



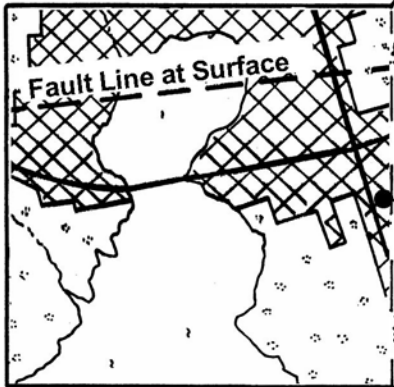
Earthquake

Instructions:

1. For best results, copy this pattern onto cardstock.
2. Color the model before cutting out the parts.
3. Cut along solid lines, fold along dashed lines, and glue along dotted lines.
4. Assemble the Base.
5. See image of completed model below.

Base

Glue tab to inside of model



Epicenter

Focus

Seismic Waves

40 km (24 Miles)

Scale








Image of completed model

Earthquake

The point underground where rocks break is known as the **focus**. The point on the surface directly above the focus is known as the **epicenter**. The focus is usually located at a depth of less than 100km (60 miles). The fastest shock waves, **P waves**, radiate outward from the focus at a rate of 6 to 7 km/second (4 miles/second).

Color Key:

-  Shock wave (red)
-  Rock layers (tan)
-  Buildings and roads (pink)
-  Sea (blue)
-  Vegetation (green)

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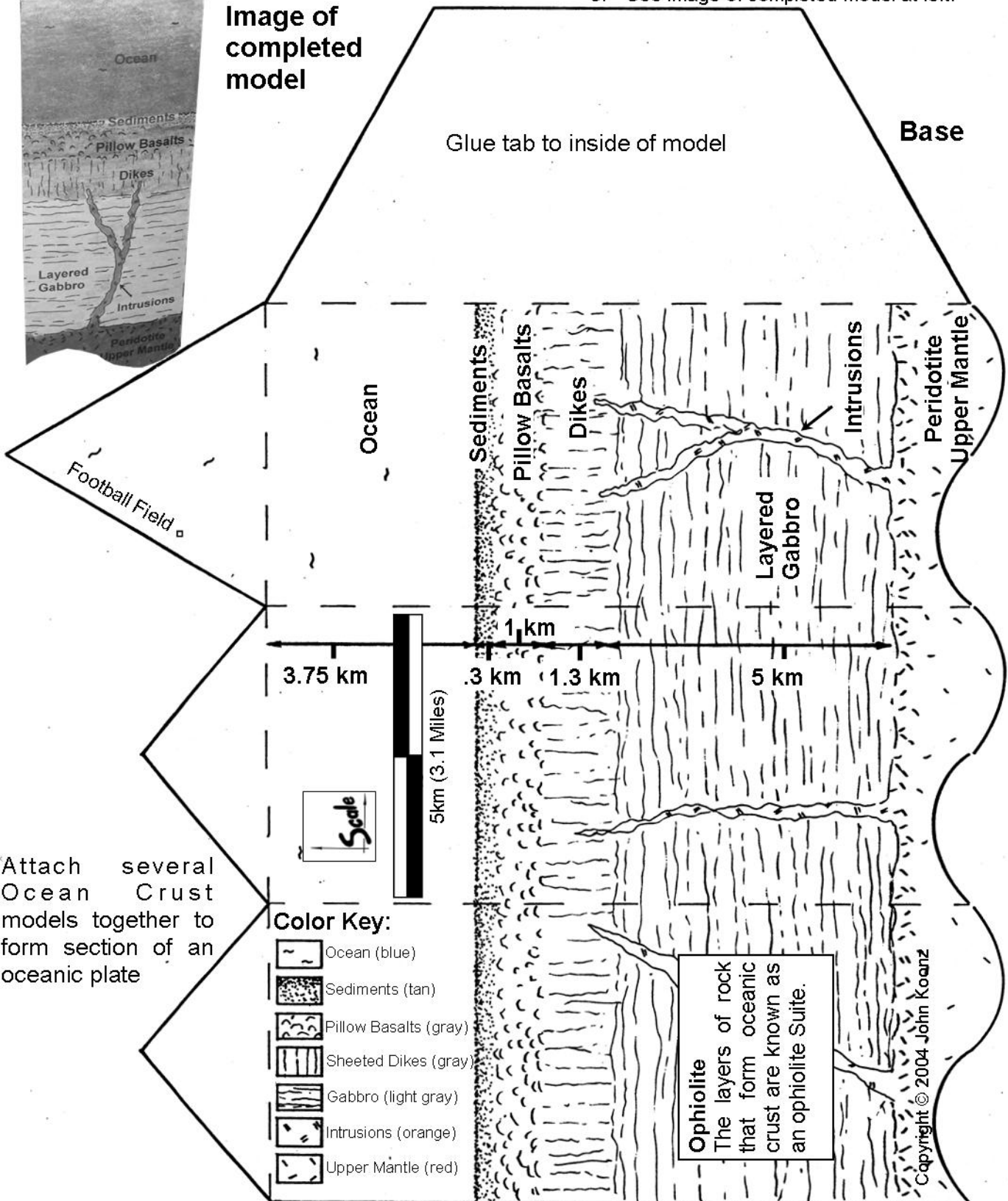
Oceanic Crust

