

Shifting Plates and Crazy Headaches: Scene 1

Cast: Narrator (to read italics), Beyonce, Mrs. Freeman, Mr. Harris, Voice

It's late Friday morning and the students at McNair Middle School are anxious to start the day. This is the day that Beyonce has been invited to perform live for the students because of their good behavior during the "Fall-Back Jam" hosted by 106 & Park. The weather is perfect as countless students dismount from the buses and rush to their classrooms. The sun is shining as Beyonce exits her limo and is greeted by the principal.

Beyonce: I'm so excited to be here. These kids have so much energy. I know they're going to hype me up when I'm in the gym.

Mrs. Freeman: Oh, yes. They love you here at McNair Middle. Do you know who Ronald McNair was?

Beyonce: Uh, yeah. He was... uh... uh. *[She looks bewildered as she tries to conjure up an answer.]* Wasn't he...uh?

Mrs. Freeman: My dear, Ronald McNair was an astronaut on the Challenger Space Shuttle. He was a black physicist who came from modest beginnings in a small town in South Carolina. He was the first person to ever play a saxophone in orbit and –

Beyonce *[suddenly interrupting]:* Uh, I gotta go and freshen up before the show. But, hold that thought. *[She hastily walks away in the direction of Mr. Harris.]* Bill, how are you?

Mr. Harris: Oh, I'm great now that you're here.

Beyonce: Yeah, you came in the nick of time. I thought Mrs. Freeman was going to give me a lesson in the history of Ronald McNair.

Mr. Harris: I know, I know. She tends to do that, but it's really interesting if you ever get the chance to read his life story. Let's hurry to the classroom so you can set up.

In route to the classroom, suddenly, the floor begins to tremble and the panes on the windows begin to vibrate and the doors rattle.

Beyonce: What was that?

Mr. Harris: I don't know. It almost felt like the building moved.

The motion continues and increases as students begin screaming inside the classrooms, dodging books that fall from the shelves, and the lights flicker off and on.

Beyonce: Feels like the Earth is moving right from under me. I can't keep my balance. *[She wobbles and falls to the floor.]* Oh, my gosh!

The students run around frantically.

Mr. Harris: Everybody remain calm. *[He helps Beyonce to her feet.]* Come into my classroom until I can figure out what's happening.

Beyonce: Is the classroom the safest place be?

BOOM...BOOM... Sparks fly from the power transformers outside the building and tiles fall from the ceiling of the hallway. They rush inside the classroom; then everything goes dark in the halls of McNair Middle school. BOOM... BOOM...

Beyonce *[screaming]:* Bill, what's happening?

Voice *[over the loudspeaker]:* We need ... remain calm. We have... Fire Depart... and they said ... throughout ... city... and they ... school ... Mr. Harris... only teacher on the... hall. Please...

The speaker goes dead as Mr. Harris enters the room.

Scene 1 Analysis Worksheet

Data: What do we already know?	Questions: What can the characters tell us?
Hypotheses: What do you think happened?	Learning Issues: What do we still need to know?

Resource Guide

Textbook

Prentice Hall, Earth Science: Science Explorer, Pearson Education inc., Upper Saddle Rive, New Jersey, 2002.

Web Resources

Georgia Earthquakes: It's a Real Talker:

http://www.11alive.com/news/news_article.asp?storyid=31121

Emergency Manager's Guide to Earthquakes in Georgia

<http://quake.eas.gatech.edu/EMguide/EMguide.htm>

Lessening the Earthquake Risk: Danger in the East

<http://gtresearchnews.gatech.edu/reshor/rh-sf95/quake.htm>

Science In Your Backyard: Georgia

<http://www.usgs.gov/state/state.asp?State=GA>

Georgia Earthquake Information

<http://earthquake.usgs.gov/regional/states.php?region=Georgia>

Please limit your Web searches to the pages listed above. These are credible references and are sufficient in providing the information you need to complete your assignments.

Shifting Plates and Crazy Headaches: Scene 2

Cast: Narrator (to read italics), Mr. Harris, Tracy, Ashley, Brandon, Beyonce, Shontrelle, Oumou, Brian, Addison, Daniel

The crowd is hysterical in the midst of the darkness. Mr. Harris has discovered that he is the only teacher on the E-Hall.

