

Teacher Notes- “Plate Tectonics- Electronic Scavenger Hunt”

When was the last time your students actually had fun digging through their text book? Has it ever happened? If not, then you could definitely use this activity. In it they will go through a series of 12 questions about plate tectonics on a computer. Questions are followed by several answer choices, each with a code next to it. And the code next to the correct answer is the password that will unlock and open the next question. Throw in a little surprise at the end, and you’ve got a fun day of learning.

1. According to the theory of _____, continents have slowly moved over a very long period of time, to where they presently are.	
rocks- je5ddfaea	Pangaea- si9svmtffa
fossilization- ses9ejeix	magnetism- eahihifap
continental drift- fidewcea	grilled cheese- haa8fynaff

Materials per student/group:

Computer

Set of questions- see last page

Beforehand:

1. Load the file folder “Questions-Plate Tectonics Scavenger Hunt” onto either a server that all the computers can access, or directly on the computers themselves. See your building’s computer person if you need help.
2. Read through the all the questions so you know how the activity works, and what to expect. This also gives you time to make any changes you want. You can re-word or change any question, as long as the correct answer stays in the same place, since that password opens the next question.
3. The last document is called “All Done”. Your final instructions here can be anything you like, but wouldn’t it be fun to leave instructions there for the winning group to do something odd to earn bonus points (like cluck like a chicken, stand and say the pledge, or sing a song)?
4. Keep a copy of page 3 of the teacher notes handy (passwords). If students cannot open a question it may be because they inadvertently hit a key and changed the correct password.
5. It’s a good idea to replace the file folder on the server after every class with a fresh copy since, again, students sometimes change the documents. If that’s not possible, you’ll probably still be ok.
6. This activity done as-is will take most students 20-25 minutes to do. To lengthen it you can:

- add more questions (instructions to do this are at the end)
- read a related section in your book together...
- or just flip through the entire chapter and notice what's where before doing this activity (this is called picture-reading)
- require them to write page numbers where they found the answers
- you can also take care of other housekeeping like passing back papers or going over another assignment

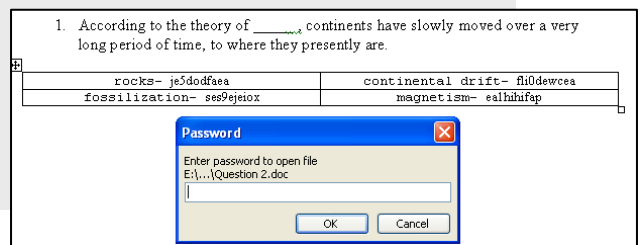
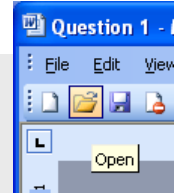
Procedure:

1. Have students open their books to the first page of the chapter. Make them do it now or most will not bother to do it on their own.
2. **Open Question 1:** Have students access the file folder on the server or hard drive called "Questions-Plate Tectonics Scavenger Hunt" and open Question 1.

"Today you're going to go through a scavenger hunt about plate tectonics. There are 10 questions. You can see on question 1 there that there several answer choices, each with a code next to it. Only one answer is correct, and only the code next to the correct answer will open question 2. Let me show you what I mean."

3. **Open Question 2:**

"In the upper-left corner you'll see a little yellow folder. If you hold your mouse over it, it says "Open". Click it, and then find and open question number 2 (*the first time in, students may have to relocate the folder on the server*). It wants a password, doesn't it? Guess where you'll find it? That's right! It's the one next to the correct answer from question 1. But you have to type it in correctly, and you have to type the right one, or it won't open. Type in the correct code now."



4. Now that you've introduced the system, it keeps repeating, so all you need to do for the rest of class is make sure everyone is doing ok. If someone is still stuck on question 1 after 5 minutes, give them help. Some kids will never ask.
5. With the competitive nature of this activity and since kids are always looking for the easy way to do things (does this shock you?), announce that they are not allowed to use the copy/paste function. This would allow them to enter the code without any typing. Have them police each other by watching others around them.