Instructions:

1. For best results, copy this pattern onto cardstock.
2. Color the model before cutting out the parts.
3. Cut along solid lines, fold along dashed lines, and glue along dotted lines.
4. Assemble the Base.
5. See image of completed model at left.



Image of completed model



Attach several Ocean Crust models together to form section of an oceanic plate

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Convection Currents

Instructions:

1. For best results, copy these patterns onto cardstock.
2. Color the model using the color key.
3. Cut along the solid lines.
4. Use a blunt pair of scissors to crease along the dashed lines.
5. Assemble the *Convection Currents* by rolling each of the strips around to form rings. Glue the tabs one at a time to the inside of the model. This will form a torus.
6. Attach the *Surface* to the top of the *Convection Currents*.
7. Attach the *Direction of Flow Arrows* so they are pointing away from the *Surface*.
8. See diagram below and image of completed model on page 26.

Color Key:

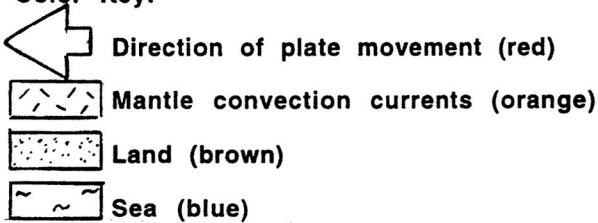
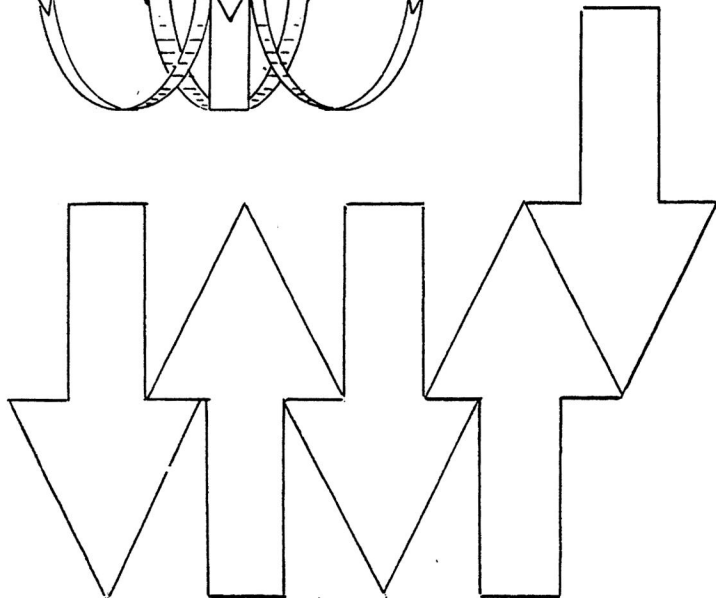
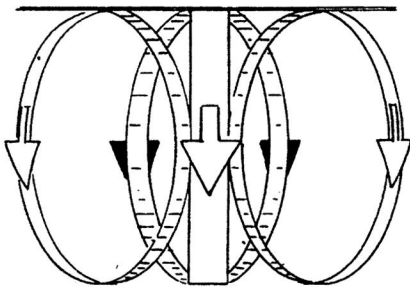
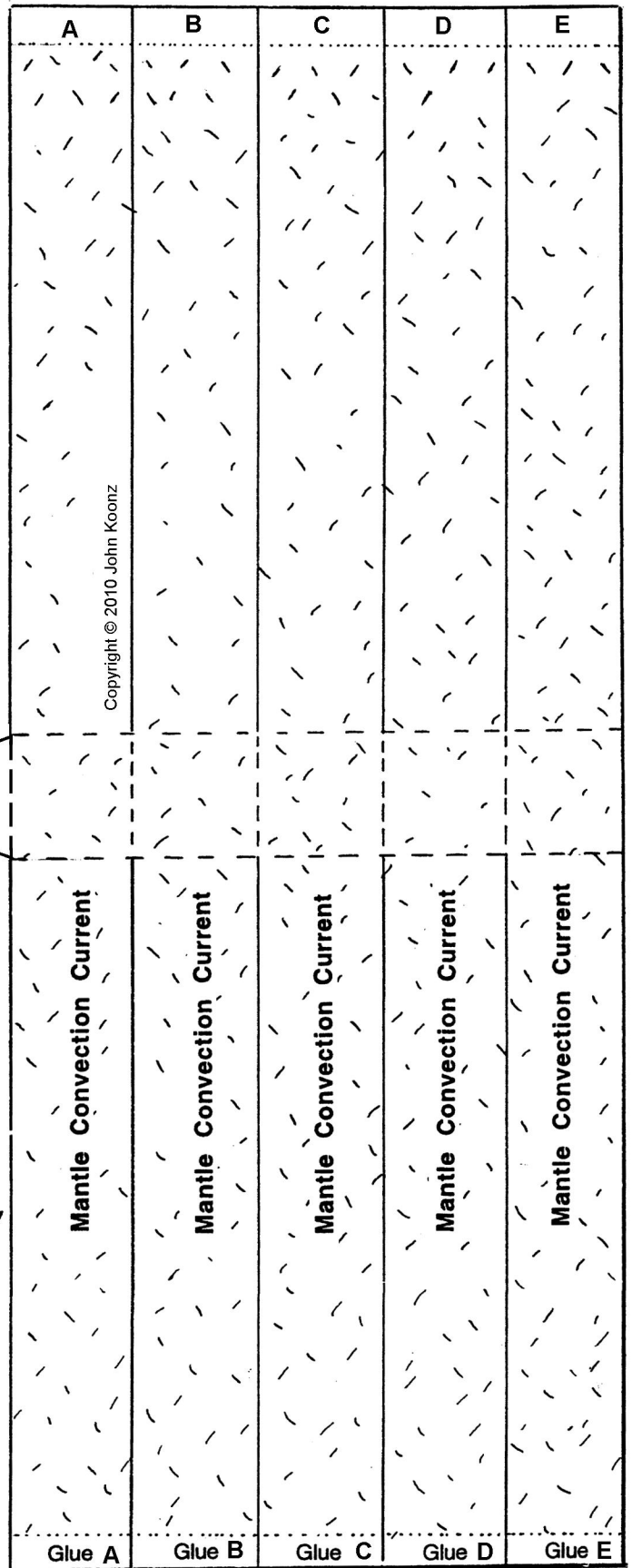