Mr. Harris [*in a raised voice*]: I need everybody to remain calm. Students, I know we can figure this out.

Tracy: Did you hear the explosions? I think we're at war.

Ashley: No, I think it's the end of the world.

Brandon: Girl, it's not the end of the world, and I doubt we're at war. Maybe it's a storm of some sort.

Mr. Harris: I can't get to Mrs. Miller class. Debris is blocking the hallway. Looks like we're cut off from the rest of the school. With the seismic activity, it appears to be...

Suddenly, a light beam falls from the ceiling and hits Mr. Harris on the head. He falls to the floor, knocked out by the beam. The students scream frantically.

Beyonce: Oh my God; Bill, are you okay? A second beam falls and strikes Beyonce and she's out cold as well.

Shontrelle: Oh my goodness. We're all going to die!

Ashley: Girl, shut up. Don't make matters worse. We just need to calm down and figure out what to do.

Oumou: I think that's a good idea. Let's organize ourselves and think of what to do.

Brian: Somebody needs to be in charge and I think it should be me.

Addison: You're crazy. It should be me.

Oumou: Nobody's in charge. We all have to come together and remember what we've learned to get through disasters. What is the first thing we need to do?

Shontrelle: Oumou, what do you think is happening?

Daniel: Maybe it's a tornado.

Ashley: Well, I think it's an earthquake.

Brian: Girl, we live in the ATL. Ain't no earthquakes in Georgia. Let's go with the tornado.

Oumou: Well, that's not true. There have been some cases of small scale trembles in Georgia, even in recent years. Thus, there's no sign of a storm; I'm leaning more towards the earthquake, too.

Shontrelle: So, what do we do when there's an earthquake?

Brian: Don't believe the hype. It's not an earthquake. We're too far from California to have an earthquake.

Ashley: That's not the only place in the United States where earthquakes occur.

Brian: Well, Ms. Smarty-pants what other place did you hear of earthquakes? Anyway, what makes you think it's an earthquake? It could be something else.

The students debate whether Atlanta has suffered an earthquake or not as Mr. Harris and Beyonce are both unconscious. Now, this group of eighth graders must pull together and figure out what to do in such a crisis.

Brian: Let's see if we can get to the main office.