If it gets to be late in class and there's one or two groups not yet done, they can use this function. Tell them to drag the mouse over the correct code, press "Ctrl" and then "C" on the keyboard together, then begin opening the next question, and press "Ctrl" and then "V" together in the password blank.

- As students finish ask them *not* to save when closing the documents. That would save any changes they made to the originals, which would cause everyone who opens it thereafter to see the altered document, which may now not be correct. If you're changing the files every class period anyway, just have them all exit out of all the pages so that you can do this.

For your convenience, here is a summary of the activity:

Question	Password to open						
<p>1. According to the theory of _____, continents have slowly moved over a very long period of time, to where they presently are.</p> <table border="1" data-bbox="508 1077 1258 1150"> <tr> <td>rocks- je5ddfaea</td> <td>Pangaea- si9svmftfa</td> </tr> <tr> <td>fossilization- ses9ejeix</td> <td>magnetism- eahihifap</td> </tr> <tr> <td>continental drift- fidewcea</td> <td>grilled cheese- haa8fynaff</td> </tr> </table>	rocks- je5ddfaea	Pangaea- si9svmftfa	fossilization- ses9ejeix	magnetism- eahihifap	continental drift- fidewcea	grilled cheese- haa8fynaff	---
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<p>2. At a _____ boundary, plates move apart.</p> <table border="1" data-bbox="500 1278 1258 1352"> <tr> <td>divergent- unb7cassui</td> <td>convergent- abu4eturan</td> </tr> <tr> <td>convection- ef9hazri</td> <td>transform- s8hugkaw</td> </tr> <tr> <td>fossil- ec6vytapav</td> <td>seafloor- tep4a6mvmk</td> </tr> </table>	divergent- unb7cassui	convergent- abu4eturan	convection- ef9hazri	transform- s8hugkaw	fossil- ec6vytapav	seafloor- tep4a6mvmk	fidewcea
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<p>3. Clues from _____ support the idea that there once was a super continent called Pangaea.</p> <table border="1" data-bbox="500 1514 1258 1587"> <tr> <td>fossils, climate, and rocks- w3staafk</td> <td>fossils and rocks- gr4nurpfey</td> </tr> <tr> <td>climate- en5sustab</td> <td>climate and rocks- byp5ribesx</td> </tr> <tr> <td>rocks- sp2jehysve</td> <td>the ozone layer- asu3quejdi</td> </tr> </table>	fossils, climate, and rocks- w3staafk	fossils and rocks- gr4nurpfey	climate- en5sustab	climate and rocks- byp5ribesx	rocks- sp2jehysve	the ozone layer- asu3quejdi	unb7cassui
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<p>4. The cycle of heating and rising, then cooling and sinking is called _____.</p> <table border="1" data-bbox="500 1745 1258 1818"> <tr> <td>tectonic plates- ch4bacqsu</td> <td>convention- cr3stuzed</td> </tr> <tr> <td>circulation- pi8aefgresa</td> <td>lithosphere- guwer97</td> </tr> <tr> <td>conduction- mn3jntibm</td> <td>convection- ag2bakfe</td> </tr> </table>	tectonic plates- ch4bacqsu	convention- cr3stuzed	circulation- pi8aefgresa	lithosphere- guwer97	conduction- mn3jntibm	convection- ag2bakfe	w3staafk
