

**Science 10 Energy Unit. Section & title:** \_\_\_\_\_

Purpose: You and your assigned partner/s will become experts on your assigned section and you will be marked individually on your LOG entries and on your Section presentation.

'11-12		LO G	GROUP WORK (#oftextpages-ave/group)
Tue	Jan3	10.1	A/B partners; project/ 11p-2
Wed	Jan4	10.2	A/B partners; project/ 23p-4
Thr	Jan5**	11.1	A/B partners; project/ 17p-3
Fri	Jan6	11.2	A/B partners; project/ 19p-3
Mon	Jan9	12.1	A/B partners; project/ 11p-2
Tue	Jan10	12.2	A/B partners; project/ 19p-3
Wed	Jan 11	<b>Presentation Prep</b>	
Thr	Jan12	10.1	10.2
Fri	Jan13	11.1	11.2

<b>Jan 3 to Jan 17, 2012, finish test corrections in 412 at 11:32 M-T ☺</b>			
Mon	Jan 16	12.1	12.2
Tue	Jan 17	Log notes/NBC & review	
We	Jan18	Quizzes Ch 10,11,12 &	
Thr	Jan 19	Test Corrections /150	
Fri	Jan 20	Unit 4 Test	
Mon	Jan 23	Review for exam	
Tue	Jan 24	A(9-11); C(1-3)	
We	Jan 25	B(9-11); D(1-3)	
Thr	Jan26	1PM – Exam in GYM	

**Jan 3, 2012 to Jan 10, 2012:**

- First 40 to 50 minutes: Partner/Class work and filling in your LOG.
- Second part of class time: all groups will be working on their TWO section activities (using textbook), preparing power-points, videos or answering their CYU questions &/or preparing the section presentation using the links on my site: <http://dupuis.shawbiz.ca/sc10energylinks.htm>. Teacher's manual is available for students to prepare their lesson. ☺
- \*\* Type the answers to your section CYU, save it as **Section#yourfirstname.doc** (ex: 10.1Madeleine) and place your corrected copy of CYU answers (one per group), in my INBOX on the X drive, by Jan 5 or email it to [ndupuis@sd61.bc.ca](mailto:ndupuis@sd61.bc.ca) – type your document name in subject title please.

**Jan 12 to Jan 16 - Preset Presentations:**

- The maximum time allowed for your presentation is 35 minutes. You may use the Section notes, quizzes and crosswords on my site. You may use the Overhead, LCD projector with computer &/or DVD player, power points... Please ensure your power point is 80% pictures – NOT too wordy!! Bring your project on USB or place it on X drive.
- **The project must be presented on the assigned date, with or without you and/or your partners.** The presentation can be video recorded.
- At the end of your presentation, students should have noted and well understood the TWO presented activities. They have added to their LOG notes and can successfully answer the workbook assessment page of your section.
- Hand this front page in before you go up for your presentation please. ☺

CRITERIA	POINTS
Organization/posture	/5
Your own words/no notes	/5
Peer involvement	/5
Originality(costume/food) or own youtube video	/5
CYU on projector	/5

Use of Visuals	/10
Demonstrations/3D	/10
Knowledge of content	/10
Serious/well done	/10
Length 10-15 minutes per person	/10
<b>Subtotal</b>	<b>/75</b>



Read Out Loud, Take notes, Sketch, Talk, and Share: Date: \_\_\_\_\_  
 (Use different ink and colour every time you log!! Highlight and have fun with this!)