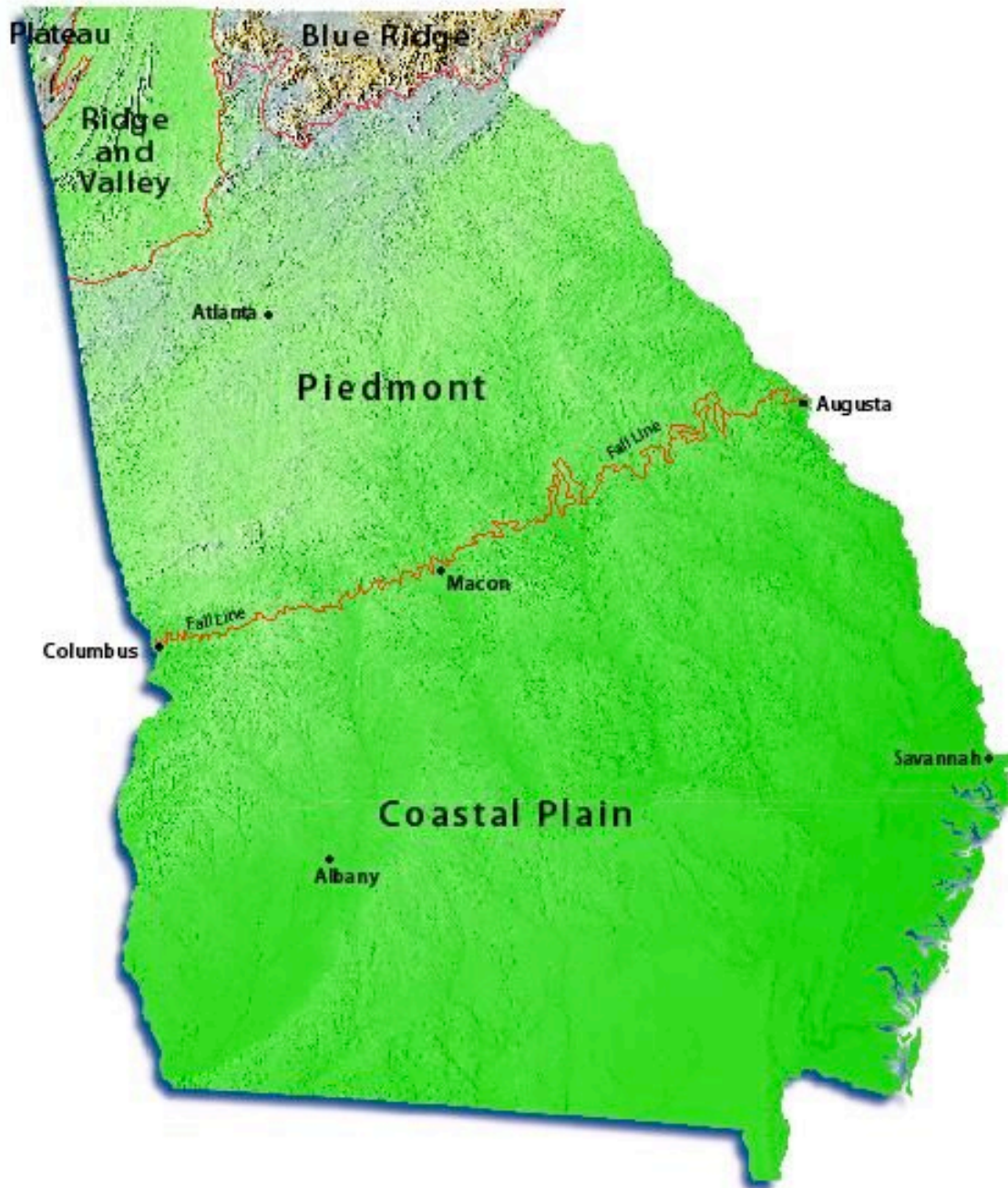
Ashley: That's not a good idea. We need to take precautions in case the trembling happens again.

Brian: Well, I'm going. Does anybody want to go with me?

None of the other students move as Brian solely proceeds toward the doorway. The ceiling on the far end of the E-hall collapses, and screams echo from the direction of Mrs. Miller class. After the dust settles, the students notice the doorway is blocked. There's no way out except through the back door.

Addison: Brian, are you okay?

