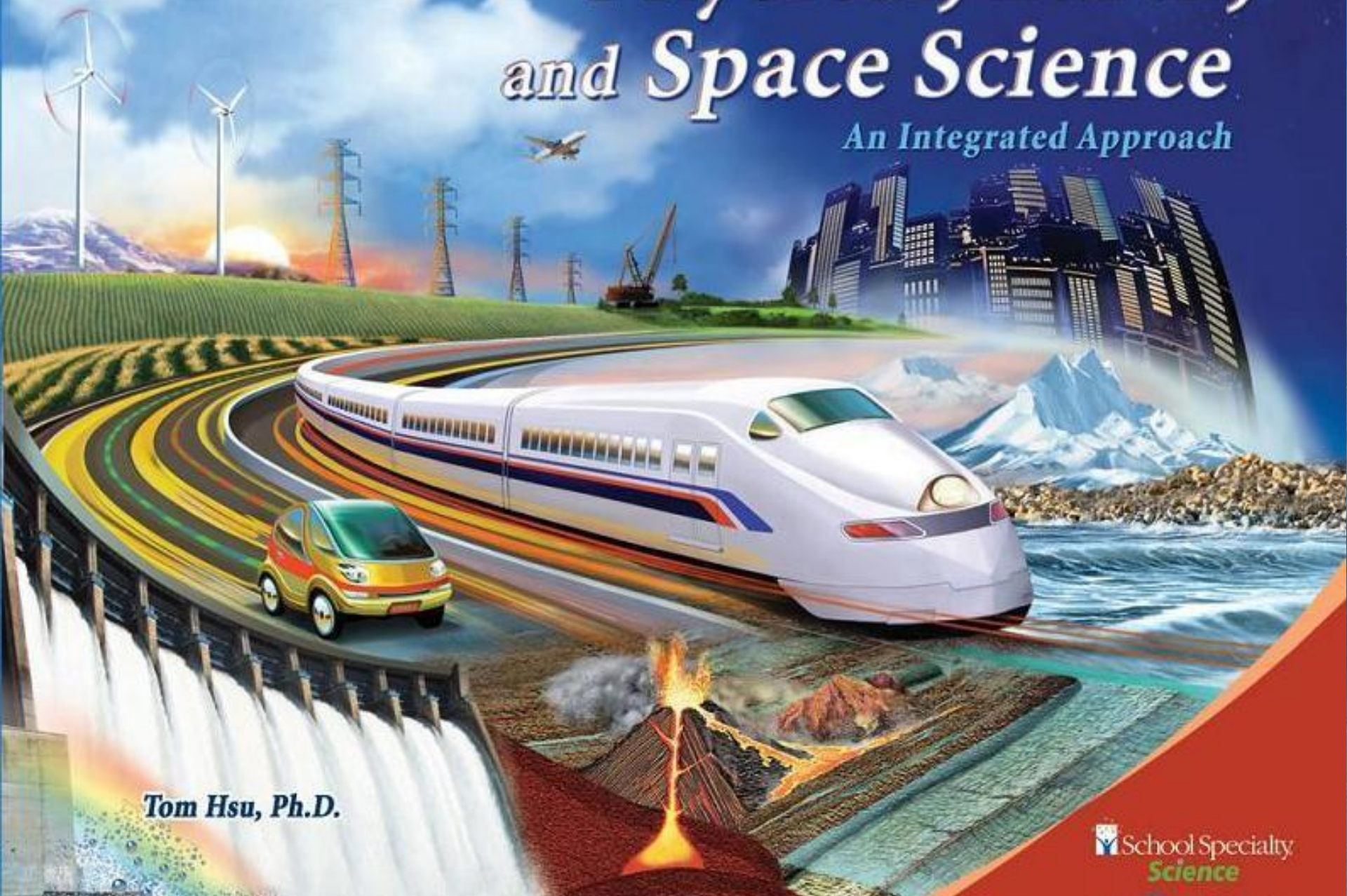


cpo science

Physical, Earth, and Space Science

An Integrated Approach



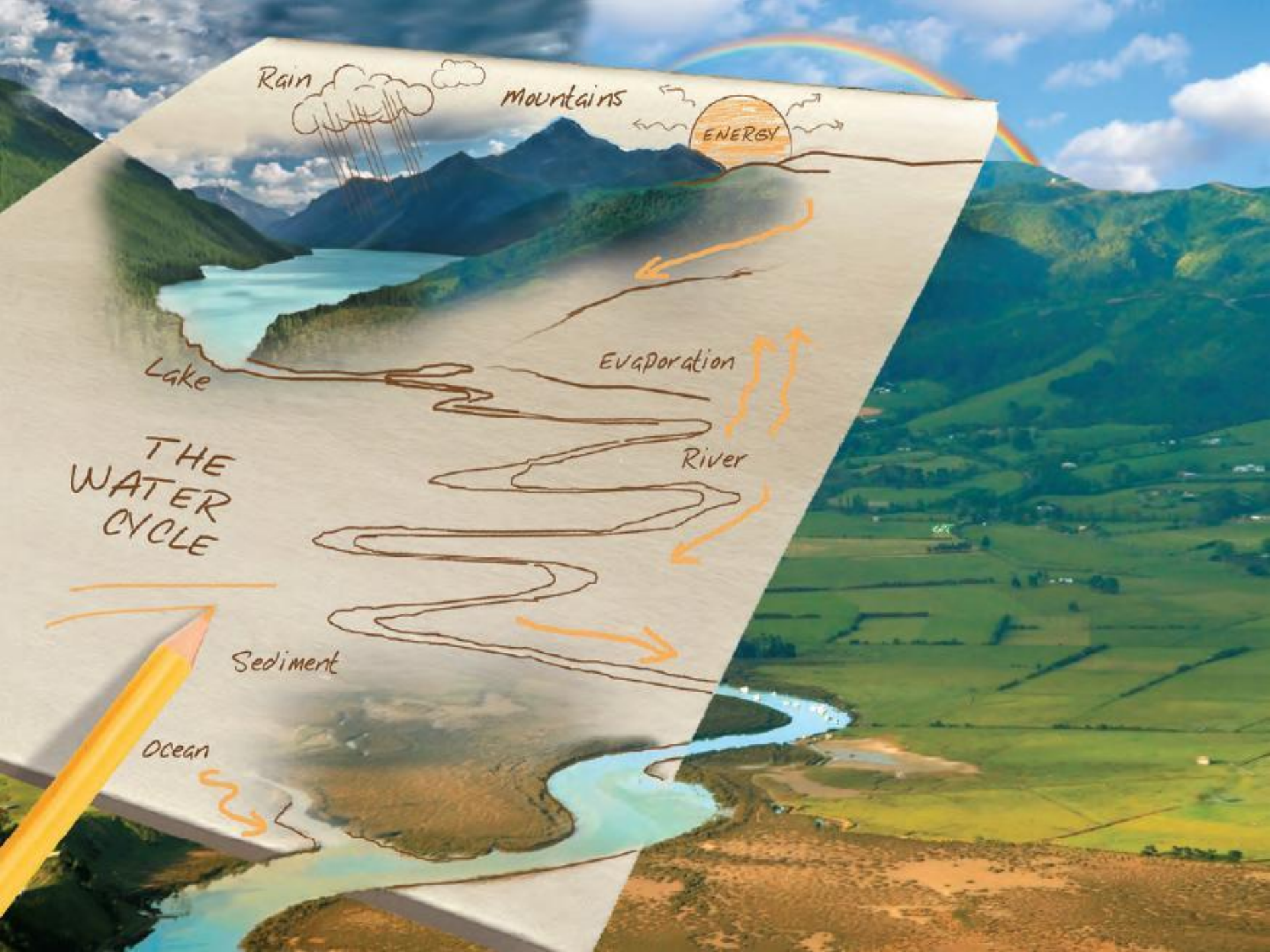
Tom Hsu, Ph.D.

 School Specialty
Science



UNIT SEVEN: Earth's Water

- **Chapter 21 Water and Solutions**
- **Chapter 22 Water Systems**
- **Chapter 23 How Water Shapes the Land**



Rain

Mountains

ENERGY

Lake

Evaporation

River

THE WATER CYCLE

Sediment

Ocean



Chapter Twenty-Three: How Water Shapes the Land

- **23.1 Weathering and Erosion**
- **23.2 Shaping the Land**
- **23.3 Sedimentary Rocks**



Chapter 23.3 Learning Goals

- Describe the role of weathering and erosion in creating sedimentary rock.
- Explain how the relative age of sedimentary rock layers can be determined.
- Identify features of sedimentary rocks.