<b>Key Words</b>	<b>SKETCH</b>
<b>Moving energy transformed into another form of energy;</b>	
<b>Kinetic energy</b>	
<b>Potential energy</b>	
<b>Temperature</b>	
<b>Thermal energy</b>	
<b>Kinetic molecular theory</b>	
<b>Heat</b>	
<b>Conduction:</b>	
<b>Convection:</b>	
<b>Radiation:</b>	
<b>My partner (name) and I discovered that ...</b>	

**Summary: (state one summary sentence)**

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**New ideas, connection, and questions from class presentation: Jun \_\_\_\_ 20**

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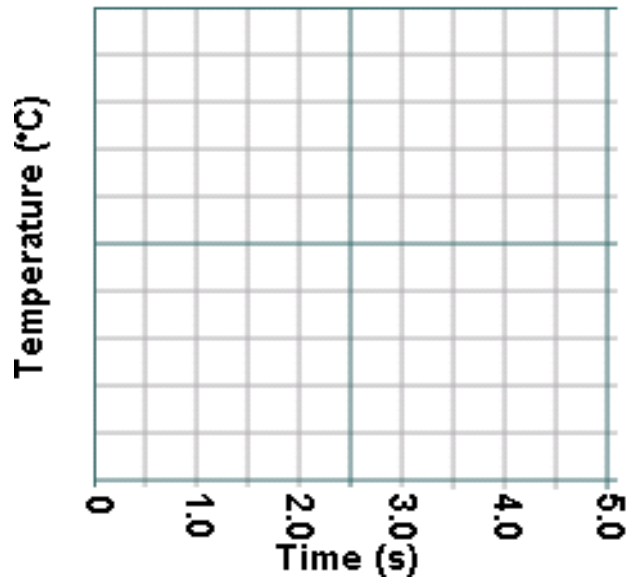
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**10-1A Heat it Up**

Time (min)	Temperature (C)
0	
0.5	
1.0	
1.5	
2.0	
2.5	
3.0	
3.5	
4.0	
4.5	
5.0	

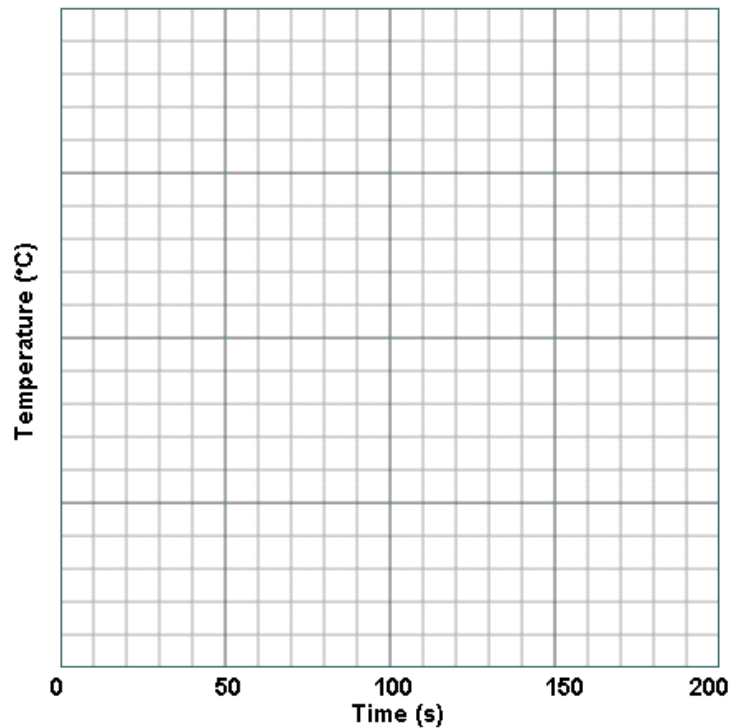


**10-1B Conduction in Action**

Distance (cm)	Time (s)			
	Copper	Aluminum	Brass	Steel
3				
8				
13				

**10-1C Convection Currents**

Times (s)	Temperature (°C)		
	Thermometer 1	Thermometer 2	Thermometer 3
0			
10			
20			
30			
40			
50			
60			
70			
80			
90			
100			
110			
120			
130			
140			
150			
160			
170			
180			



Section: **10.2** Title: **Energy Transfer in the Atmosphere** WB pages: 184-192

Read Out Loud, Take notes, Sketch, Talk, and Share:

Date: \_\_\_\_\_

(Use different ink and colour every time you log!! Highlight and have fun with this!)

