

# DCIs

## ESS2.A: Earth's Materials and Systems

- All Earth processes are the result of energy flowing and matter cycling within and among the planet's systems. This energy is derived from the sun and Earth's hot interior. The energy that flows and matter that cycles produce chemical and physical changes in Earth's materials and living organisms.

## ESS1.C: The History of Planet Earth

- Tectonic processes continually generate new ocean sea floor at ridges and destroy old sea floor at trenches. (HS.ESS1.C GBE),(secondary)

## ESS2.B: Plate Tectonics and Large-Scale System Interactions

- Maps of ancient land and water patterns, based on investigations of rocks and fossils, make clear how Earth's plates have moved great distances, collided, and spread apart.

## Plan of the Day:

1) Watch BrainPop video

2) **CONSTRUCT** your Inside the Earth 3D Model project model based on your group's collective research according to agreed upon tasks (Pie Chart of Participation on rubric reverse).

3) **COMPLETE** the Pie Chart of Participation on the rubric's reverse **AFTER** the model is completed.

4) Organize your notes with your rubric for collection Thurs/Fri.

**\*RESEARCH NOTES will be turned in for a 24 point PROCESS grade\***

Dec 9-9:31 AM

Today is Day 3! You will have **TODAY**, to construct your models based on your earlier research.

We will do a Gallery Walk on Day 4 (Thurs/Fri) at the **BEGINNING** of class:

Gallery Walk:

**A-day 15 December**

**B-Day 16 December**

Dec 9-6:39 AM

**USE your annotated PROJECT RUBRIC as a CHECKLIST!**

ANNOTATED  
↓  
↓  
ANNOTATED

Name	Class	Date		
<b>Inside the Earth 3D Model - Group Project Rubric</b>				
	4 (x 4)	3 (x 3.4)	2 (x 3)	1 (x 2.8)
<b>Earth's Layers (x 2)</b>	The Earth's four (4) layers are clearly and accurately labeled.  Each layer's relative thickness is accurately represented in the model. <b>model will be 9" or 12" range</b>	Three of the four (4) layers of the Earth are clearly and accurately labeled  Each layer's relative thickness is reasonably well represented in the model.	Only two of the four (4) layers of the Earth are clearly labeled and accurately identified.  Each layer's relative thickness is somewhat accurately represented in the model.	Only one of the four (4) layers of the Earth is clearly labeled and accurately identified.  None of the layers' relative thickness is accurately represented in the model.
<b>Temperature and Pressure (x 2)</b>	The <u>temperature</u> and <u>pressure</u> of each of the Earth's layers are represented using both color and text. <b>not necessarily a number</b>	The temperature and pressure of three of the four layers of the Earth are represented using both color and text.	The temperature and pressure of at least two of the four layers of the Earth are represented using either color or text.	The temperature and pressure of at least one of the four layers of the Earth is represented using either color or text.
<b>Layer Composition and Function (x 2)</b>	The important components of each layer are clearly identified.  The function of each layer is identified and related to its composition.	The important components of three of the Earth's four layers are clearly identified.  The function of three of the Earth's four layers are related to its composition.	The important components of two of the Earth's four layers are clearly identified.  The function of two of the Earth's four layers are identified and related to its composition.	The important components of only one of the Earth's four layers is clearly identified.  The function of only one of the Earth's four layers is identified and related to its composition.
<b>Score</b>				

Dec 8-6:22 AM

YOUR First and Last Name

Your Class

Today's date

Name

Class

Date

**Inside the Earth 3D Model - Pie Chart of Participation**

Complete the following pie chart once the project has been completed. Assess how much of the project is your own effort and how much is the effort of each group member. Be honest, fair and accurate in your assessment.  
I will be making my own observations.

**Individual Task Responsibilities**

**YOUR First and Last Name**

Name: \_\_\_\_\_

Task Assigned: **Your agreed task**

Partner First and Last Name

Name: \_\_\_\_\_

Task Assigned: Partner agreed task

Partner First and Last Name

Name: \_\_\_\_\_

Task Assigned: Partner agreed task

Partner First and Last Name

Name: \_\_\_\_\_

Task Assigned: Partner agreed task

Complete ONCE the project is COMPLETED but BEFORE the gallery walk.  
 You may do it here, at home or in homeroom.  
 The information is between you and me!