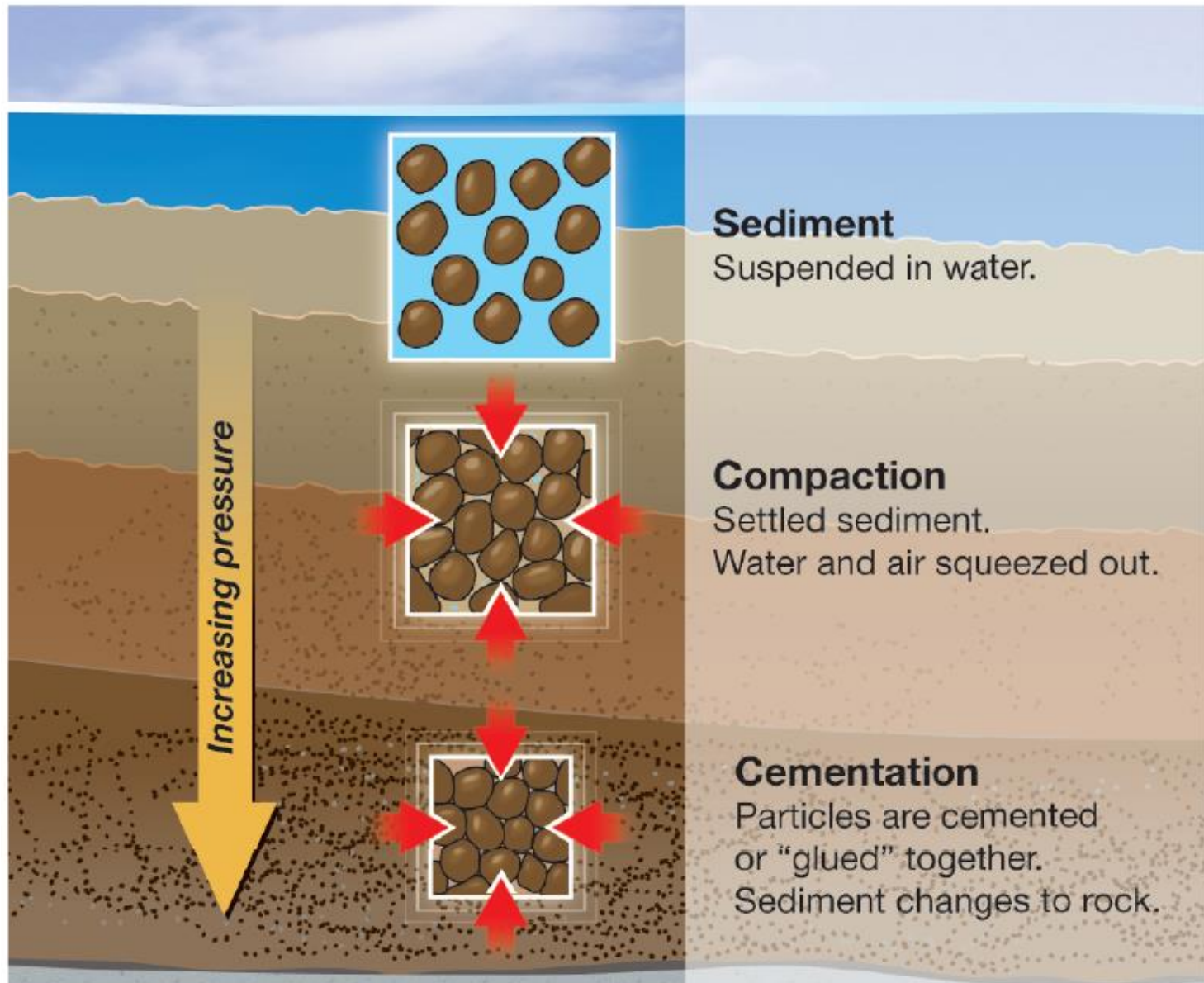


23.3 Sedimentary rocks

- * ***Sedimentary rocks*** are formed from pieces of broken down rock.
- * Sedimentary rocks cover **75%** of the land area in many places.