<b>Key Words</b>	<b>SKETCH</b>
<b>Atmospheres: layers of gas above E's surface:</b>	
<b>Insolation:</b>	
<b>&lt; of incidence:</b>	
<b>Radiation budget:</b>	
<b>Low Albedo</b>	
<b>High Albedo</b>	
<b>Atmospheric pressure</b>	
<b>Air mass:</b>	
<b>Front:</b>	
<b>Weather:</b>	
<b>Wind:</b>	
<b>Coriolis effect:</b>	
<b>Jet streams</b>	
<b>My partner (name) and I discovered that ...</b>	

**Summary: (state one summary sentence)**

**New ideas, connection, and questions from class presentation: \_\_\_\_\_ 20**

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_____	_____
_____	_____
_____	_____
_____	_____

## 10.2A Temperature in Earth's Atmosphere

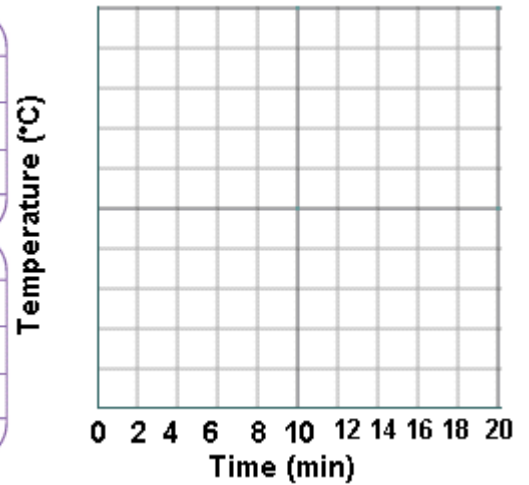
Temperature (°C)	Altitude (km)	Temperature (°C)	Altitude (km)
20	0	-55	70
-15	5	-82	80
-58	10	-90	85
-58	15	-90	90
-58	20	-85	95
-35	30	-70	100
-15	40	-40	110
0	50	-12	120
-20	60	16	130

## 10-2B Albedo and Colour

Material	Starting Time (min)	Starting Temperature (°C)	Warming Temperature at Each Minute (°C)												
			1	2	3	4	5	6	7	8	9	10			
Soil															
Sand															
Water															

Material	Starting Time (min)	Starting Temperature (°C)	Cooling Temperature at Each Minute (°C)												
			11	12	13	14	15	16	17	18	19	20			
Soil															
Sand															
Water															



## 10-2C Effects of Atmospheric Pressure

Observations:

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## 10-2D Build a Barometer

Day	Time	Barometer Reading (mm)	Up or Down from Previous Reading (mm)	Other Weather Conditions	Outdoor Temperature (°C)
1					
2					
3					
4					
5					

Read Out Loud, Take notes, Sketch, Talk, and Share: Date: \_\_\_\_\_  
 (Use different ink and colour every time you log!! Highlight and have fun with this!)

Key Words	SKETCH
<b>Climate:</b>	
<b>Biogeoclimatic zone:</b>	
<b>Paleoclimatologists:</b>	
<b>Ice cores:</b>	
<b>6 factors affect climate are (and how do they affect)</b>	
<b>Greenhouse gases:</b>	
<b>Earth tilt, rotation, orbit:</b>	
<b>Water Cycle:</b>	
<b>Ocean curensts:</b>	
- el Nino:	
_____	
- la Nina:	
_____	
<b>Carbon cycle:</b>	
- carbon sinks:	<b>Summary: (state one summary sentence)</b>
_____	
- carbon sources:	_____
_____	_____
<b>Catastrophic events:</b>	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
<b>My partner (name) and I discovered that ...</b>	_____
_____	_____

