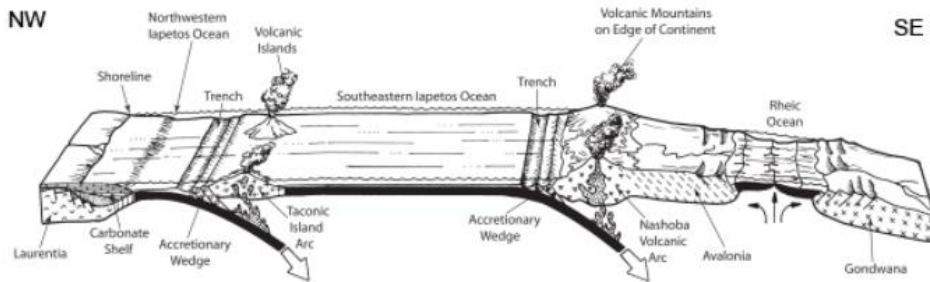
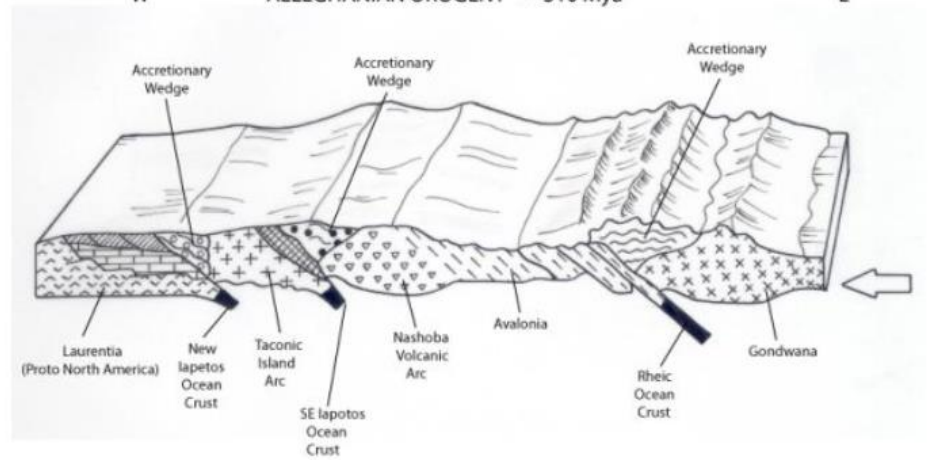


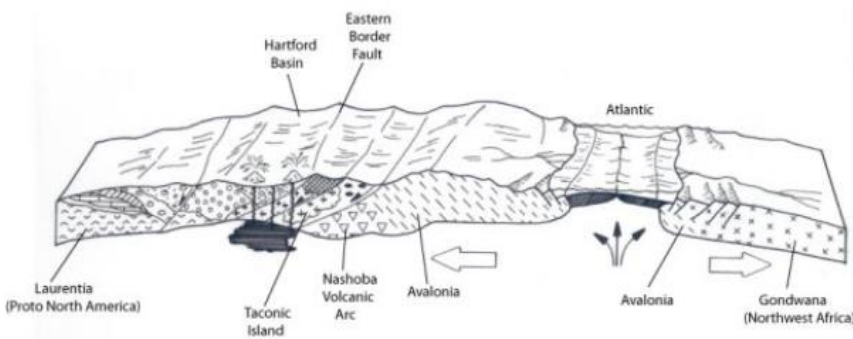
Section 6: The Changing Geography of Your Community



W ALLEGHANIAN OROGENY ~ 310 Mya E



W Opening of the Atlantic Ocean 225 - 145 Mya E



Section 6 Question: How do we know the locations of continents throughout Earth's history?

What Do You See?
(cartoon)

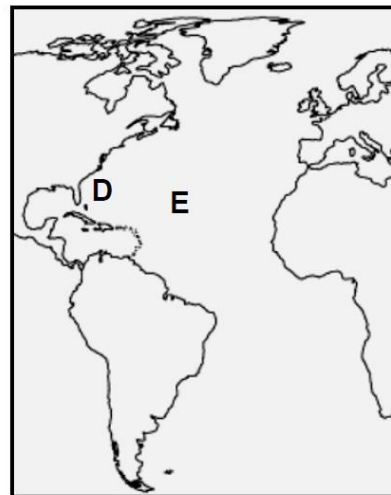
What Do You Think?

Two students are debating about the relative ages of the rocks in the Atlantic Ocean.

Student 1: *The oldest rocks are located at E because it is the farthest from a continent. The rocks would take a really long time to get to the middle of the ocean.*

Student 2: *But this ocean has a divergent boundary in the center. This means that rocks at E are really young. D is farthest from the divergent boundary, so that's where the oldest rocks are.*

With which student do you agree? Why?



What Do You Think Now?

Focus Question A: What three lines of evidence were used to determine the arrangement of the continents in the past?

Predict: How are rocks and fossils clues about Earth's past climates?