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<p>5</p>	<p>5. Along a _____ the plates may pull apart, push together, or slide past each other.</p> <table border="1"> <tr> <td data-bbox="505 281 894 306">mantle- ye7faevbes</td> <td data-bbox="894 281 1252 306">seafloor- fkg6mecena</td> </tr> <tr> <td data-bbox="505 306 894 331">volcano- ur8ernitgn</td> <td data-bbox="894 306 1252 331">plate boundary- zghaiduy</td> </tr> <tr> <td data-bbox="505 331 894 357">mid-ocean ridge- bit2hyapax</td> <td data-bbox="894 331 1252 357">mountain ridge- ge3ytrasc</td> </tr> </table>	mantle- ye7faevbes	seafloor- fkg6mecena	volcano- ur8ernitgn	plate boundary- zghaiduy	mid-ocean ridge- bit2hyapax	mountain ridge- ge3ytrasc	<p>ag2bakfe</p>				
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<p>6</p>	<p>6. According to the theory known as <i>seafloor spreading</i>, dense magma from within the earth seeps to the surface where two plates are pulling apart. It then cools, hardens, and moves away from the plate boundary. The force behind all plate tectonics, in this case causing the plates to pull apart, is/are _____.</p> <table border="1"> <tr> <td data-bbox="505 554 894 579">magnetism- ch42caradb</td> <td data-bbox="894 554 1252 579">the sun- jum7agabuz</td> </tr> <tr> <td data-bbox="505 579 894 604">convection- niu8mixijd</td> <td data-bbox="894 579 1252 604">magma- nyw7dexbyp</td> </tr> <tr> <td data-bbox="505 604 894 630">volcanoes- ei8aspawti</td> <td data-bbox="894 604 1252 630">motion- ep7bybetp</td> </tr> </table>	magnetism- ch42caradb	the sun- jum7agabuz	convection- niu8mixijd	magma- nyw7dexbyp	volcanoes- ei8aspawti	motion- ep7bybetp	<p>zghaiduy</p>				
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<p>7</p>	<p>7. Scientists believe that the source of heat that causes convection currents in the mantle, which then drive earth's plates (which we live on) to pull apart, smash, and grind past one another, comes from _____.</p> <table border="1"> <tr> <td data-bbox="505 808 894 833">earth's core- cgx7tupn8w</td> <td data-bbox="894 808 1252 833">earthquakes- tw29padacu</td> </tr> <tr> <td data-bbox="505 833 894 858">space- mcavugrem</td> <td data-bbox="894 833 1252 858">earth's crust- nonqurgrai</td> </tr> <tr> <td data-bbox="505 858 894 884">magma- un4keypmea</td> <td data-bbox="894 858 1252 884">fossils- afj5suasev</td> </tr> </table>	earth's core- cgx7tupn8w	earthquakes- tw29padacu	space- mcavugrem	earth's crust- nonqurgrai	magma- un4keypmea	fossils- afj5suasev	<p>niu8mixijd</p>				
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<p>8</p>	<p>8. Compared to continental crust (crust above water), crust on the ocean bottom (seafloor) _____.</p> <table border="1"> <tr> <td data-bbox="505 1039 894 1064">is less dense (lighter)- gbv4isnyui</td> <td data-bbox="894 1039 1252 1064">is more dense (heavier)- at7rncwet9</td> </tr> <tr> <td data-bbox="505 1064 894 1089">moves quicker- amp4sudabe</td> <td data-bbox="894 1064 1252 1089">moves slower- 6e4nudpabr</td> </tr> <tr> <td data-bbox="505 1089 894 1115">is of higher altitude- dif9bipmec</td> <td data-bbox="894 1089 1252 1115">is about the same density-sp5emtycjm</td> </tr> </table>	is less dense (lighter)- gbv4isnyui	is more dense (heavier)- at7rncwet9	moves quicker- amp4sudabe	moves slower- 6e4nudpabr	is of higher altitude- dif9bipmec	is about the same density-sp5emtycjm	<p>cgx7tupn8w</p>				