New ideas, connection, and questions from class presentation: \_\_\_\_\_ 20

_____	_____
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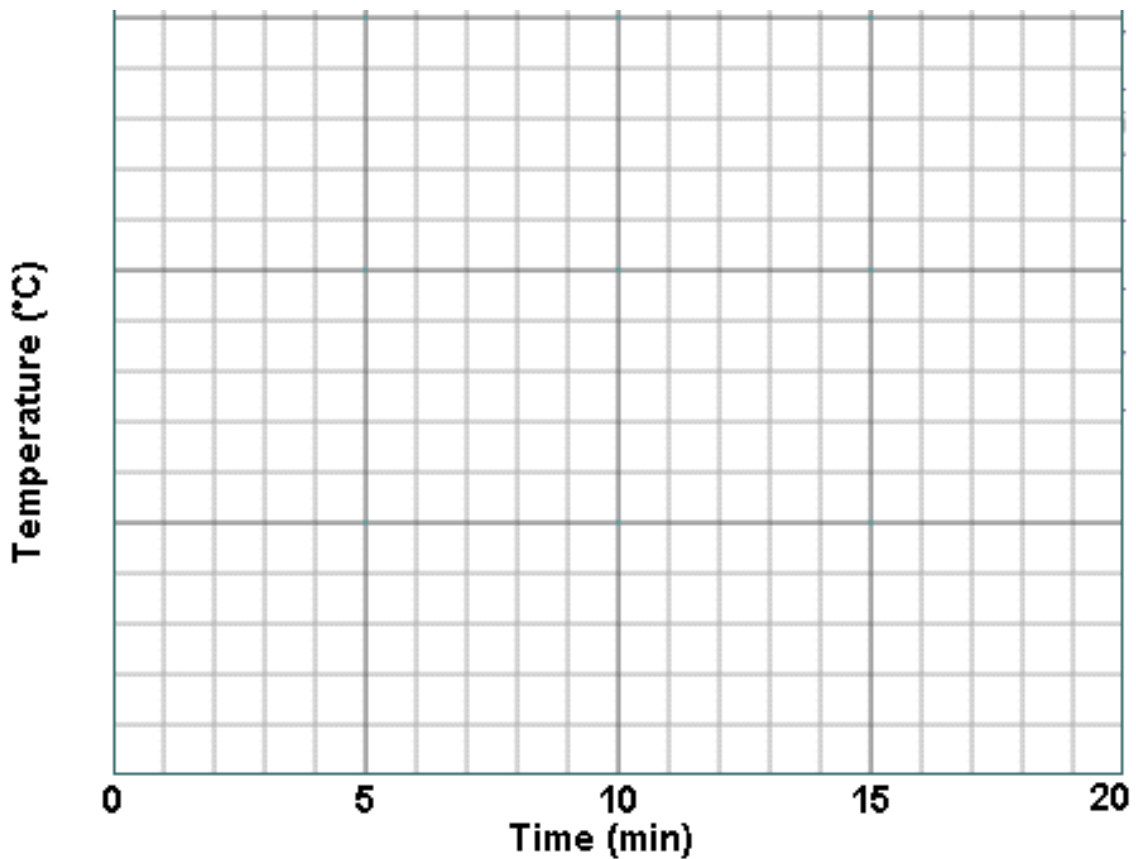
**11-1A Biogeoclimatic Zones of BC**

Climate Zone	Biogeoclimatic Zones
Coast Mountains and the islands	
Northern and central plateau	
Interior plateau	
Eastern mountain ranges	
Northeast plains	

**11-1B  
Generating the  
Greenhouse  
Effect**

**11-1C Temperature and Angle of Incidence**

Angle of Incidence	Time (min)															
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
0°																
45°																
90°																