- Fossils of the fern *Glossopteris* have been found in these locations. *Glossopteris* had very heavy seeds that could not move by wind. Color the areas with these fossils green.
- Fossil remains of the half meter-long fresh water reptile called *Mesosaurus*. *Mesosaurus* had limbs for swimming, but could also walk on land. Other evidence suggests that although they lived in water at times, they were not strong swimmers. Color the areas with these fossils blue.
- Fossil remains of *Cynognathus*, a land reptile approximately 3 meters long that lived during the Early Mesozoic Era, about 230 million years ago. It was a weak swimmer. Color the areas with these fossils orange.
- Fossil evidence of the Early Mesozoic, land-dwelling reptile *Lystrosaurus*. They reproduced by laying eggs on land. In addition, their anatomy suggests that these animals were probably very poor swimmers. Color the areas with these brown.
- Color each of the mountain ranges 1, 2, 3, 4, and 5 with a different color for each.

Present Earth:

Earth 250 million years in the past:

Earth 50 million years in the future:


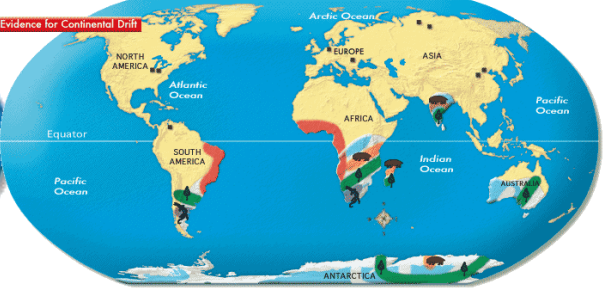
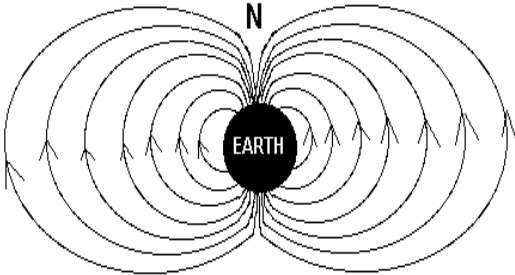
Observe: How have the continents moved in your depictions of Earth at the different times?

Claim:

Evidence:

RETURN TO WDYTN

DIGGING DEEPER

<p><i>Continental Drift</i></p>	
<ul style="list-style-type: none"> • Theory by Alfred Wegener in 1912. • States that continents were once joined together forming one supercontinent. • Wegener could not provide a mechanism that described how the continents moved. • Theory was not accepted until the 1960s when plate tectonics was developed 	<p>Describe the 4 lines of evidence Wegener used to develop his theory of continental drift.</p>
<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>Pangaea</p>  </div> <div style="text-align: center;"> <p>Evidence for Continental Drift</p>  </div> </div>	
<p><i>Paleomagnetism</i></p>	
<ul style="list-style-type: none"> • When basaltic rocks form at mid-ocean ridges, the orientation of Earth's magnetic field is recorded in the rocks. • This can be used to determine the latitude of a sample when it was formed. • Longitude cannot be determined. • This evidence has also shown that Earth's magnetic field has reversed throughout time. • The cycle of supercontinent formation and breakup is called the Wilson Cycle. 	<p>How do studies of magnetism of rocks on the seafloor provide evidence that the surface of Earth changes?</p> <div style="text-align: center;">  <p>Earth's Magnetic Field Lines like those of a bar magnet</p> </div>

Chapter 2, Section 6 E.B.C.
The Changing Geography of Your Community

Name: _____
Period: _____

Question (2)			
Claim 1 (2)			
A. Supporting Evidence (3)		B. Supporting Evidence (3)	
Claim 2 (2)			
A. Supporting Evidence (3)		B. Supporting Evidence (3)	
Analysis (6)			
	Claim <i>A statement or conclusion that answers the original question/problem.</i>	Evidence <i>Scientific data that supports the claim. The data needs to be appropriate and sufficient to support the claim.</i>	Analysis <i>A justification that connects the evidence to the claims. It shows why the data counts as evidence by using appropriate and sufficient scientific principles and vocabulary.</i>
0	Does not make a claim, or makes an inaccurate claim.	Does not provide evidence, or only provides inaccurate or vague evidence.	Does not provide an analysis, or only provides an irrelevant analysis.
1	Makes an accurate but vague or incomplete claim.	Provides vague evidence and does not include specific data.	Repeats evidence and links it to claim, but does not include specific scientific principles.
2	Makes accurate and complete claim.	Provides correct evidence but does not include specific data.	Connects all evidence to the claims using scientific principles or vocabulary but not both.
3		Provides correct evidence and includes specific data.	Connects all evidence to both claims using scientific principles and vocabulary.

CHECKING UP: Page 195, 1 through 5 (2 points each)

15

1.

2.

3.

4.

5.

New scientific theories often take many years to be accepted by the scientific community. Explain why this is so, using the theory of plate tectonics as an example. (5 points)