Diagram of Finished Model



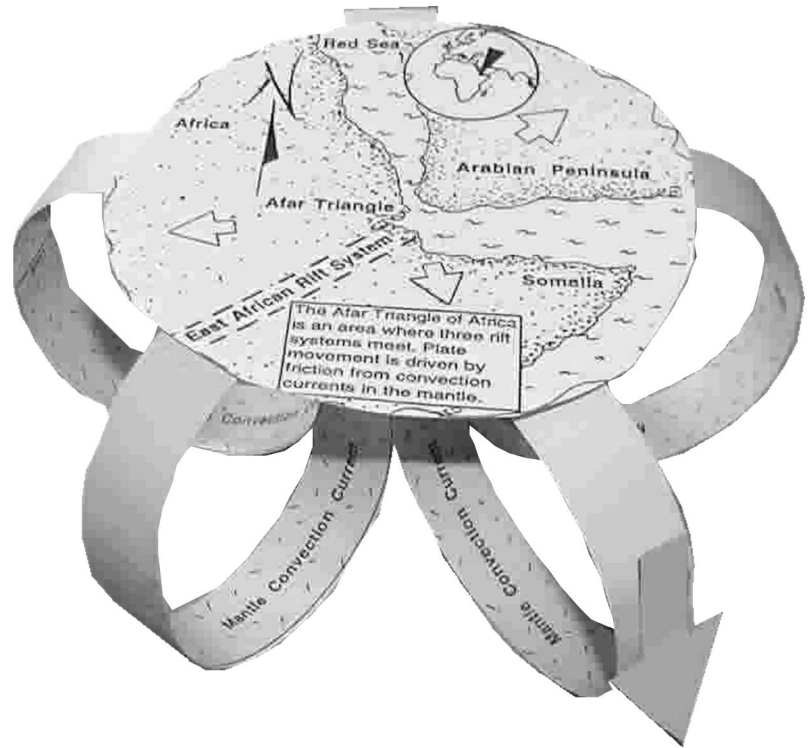
Direction of Flow Arrows



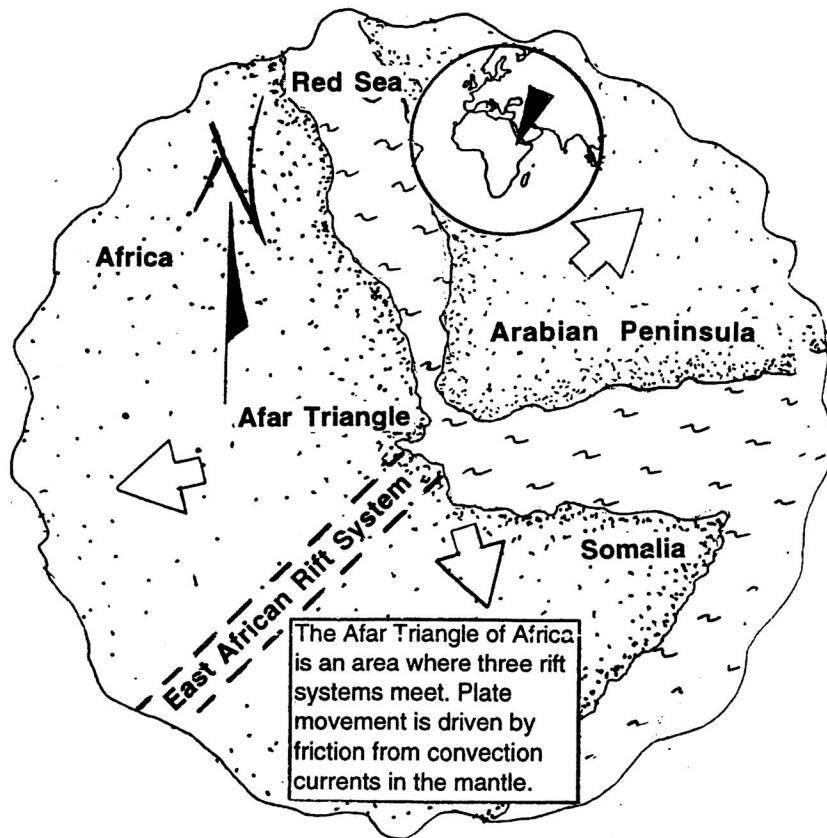
Convection Currents

Convection Currents

Image of completed model



Surface



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Instructions:

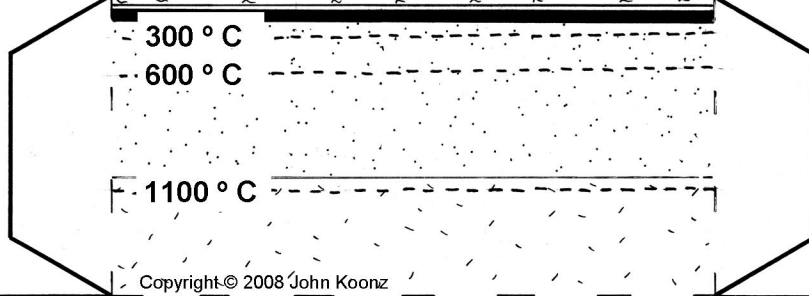
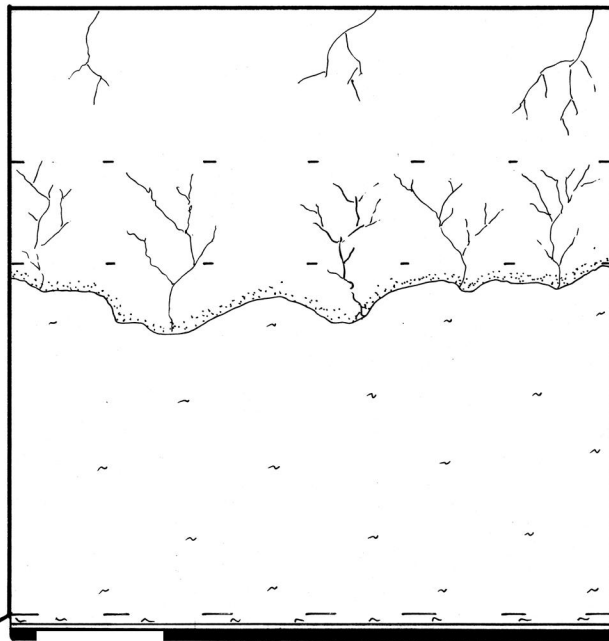
1. For best results, copy this pattern onto cardstock.
2. Before cutting out the model, color the parts using the coloring key.
3. Cut along the solid lines.
4. Use a blunt pair of scissors to crease along the dashed lines.
5. Glue the tabs to the inside of the model.
6. See image of completed model below.

Convergent Plate Boundary

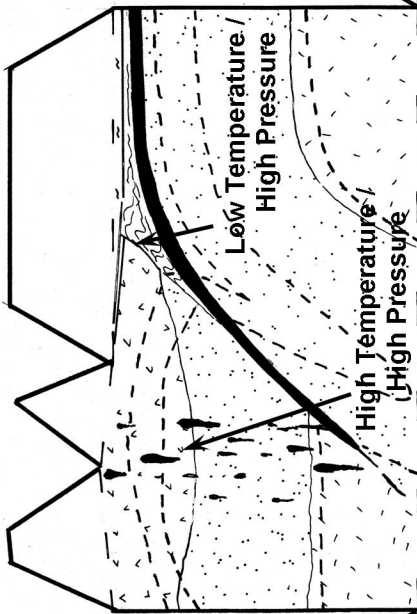
Metamorphic Rock Formation - Dynamic

From *Geoblox Physical Geology Block Models*

Grade 6 (b) 10 (D)
Grade 8 (b) 9 (B)



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Color Key:

- Ocean (blue)
- Surface (blue / green / tan)
- Asthenosphere (yellow)
- Lithosphere (orange)
- Continental Crust (pink gray)
- Folded Sedimentary Layers (tan)
- Ocean Crust (black)

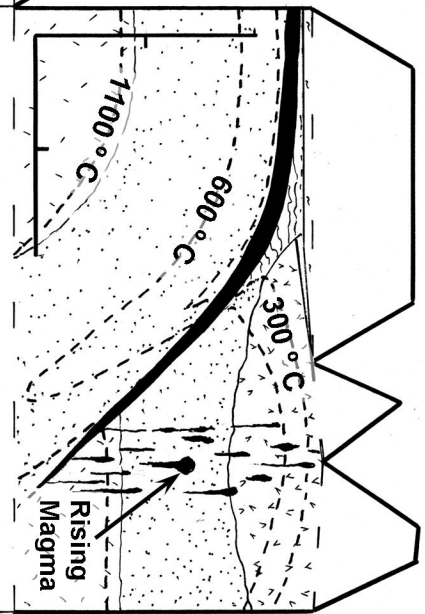
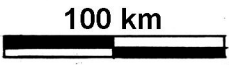
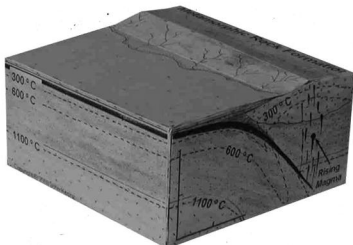


Image of completed model



Metamorphic Rock Formation - Dynamic

Dynamic metamorphism occurs where rock is being faulted and folded at convergent plate margins. Here, rock is under high pressure, but at relatively low temperatures on the minerals.

