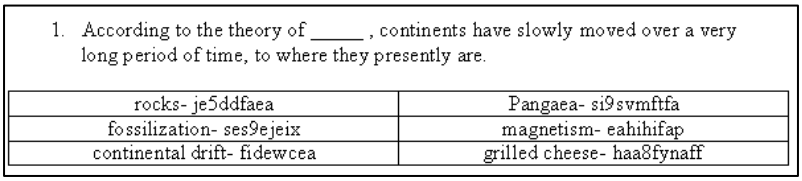
Teacher Notes- "Plate Tectonics- Electronic Scavenger Hunt"

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- si9svmftfa
fossilization- ses9ejeix	magnetism- eahihifap
continental drift- fidewcea	grilled cheese- haa8fynaff

Materials per student/group:
Computer
Set of questions- see p. 6

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
- require them to write page numbers where they found the answers
- you can also take care of other housekeeping like passing back papers or go over another assignment

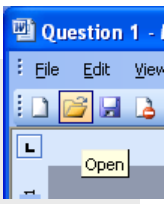
Procedure:

1. Have students open their books to the first page of the chapter. If you don't make them do it now, most will not bother to do it on their own.

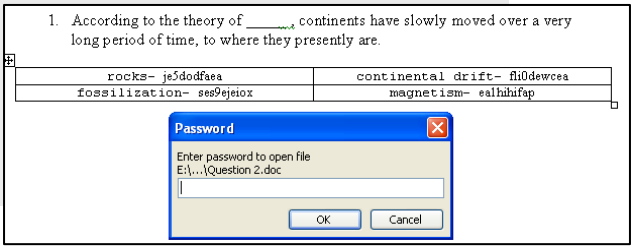
2. **Open Question 1**: Have students access the file folder on the server or hard drive called "Questions-Plate Tectonics Scavenger Hunt" and open Question 1.

   "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 a group 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.

6. 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
1	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- si9svmftfa fossilization- ses9ejeix / magnetism- ealuhifap continental drift- fidewcea / grilled cheese- haa8fynaff	---
2	2. At a _____ boundary, plates move apart. divergent- unb7cassui / convergent- abu4eturan convection- ef9hazri / transform- s8hugkaw fossil- ec6vytapav / seafloor- tep4a6mvmk	fidewcea
3	3. Clues from _____ support the idea that there once was a super continent called Pangaea. fossils, climate, and rocks- w3staafk / fossils and rocks- gr4nurpfcy climate- en5sustab / climate and rocks- byp5ribesx rocks- sp2jehysve / the ozone layer- asu3quejdi	unb7cassui
4	4. The cycle of heating and rising, then cooling and sinking is called _____ . tectonic plates- ch4bacqsu / convention- cr3stuzed circulation- pi8aefgresa / lithosphere- guwer97 conduction- mn3jiutibm / convection- ag2bakfe	w3staafk
5		ag2bakfe

5. Along a _____ the plates may pull apart, push together, or slide past each other.

mantle- ye7faevbes	seafloor- fkg6mecena
volcano- ur8ernitgn	plate boundary- zghaiduy
mid-ocean ridge- bit2hyapax	mountain ridge- ge3ytracsc

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6. According to the theory known as *seafloor spreading*, 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 _____ .

zghaiduy

magnetism- ch42caradb	the sun- jum7agabuz
convection- niu8mixijd	magma- nyw7dexbyp
volcanoes- ei8aspawti	motion- ep7bybetsp

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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 _____ .

niu8mixijd

earth's core- cgx7tupn8w	earthquakes- tw29padacu
space- mcafvugrem	earth's crust- nonqurgrai
magma- un4keypmea	fossils- afj5suasev

8

8. Compared to continental crust (crust above water), crust on the ocean bottom (seafloor) _____ .

cgx7tupn8w

is less dense (lighter)- gbv4isnyui	is more dense (heavier)- at7rncwet9
moves quicker- amp4sudabe	moves slower- 6e4nudpdbr
is of higher altitude- dif9bipmec	is about the same density-sp5emtycjm

9

9. When a continental plate and an oceanic plate converge, _____ .

at7rncwet9

the continental plate subducts- sk6shczku5	a divergent boundary forms- spt8heytad
both plates stop moving - ah3exiliac	the continental goes up- xe4engunjv
the oceanic plate subducts- rp7ysjawmu	the oceanic goes up- cj2bebjvan

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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-

rp7ysjawmu

rift valleys- u63uptjuxw	fault lines- ci3jepupju
mountains- ig6spninfr	volcanoes- fap8cycuhj
earthquakes- ch4jfaheus	all are caused by plate tectonics- yes9deadjs

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11. Compared to continental rocks, ocean floor rocks are _____ .

yes9deadjs

A. about the same age- av3babpaer	F. more dense- muz8kenjxu
B. older- ep4nutusmy	G. younger- by9cigfjjb
C. more magnetic- gfy6dirdyi	H. less dense- dea5trgnje
D. C and H- gh4micfaci	I. B and F- dj7gjudicw
E. F and G- eg2eggsicn	J. B and C- gi5nuifeab

12 12. Cooler material in a convection current _____ . eg2eggsicn

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

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

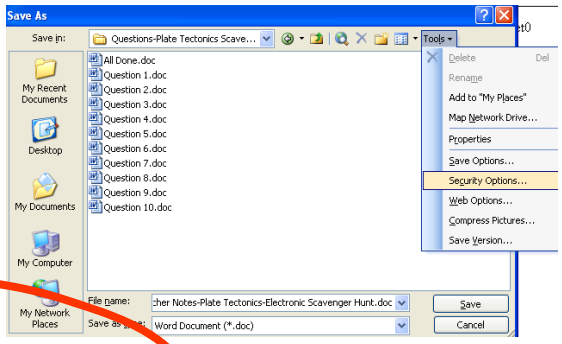
In addition, the first group to stand and do a strange task
Will receive **3 bonus points more.**
If you're feeling shy, are asking yourself "why?"
You don't *have* to do the assigned chore.

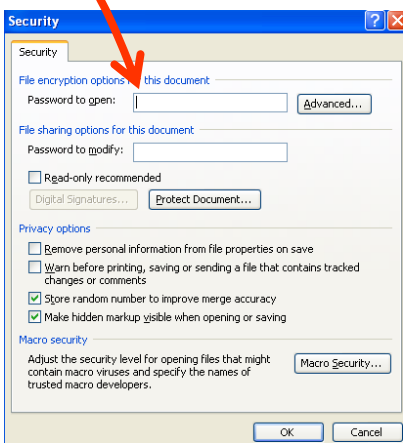
The task you must do is easy because all that you
Need is some courage, which you must now find.

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 next window on the 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. 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".

je5dodfaea
ses9ejeiox
fil0dewcea
ea1hihifap
unb7cassui
ef9hoaozri
abu4eturan
so8tugkaow
ow3staafok
en5ustatbo
gr4unrpfcy
byp5ribesx
ch4obacqsu
agl2bakife
cr3snzoed
glu0werooo
yel7fnevbe
ur8eningu
fog6inecean
oz1ghaloid
chl2caradb
ei8aspawti
nig8mixiod
nyl7dexbyp
cox1upnow
oca1ougrem
tw2opadncu
non1urgrai
gov4isnyui
amp1sudabe
at7roowet0
oe4nudoobr

*Quick*Notes

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.