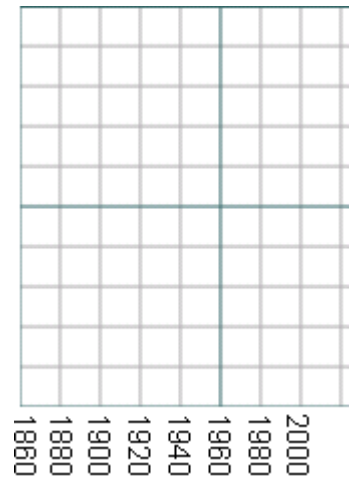






## 11-2A What's All the Hot Air About CO2

Year	Industrial CO <sub>2</sub> Emissions (Gigatonnes)*	CO <sub>2</sub> Concentration in the Atmosphere (parts per million per volume)	Temperature Increase Since 1861 (°C)
1861	0.67	285	0.00
1880	1.15	292	0.00
1900	2.63	298	0.05
1920	3.42	303	0.29
1940	4.95	307	0.46
1960	9.98	318	0.35
1980	20.72	340	0.41
2000	23.42	365	0.63



## 11-2B Calculating Carbon Emissions

Region	Population, 2006	CO <sub>2</sub> Emissions (millions of tonnes)	CO <sub>2</sub> Emissions Per Capita (tonnes)
Canada	31 612 897	739	23
Ontario	12 160 282	200	16
Quebec	7 546 131	90	12
British Columbia	4 113 487	85	21
Alberta	3 290 350	235	71
Manitoba	1 148 401	20	17
Saskatchewan	968 157	70	72
Nova Scotia	913 462	20	22
New Brunswick	729 997	25	34
Newfoundland and Labrador	505 469	15	30
Prince Edward Island	135 851	5	37

## 11-2C Pondering Posters

Read Out Loud, Take notes, Sketch, Talk, and Share: Date: \_\_\_\_\_  
 (Use different ink and colour every time you log!! Highlight and have fun with this!)

Key Words	SKETCH
<b>Continental Drift Theory:</b>	
<b>Pangea:</b>	
<b>Wegener:</b>	
<b>Paleoglaciatiion:</b>	
<b>Tectonic plates:</b>	
<b>Plate tectonic theory:</b>	
<b>Hot spots:</b>	
<b>Spreading ridge:</b>	
<b>Mid-Atlantic Ridge:</b>	
<b>Evidence of sea floor spreading:</b>	
<b>My partner (name) and I discovered that ...</b>	