A Geoblox Workshop

My name is John Koonz and I taught science for 20 years.

My consulting fee for this 6 hour workshop is \$300. If your district is outside Central Texas, I will also need reimbursement for travel expenses. This workshop can accommodate up to 30 teachers. The cost of materials is \$10 per participant. This will give participants the right to copy the materials for their own classroom use.

My contract can be found online at www.geoblox.com.

In this 6 hour workshop, you will receive:

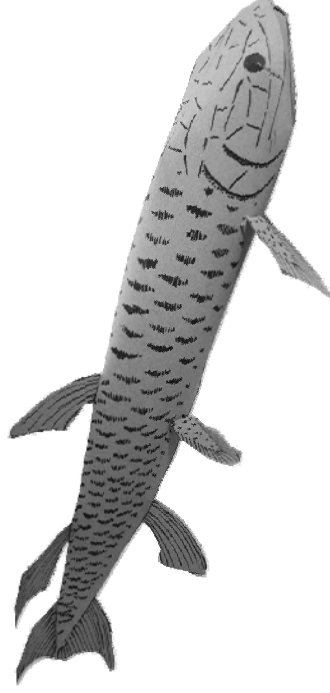
- *Materials and supplies for making the models*
- *Teacher packets including:*
- *Lesson plans*
- *Copies of all activities used*
- *Grading rubrics*
- *Reading list*
- *List of resources*

While science teachers are often told to include “hands-on activities”, I was often frustrated by the lack of good earth-science materials. Many of the activities provided by textbook publishers are too abstract for middle school students. The illustrations in the textbooks are usually well done, but two-dimensional images often fail to convey important geological concepts.

Too often, the subject of evolution is not covered in public schools. Many teachers are unsure how to teach it. This leaves students with little or no understanding of this critically important concept.



Alluvial Fan from *Topographic Landform Models*
(above) Eusthenopteron, a Devonian Period fish
(below)



Where Are the Earth Science Activities?



- Let's face it, there are very few inexpensive hands-on activities for teaching earth-science.
- A good stream table costs \$500, and a set of plastic landform display models costs \$250.
- What can a teacher do with a single plastic model anyway?
- How can teachers get their students involved in the learning process?

Geoblox

PMB—234

12407 North Mopac #100

Austin, TX 78758-2475

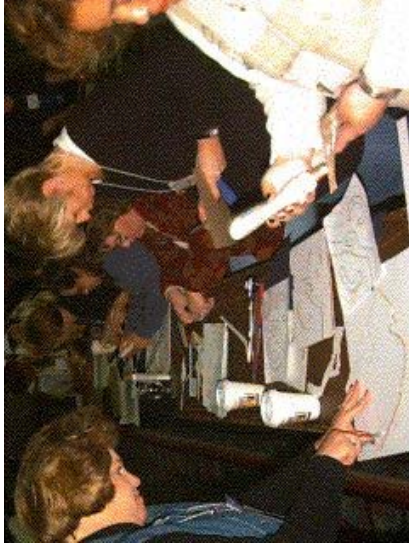
(512) 203-5376

Fax: (206) 339-4284

www.geoblox.com

Koonz@geoblox.com

Sample Workshop Outline



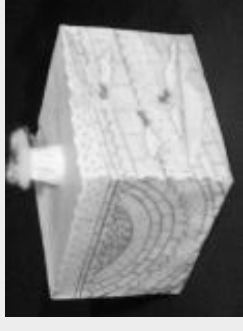
Science teachers from across the state participate in a Geoblox workshop at CAST .

A Geoblox workshop will provide inexpensive hands-on activities that middle and high school science teachers can use in their classes. The activities are correlated to the TEKS .

- The activities I present have been tested in the classroom. They involve kids at a deep conceptual level. These activities are designed to promote genuine understanding.
- I will also demonstrate how these activities can be modified for learning disabled students and enriched for gifted and Talented students.
- Teachers will learn by actually doing the activities. Here is a sample outline of what will be covered:

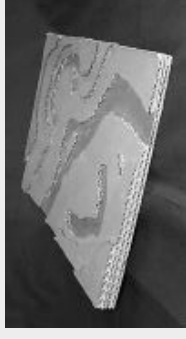
Ordering Geologic Events (1hr.)