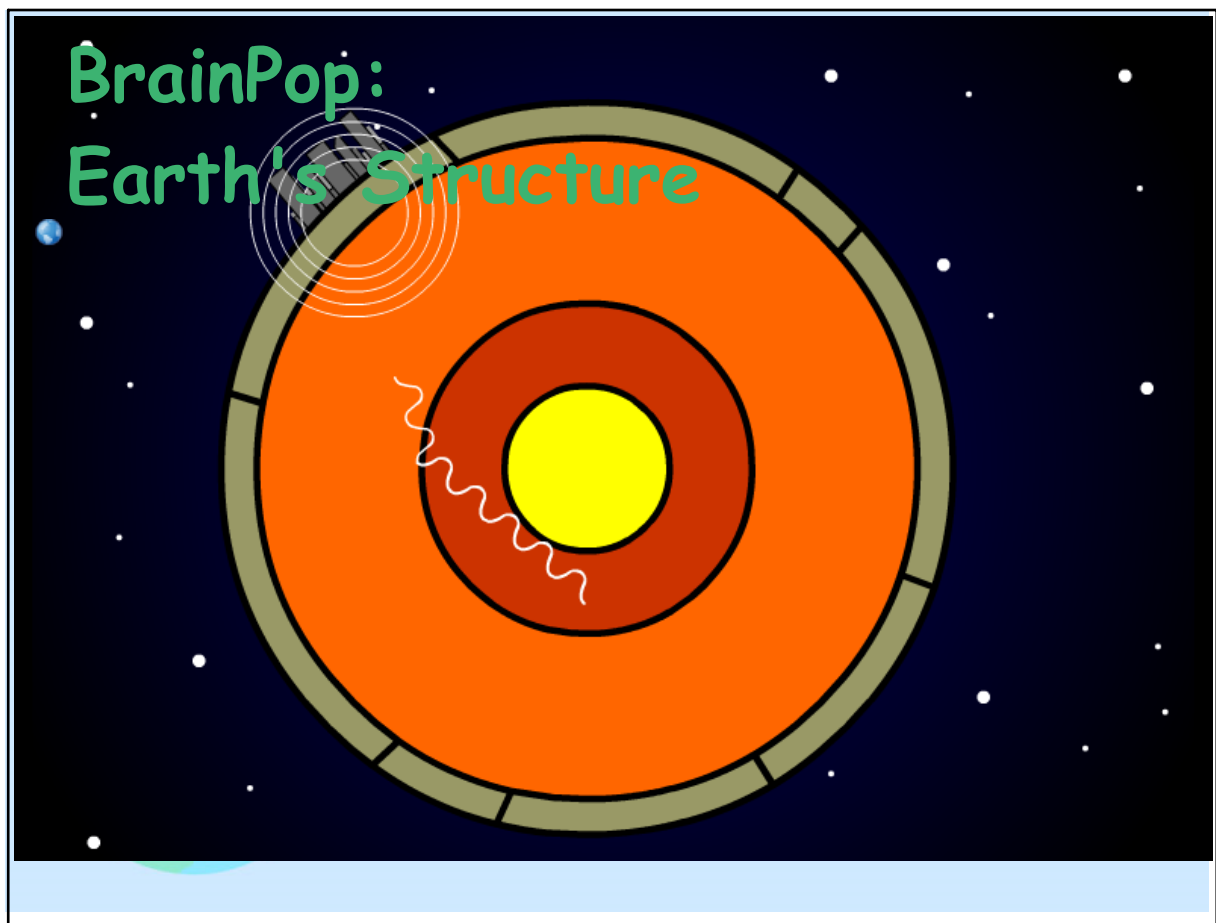
Dec 8-6:39 AM

## REMEMBER:

I will collect EACH student's research notes for a 24 point **PROCESS** grade. Notes **MUST** be extensive enough to reflect you contributed what you agreed to **AND** that information was included on the model.