New ideas, connection, and questions from class presentation: \_\_\_\_\_ 20

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

**12.1-A Coast to Coast**

**12-1B Sea Floor Spreading and Magnetic Striping**

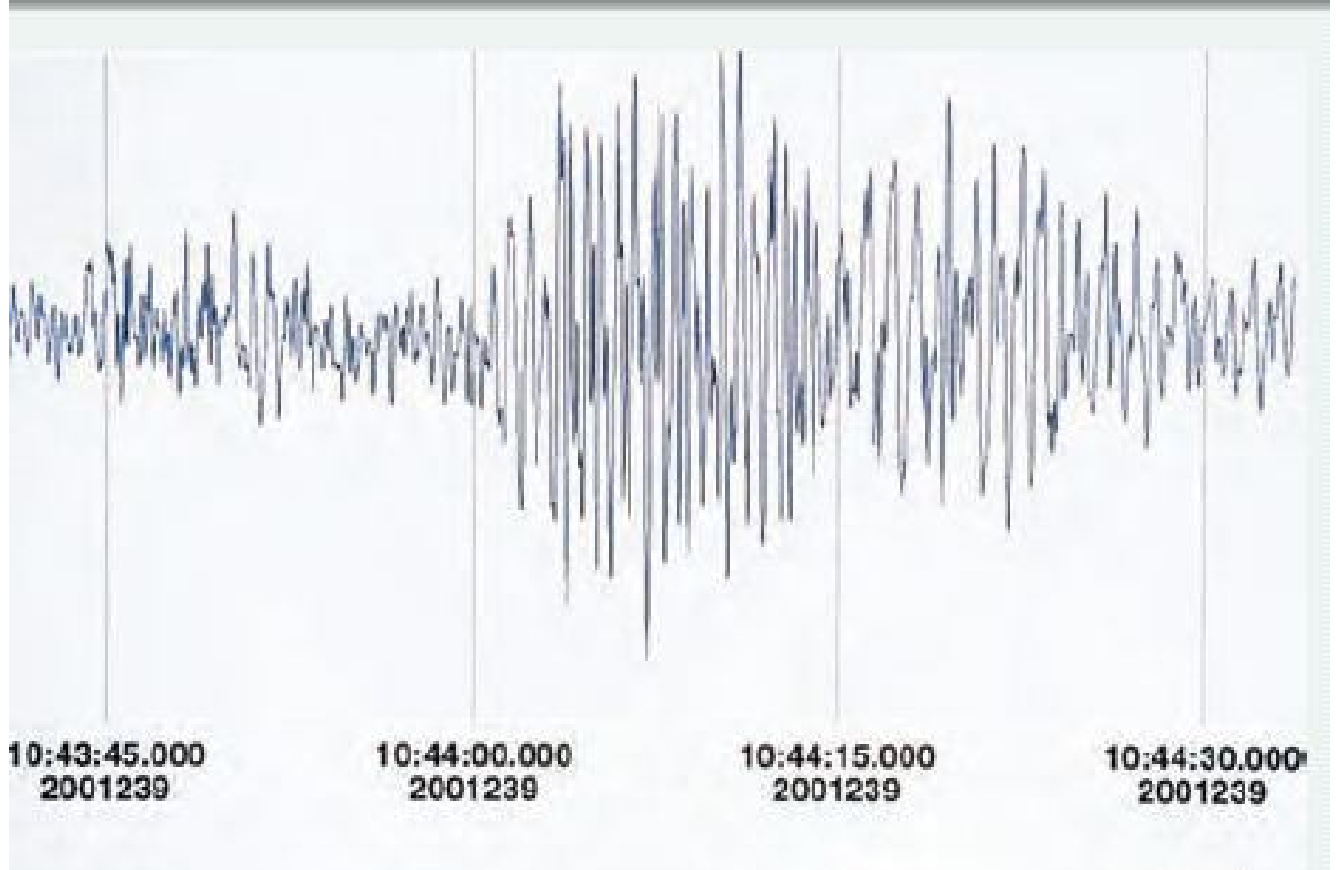
**12-1C Piecing Together Pangea – Presenters will refer to last sheet in this Log book.**

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**12-2A Modelling Earth's Crust**