- Basic rock types and their symbols
- Law of Superposition
- Faults and folds
- Unconformities
- 2-D Ordering event diagrams
- Build a 3-D ordering event model



Topographic Maps (1hr)

- Types of contour lines
- Build a landform model
- Predict the next map



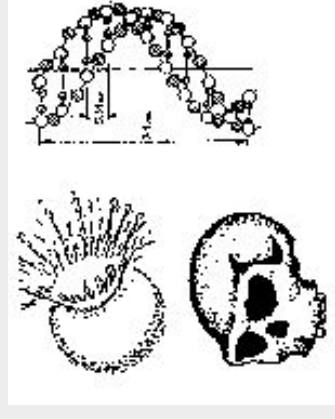
The Petroleum Game (2hrs)

- Basics of structural and petroleum geology
- Petroleum game and discussion
- Geoblox Petrol Game



Teaching Cosmology and Evolution (2hrs)

- Strategies for success!
- Correcting common misconceptions
- Activities:
 - Origins of light elements activity
 - Expanding universe balloon activity
 - Randomness activity
 - Point mutations activity
 - Hardy-Weinberg card activity
 - Cladogram activity
- Legal issues and resources



Visit the Geoblox website (www.geoblox.com) for complete information about these model books!



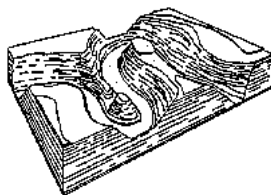
Item	Weight (lbs)	Qty.	Price/Item	Total
Astronomy Block Models	.5 lbs	#	\$25.00	
Grand Canyon Block and Topo Models	.5 lbs	#	\$21.00	
Hurricane Katrina Disaster Block Models	.5 lbs	#	\$25.00	
Historical Geology & Evolution	.8 lbs	#	\$25.00	
2010 TEKS Grade 5 Texas Science Block Models	.6 lbs	#	\$25.00	
2010 TEKS Grade 6 Texas Science Block Models	.6 lbs	#	\$25.00	
2010 TEKS Grade 7 Texas Science Block Models	.6 lbs	#	\$25.00	
2010 TEKS Grade 8 Texas Science Block Models	.6 lbs	#	\$25.00	
Jamestown	.5 lbs	#	\$21.00	
Castles of the British Isles 1066-1300 Block Models	.5 lbs.	#	\$25.00	
Warship-Conquest of the Mediterranean	.8 lbs	#	\$25.00	
Ancient Cultures Architectural Models	.6 lbs	#	\$25.00	
The Alamo Architectural Model	.4 lbs	#	\$20.00	
Dogtrot House and Outbuildings	.4 lbs	#	\$20.00	
Groundwater Block Models	.6 lbs	#	\$25.00	
Guadalupe Mountains Block and Topo Models	.5 lbs	#	\$21.00	
Volcano Block Models	.6 lbs	#	\$25.00	
Petroleum Game	.5 lbs	#	\$21.00	
Physical Geology Block Models	.5 lbs	#	\$25.00	
Topographic Landform Models	.5 lbs	#	\$30.00	
Plate Tectonics Block Models	.5 lbs	#	\$25.00	
Oceanography Block Models	.5 lbs	#	\$25.00	
Botany Block Models	.5 lbs	#	\$25.00	
More Topographic Landform Models	.5 lbs	#	\$25.00	
			◀ Sub totals ▶	

* Schools may provide a Tax number to avoid paying sales tax.

Tax # _____

Shipping Charges
Tax (TX residents add 8.25%)*
Total

Shipping charges	
Sub Total	Shipping Cost
<\$50.00	\$5.50
\$51.00 - \$100.00	\$8.50
\$101.00 - \$150.00	\$11.50
\$151.00 - \$200.00	\$14.50
\$201.00 - \$250.00	\$20.00



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12407 North Mopac #100
Austin, TX 78758-2475

- Most orders are shipped within 24 hours.
- Please send a check or purchase order. PayPal orders accepted online.
- Be sure to include the correct amount for shipping. See chart at left.
- If you are not satisfied with your Geoblox product, return it for a full no-questions-asked refund.