I will assess each group's model during the *Gallery Walk* for a **PRODUCT** grade. Each group member will get the grade the project earned **UNLESS** participation in the process was below what you agreed to do on the Task Assignment list. You **MUST** turn in your **RUBRIC** with your **NOTES**

Dec 6-2:58 PM



Dec 12-2:24 PM

Your group will receive **ONLY 4** pieces of construction paper, **blue, red, orange and yellow**.

① Make **CAREFUL** decisions about how to use each sheet:

- 1) Decide how to use color to represent temperature and pressure.
- 2) Measure twice, cut once! You only get one of each, **PERIOD!**
- 3) Place **ALL** usable scraps in the **TAN Morin Bin** on the student table. That will insure you have "back up" in case you do measure wrong.

**WRITE** the information onto each layer **AFTER** you have cut it to size and **BEFORE** you tape it to the base color of your model.

One sheet will stay whole as the **BASE SUPPORT** for your model.

**STAY FOCUSED!** You have **ONLY** today to get your model completed!

**COMPLETED** models are stored in the class-labeled drawers on the **HALLWAY** side of the classroom.

Put your **CLASS & TABLE #** somewhere on your model for identification.

**FILL OUT** the Pie Chart of Participation, once done, **PRIVATELY!**

Dec 13-6:24 AM

What do you need to know to determine the thickness of each layer on **YOUR** model?

- 1) The **ACTUAL** thickness of **ALL** layers combined.
- 2) The **ACTUAL** thickness of **YOUR** layer.
- 3) The **SIZE** of your model (either 9 inches or 12 inches)

**Set up ratios into an equation as modeled in class previously:**

$$\frac{\text{Actual Layer thickness (km)}}{\text{ALL Layer thicknesses combined (km)}} = \frac{\text{Layer Size on your model (unknown inches)}}{\text{Size of your model (9 or 12 inches)}}$$

You may use the calculators at the end of the student table **IF** you return them to their pockets when done!

**Return all scissors and rulers to the student table as well!**

Dec 13-6:40 AM

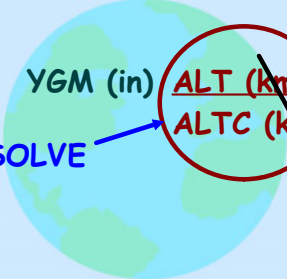
- KNOWN: 1) The ACTUAL thickness of YOUR layer. (ALT)
- KNOWN: 2) The ACTUAL thickness of ALL layers combined. (ALTC)
- UNKNOWN: 3) The SIZE of YOUR LAYER in your model (YLM)
- KNOWN 4) The SIZE of your group's model (YGM), either 9 inches or 12 inches

Set up ratios into an equation as modeled in class previously:

$$\frac{\text{Actual Layer thickness (km)}}{\text{ALL Layer thicknesses combined}} = \frac{\text{Layer Size on your model (unknown inches)}}{\text{Size of your group model (9 or 12 inches)}}$$

$$\frac{ALT \text{ (km)}}{ALTC \text{ (km)}} = \frac{YLM \text{ (in)}}{YGM \text{ (in)}}$$

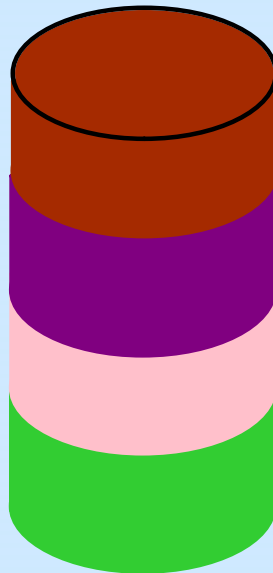
ALT (km) in all the texts  
 ALTC (km) in all the texts  
 YLM (in) UNKNOWN!  
 YGM (in) your group decides



$$\frac{YGM \text{ (in)} \cdot \frac{ALT \text{ (km)}}{ALTC \text{ (km)}}}{YGM \text{ (in)}} = \frac{YLM \text{ (in)}}{YGM \text{ (in)}} \cdot YGM \text{ (in)}$$