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<p>9</p>	<p>9. When a continental plate and an oceanic plate converge, _____.</p> <table border="1"> <tr> <td data-bbox="505 1239 894 1264">the continental plate subducts- sk6shczku5</td> <td data-bbox="894 1239 1252 1264">a divergent boundary forms- spt8heytda</td> </tr> <tr> <td data-bbox="505 1264 894 1289">both plates stop moving - ah3exiliac</td> <td data-bbox="894 1264 1252 1289">the continental goes up- xe4engunjv</td> </tr> <tr> <td data-bbox="505 1289 894 1314">the oceanic plate subducts- rp7ysjawmu</td> <td data-bbox="894 1289 1252 1314">the oceanic goes up- cj2bebjvan</td> </tr> </table>	the continental plate subducts- sk6shczku5	a divergent boundary forms- spt8heytda	both plates stop moving - ah3exiliac	the continental goes up- xe4engunjv	the oceanic plate subducts- rp7ysjawmu	the oceanic goes up- cj2bebjvan	<p>at7rncwet9</p>				
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<p>10</p>	<p>10. Which is NOT the caused by plate tectonics, which is the drifting of separate "plates" of earth's crust due to the slow stirring of magma below-</p> <table border="1"> <tr> <td data-bbox="505 1449 813 1474">rift valleys- u63uptjuxw</td> <td data-bbox="813 1449 1252 1474">fault lines- ci3jepupju</td> </tr> <tr> <td data-bbox="505 1474 813 1499">mountains- ig6spnifri</td> <td data-bbox="813 1474 1252 1499">volcanoes- fap8cycuhj</td> </tr> <tr> <td data-bbox="505 1499 813 1524">earthquakes- ch4jfaheus</td> <td data-bbox="813 1499 1252 1524">all are caused by plate tectonics- yes9deadjs</td> </tr> </table>	rift valleys- u63uptjuxw	fault lines- ci3jepupju	mountains- ig6spnifri	volcanoes- fap8cycuhj	earthquakes- ch4jfaheus	all are caused by plate tectonics- yes9deadjs	<p>rp7ysjawmu</p>				
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<p>11</p>	<p>11. Compared to continental rocks, ocean floor rocks are _____.</p> <table border="1"> <tr> <td data-bbox="505 1648 878 1673">A. about the same age- av3babpaer</td> <td data-bbox="878 1648 1252 1673">F. more dense- muz8kenjxu</td> </tr> <tr> <td data-bbox="505 1673 878 1698">B. older- ep4mutusmy</td> <td data-bbox="878 1673 1252 1698">G. younger- by9cigfjib</td> </tr> <tr> <td data-bbox="505 1698 878 1724">C. more magnetic- gfy6dirdyi</td> <td data-bbox="878 1698 1252 1724">H. less dense- dea5trnje</td> </tr> <tr> <td data-bbox="505 1724 878 1749">D. C and H- gh4micfaci</td> <td data-bbox="878 1724 1252 1749">I. B and F- dj7gjudicw</td> </tr> <tr> <td data-bbox="505 1749 878 1774">E. F and G- eg2eggscin</td> <td data-bbox="878 1749 1252 1774">J. B and C- gi5nuifeab</td> </tr> </table>	A. about the same age- av3babpaer	F. more dense- muz8kenjxu	B. older- ep4mutusmy	G. younger- by9cigfjib	C. more magnetic- gfy6dirdyi	H. less dense- dea5trnje	D. C and H- gh4micfaci	I. B and F- dj7gjudicw	E. F and G- eg2eggscin	J. B and C- gi5nuifeab	<p>yes9deadjs</p>
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12