Forming Sedimentary Rocks





13.3 Sedimentary Rocks

- * Sedimentary rocks are identified by the size of the particles that form them.
 1. mudstone
 2. sandstone
 3. conglomerate

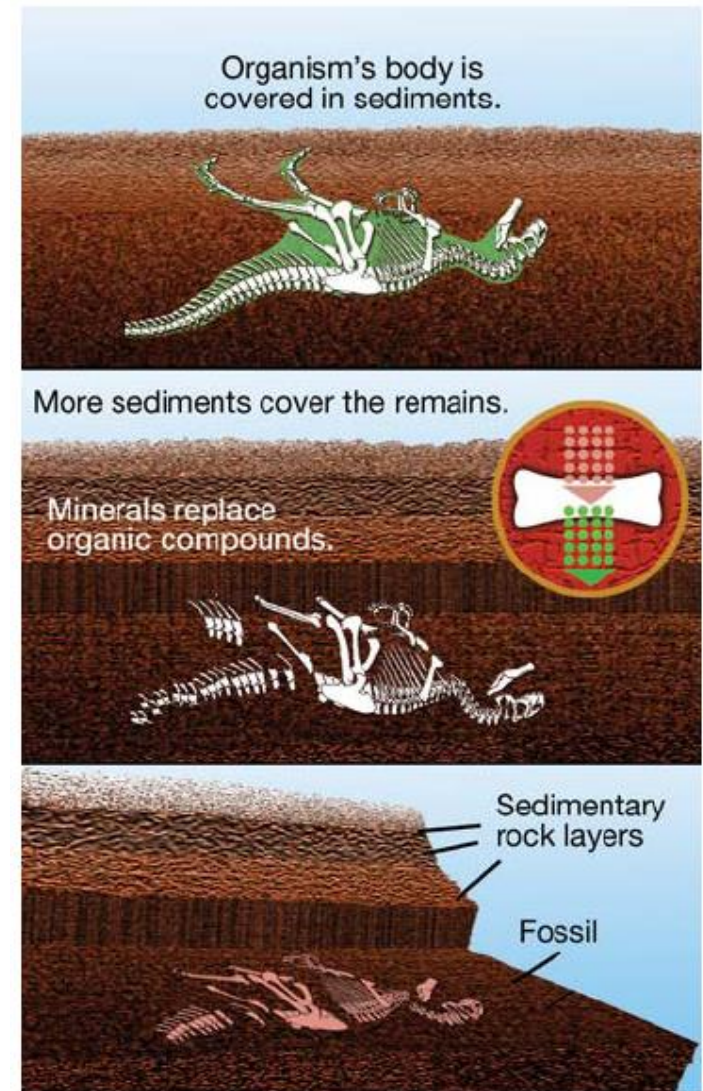
Rock Type	Particle Size (mm)	Sediment
mudstone	< 0.06	clay or silt
sandstone	0.06–2	sand
conglomerate	> 2	gravel



23.3 Sedimentary Rocks

- * Most fossils are found in sedimentary rock layers.
- * Sedimentary rocks hold clues to the past.