Dec 14-9:43 AM

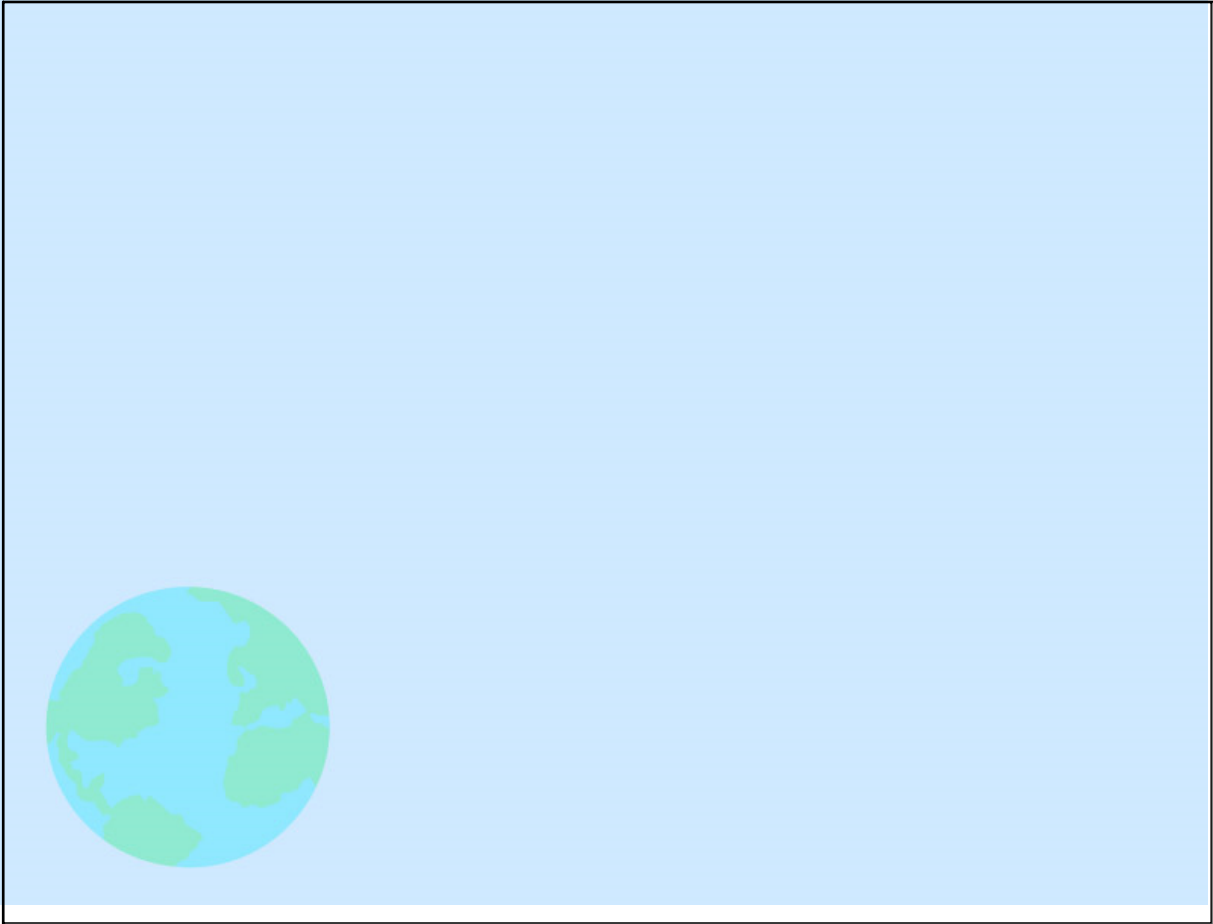
IF your model had ALL four layers equal in size, this is what it would look like.