12. Cooler material in a convection current _____.

A. is heavier- ar2fjaname	E. B and D- ig6spninfj
B. is lighter- pjp4phdrbj	F. A and D- uf3uptjuxw
C. Rises- av4keticeu	G. A and C- yes9deadjs
D. Sinks- cj3jepupju	H. B and C- ip7yjjawmu

eg2eggsicn

Now use the password next to the correct answer above to open the "All Done" file.

Congratulations on finishing!

- You may now record a 5/5 for this assignment.

All Done

uf3uptjuxw

In addition, the first group to stand and do a strange task

Will receive **3 bonus points more.**

If you're feeling shy, are asking yourself "why?"

You don't *have* to do the assigned chore.

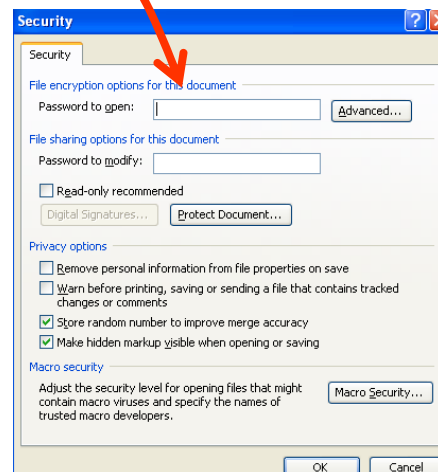
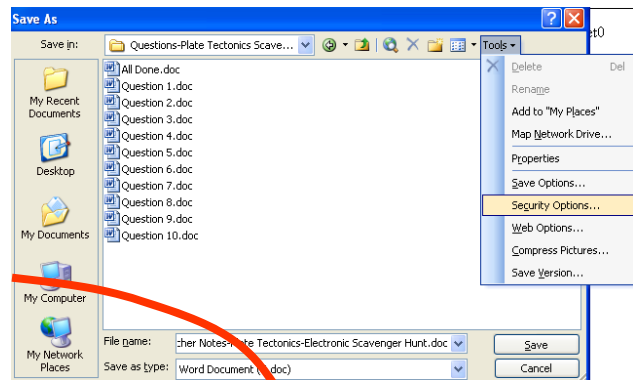
The task you must do is easy because all that you

Need is some courage, which you must now find.

Making you own password-protected documents












Sound difficult? It's not. Try making one.

Open a blank Word document and type something like "test1" on the page. Click "File" and then "Save As". Notice a feature on the window to the upper far right called "Tools". Click it. A list of features appears, one being "Security Options". Click that. Where it says "Password to open" type in any password you want (like "test1") and click "OK". It will ask you to re-enter the same password. That's it! You did it! Close the document and try to open it. You feel important, don't you?



Come back and visit InteractiveScienceTeacher.com to upgrade this lesson with:

Set Of Questions

-  All Done
-  Question 1
-  Question 2
-  Question 3
-  Question 4
-  Question 5
-  Question 6
-  Question 7
-  Question 8
-  Question 9
-  Question 10

Extra Passwords

This is a list of 100 passwords. The first 40 were used in the activity. If you'd like to try others, search the internet for "free random password generator".

je5dofnea
ses9e5toz
zi0dewcea
es1uhndep
um77causm
ef9boozri
abu4etusa
so3inglaow
ow33raafok
en53ustibo
gr4aurpicy
byp3rbeas
cl4obecpa
ag12bakife
ct33uzoed
glt0wer0oo
yul75eebe
ur8erumgn
f0g6mecena
oz1ghl0ld
ch12candb
es8aspawt
nig8miviod
ny17desbyp
cox1rupuow
ocal0ugren
tw2opadcu
uou1urgni
gov4usyu
amp1usidabe
at7ooowet0
oe4undoo0r

QuickNotes

Teacher *Quick Notes*- "Plate Tectonics- Electronic Scavenger Hunt"

Materials per 1 or 2 students:

Computer

Beforehand:

1. Load the file folder "Questions-Plate Tectonics Scavenger Hunt" onto server.
2. On board, clarify differences between numbers and letters: zeros are taller than letter o's, and a number 1 has a slight space after it, which the letter l does not.

Procedure:

1. Ask students to open their books.
2. Have students open Question 1 and answer it.
3. Open question 2 and type in password, which is the code next to the correct answer from question 1.
4. Repeat for the rest of the questions.