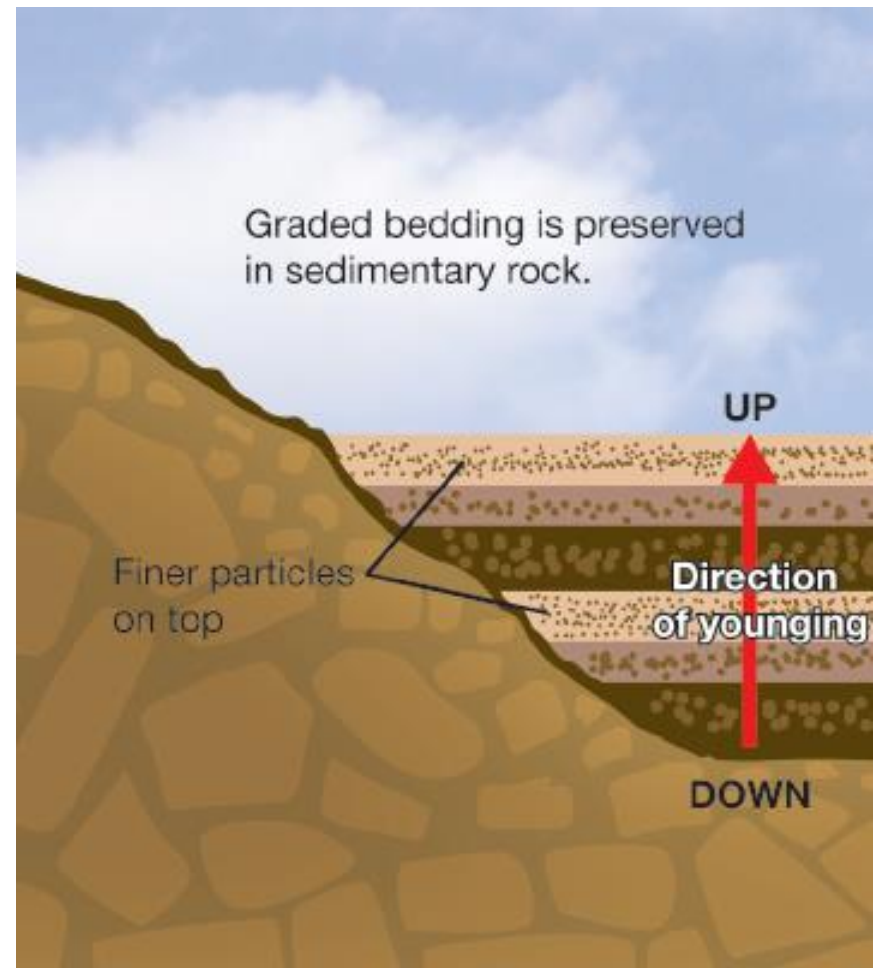
Where might organisms get covered by sediments?