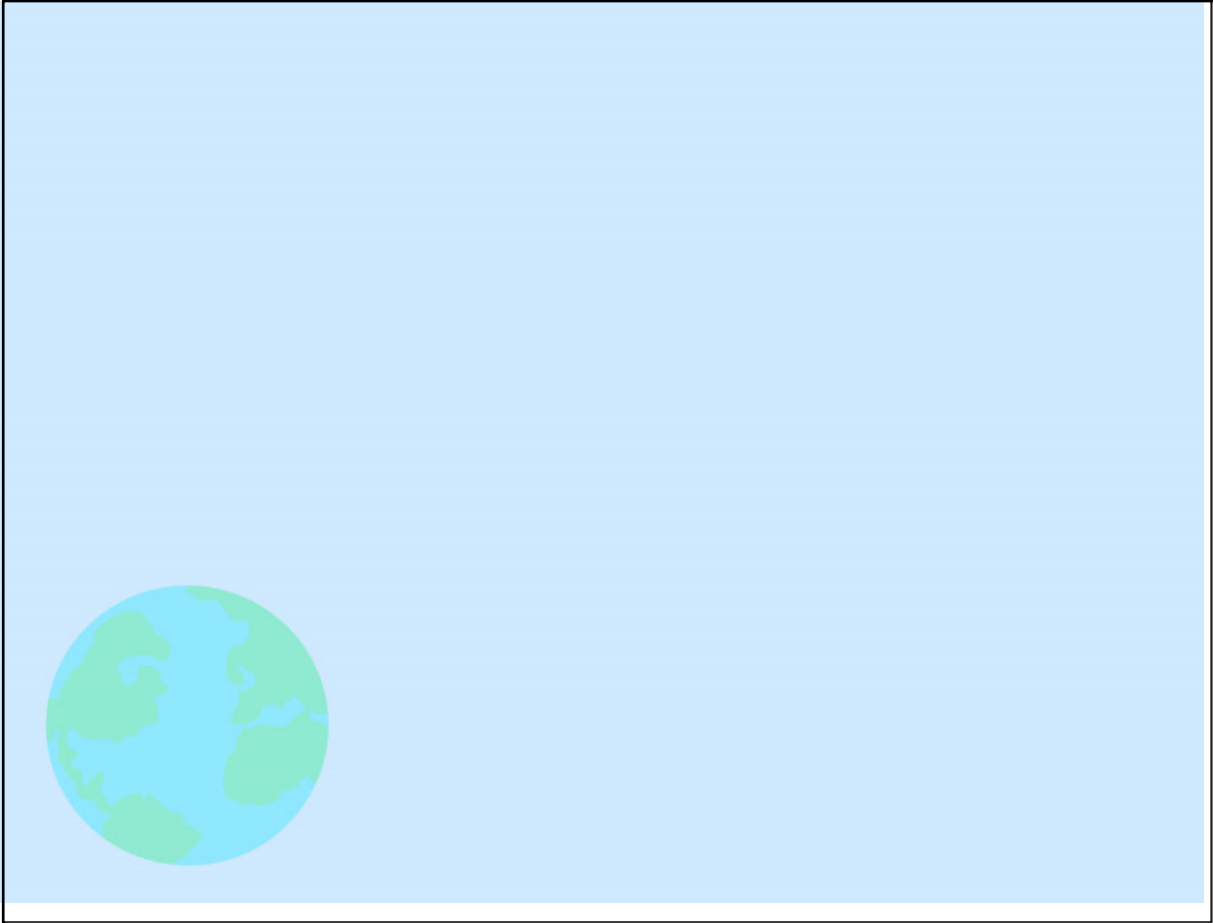
BUT, all your layers are NOT the same size...



Dec 14-10:46 AM



Dec 14-11:46 AM



Dec 14-11:46 AM

## Attachments

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TectonicPlateSong-G.notebook



InsideEarthModelGroupProjectRubric.doc



Continents\_Adrift\_\_An\_Introduction\_to\_Continental\_Drift\_and\_Plate\_Tectonics.asf