**12-2B Cardboard Tectonics**

**12-2C Interpreting Seismograms**



**12-2D Volcanism and Plate Tectonics**

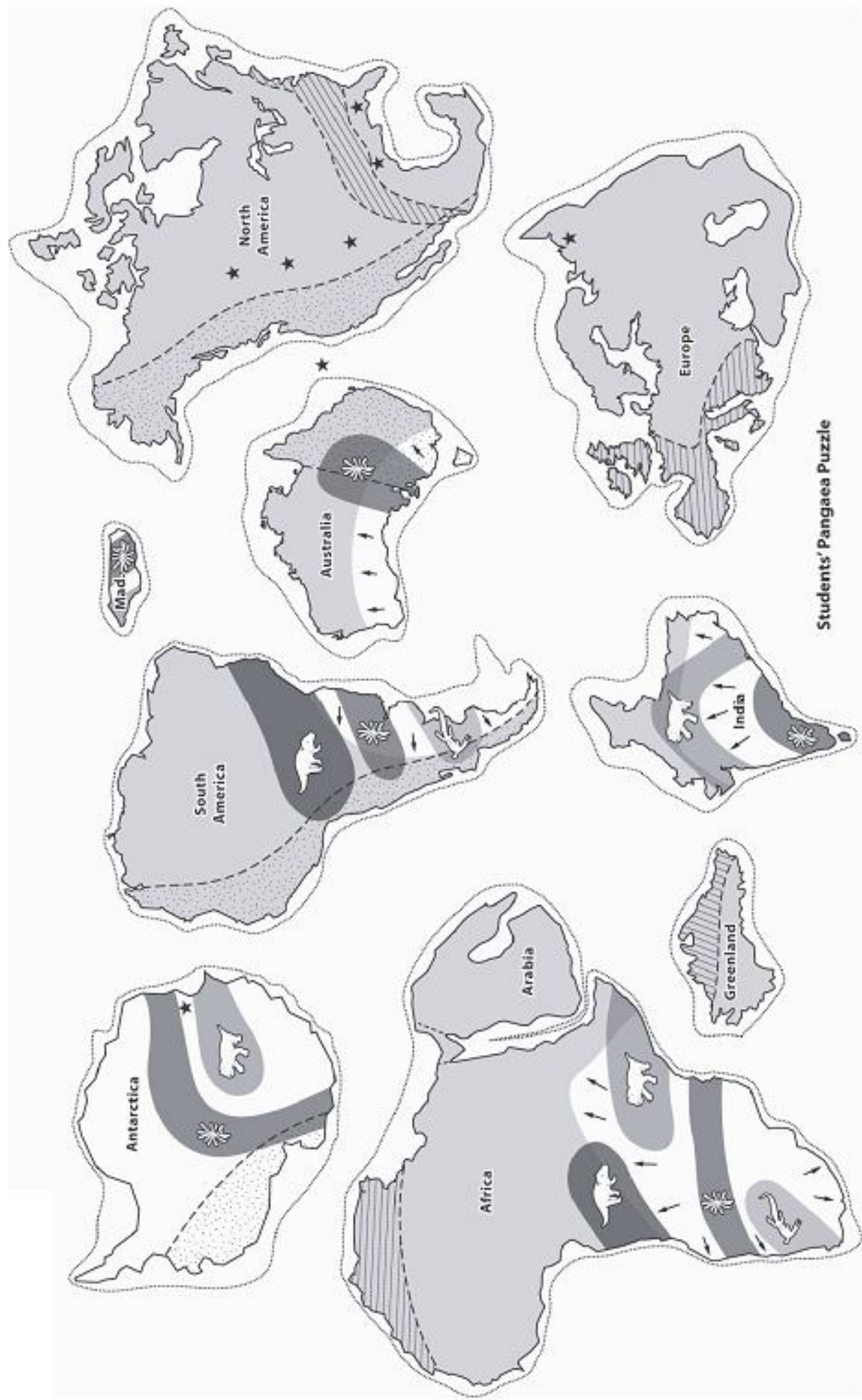
Read Out Loud, Take notes, Sketch, Talk, and Share: Date: \_\_\_\_\_  
 (Use different ink and colour every time you log!! Highlight and have fun with this!)

Key Words	SKETCH
<b>Lithosphere:</b>	
<b>Asthenosphere:</b>	
<b>Convection currents:</b>	
<b>Plate boundary:</b>	
<b>1. Divergence:</b>	
- oceanic ridge –	
- rift valley –	
- ridge push –	
- rift eruptions –	
<b>2. Convergence:</b>	
- subduction –	
- trench –	
- slab pull –	
- composite volcanoes –	
- shield volcanoes –	
- rift volcanoes –	
- volcanic island arc –	
<b>3. Transform:</b>	
<b>Focus –</b>	Page 519 textbook
<b>Epicentre –</b>	
<b>Seismology –</b>	<b>Summary: (state one summary sentence)</b>
<b>Primary P-waves –</b>	
<b>Secondary S-waves –</b>	
<b>Surface L-waves –</b>	
<b>My partner (name) and I discovered that ...</b>	

New ideas, connection, and questions from class presentation: \_\_\_\_\_ **20**

_____	_____
_____	_____
_____	_____





Students' Pangaea Puzzle