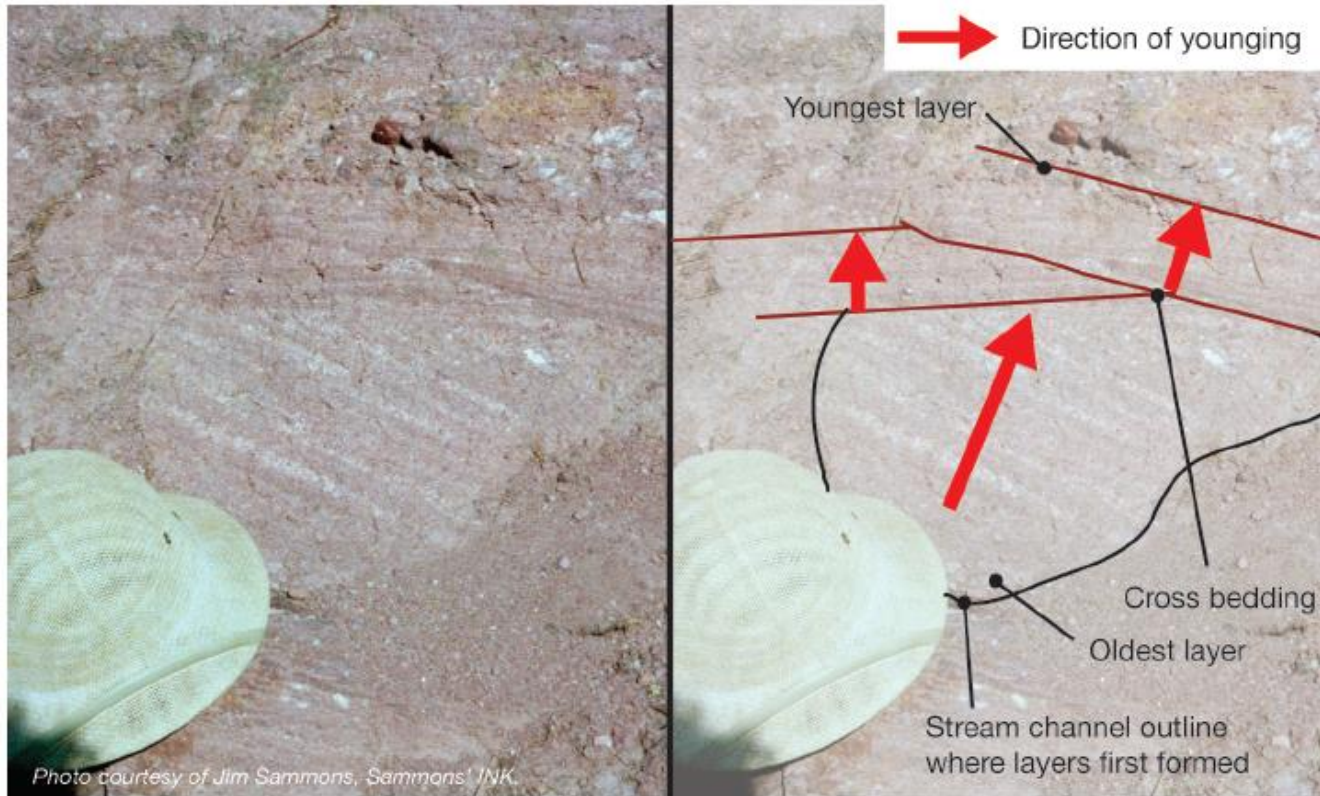
23.3 Interpreting layers of sediment

- * Sedimentary rocks hold clues to their past.
- If you know the up direction, you know the direction of **younging**—this is the direction of younger layers.





23.3 Interpreting layers of sediment

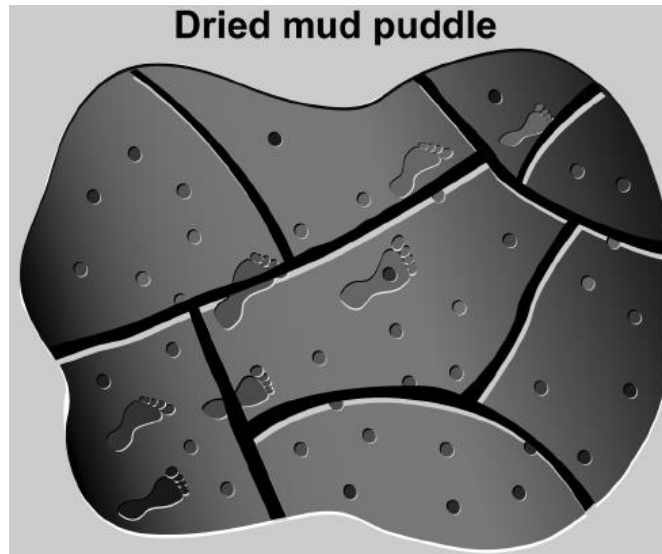


- * **Cross bedding**, is easy to recognize in sedimentary rocks where one layer ends and another layer passed over it.

Investigation 9A

Sedimentary Rock and Relative Dating

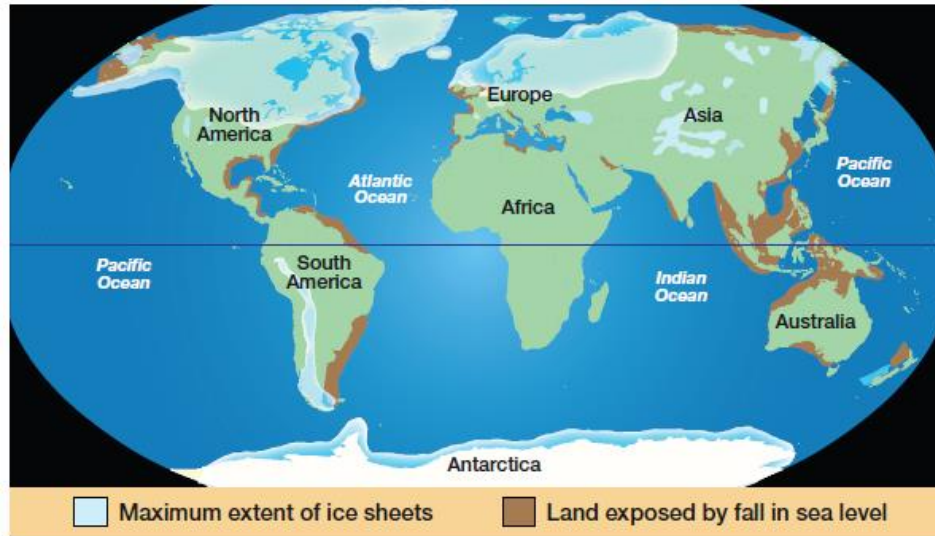
- ***Key Question:***
 - *How does relative dating tell a story?*





NATURE ►► CONNECTION

Glaciers: Movers and Shakers



- A shift of just a few degrees has a dramatic effect on glaciers.

- These ice sheets have advanced and retreated many times during the current cycle of ice ages that began around two million years ago.