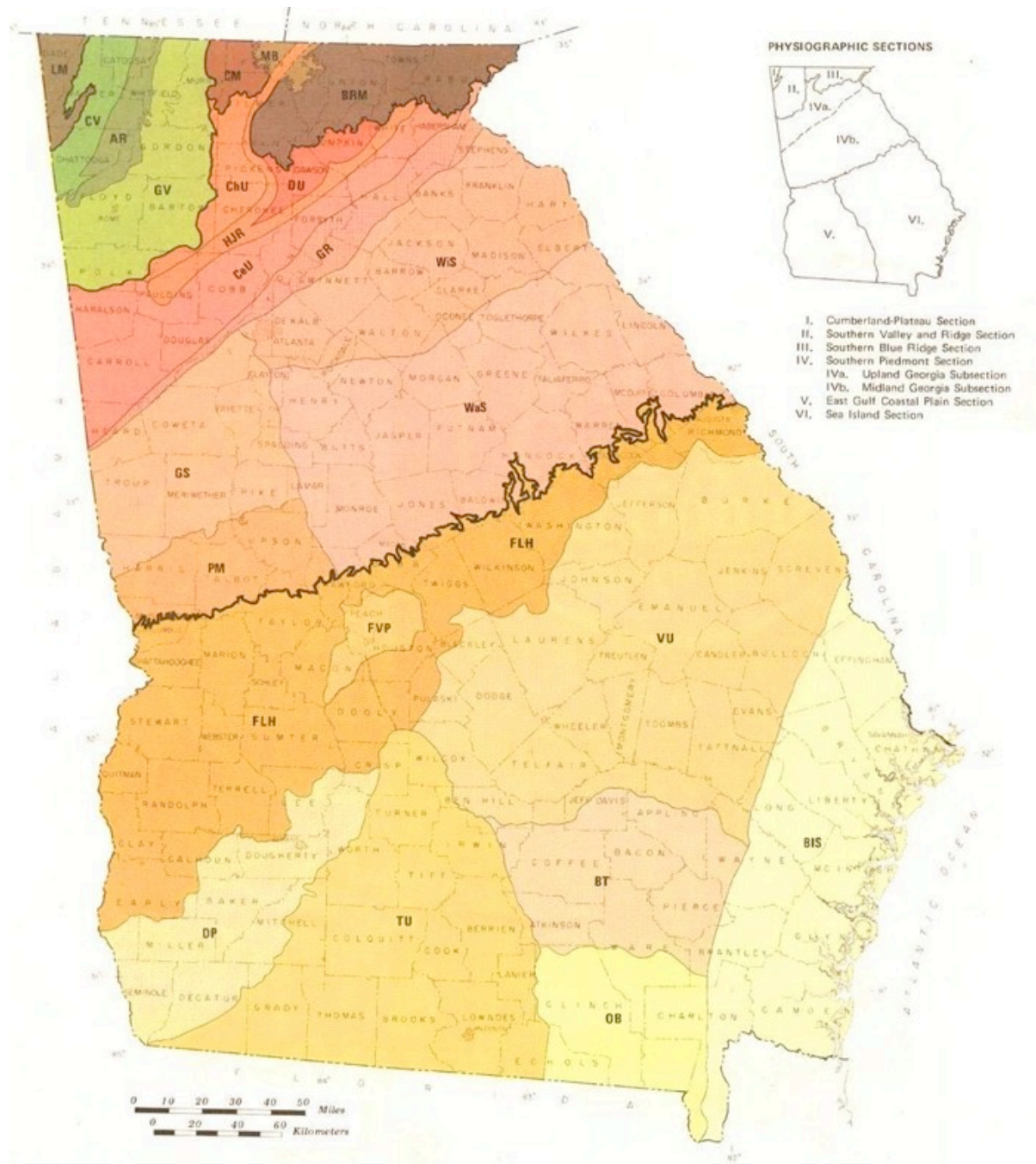
GEOLOGIC PROVINCES OF GEORGIA



Source: Carl Vinson Institute of Government, The University of Georgia Web site:
<http://www.cviog.uga.edu/Projects/gainfo/photogallery/physiomap.jpg>

This map shows the state of Georgia. Use as a reference to identify the region in which you live.

GEOLOGIC PROVINCES OF GEORGIA - DETAILED



Source: *Physiographic Map of Georgia* by William Z. Clark, Jr. and Arnold C. Zisa, Georgia Department of Natural Resources, 1976. Available from the Carl Vinson Institute of Government, The University of Georgia Web site: <http://www.cviog.uga.edu/Projects/gainfo/physiographic/gaphysio70.jpg>

Scene 2 Analysis Worksheet

Data: What do we already know?	Questions: What can the characters tell us?
Hypotheses: What do you think happened?	Learning Issues: What do we still need to know?

SHIFTING PLATES AND CRAZY HEADACHES: BROCHURE RUBRIC

Student Name: _____				
CATEGORY	4	3	2	1
Sources	Careful and accurate records are kept to document the source of 95-100% of the facts and graphics in the brochure.	Careful and accurate records are kept to document the source of 94-85% of the facts and graphics in the brochure.	Careful and accurate records are kept to document the source of 84-75% of the facts and graphics in the brochure.	Sources are not documented accurately or are not kept on many facts and graphics.
Content - Accuracy	All facts in the brochure are accurate.	99-90% of the facts in the brochure are accurate.	89-80% of the facts in the brochure are accurate.	Fewer than 80% of the facts in the brochure are accurate.
Knowledge Gained	All students in the group can accurately answer all questions related to facts in the brochure and to technical processes used to create the brochure.	All students in the group can accurately answer most questions related to facts in the brochure and to technical processes used to create the brochure.	Most students in the group can accurately answer most questions related to facts in the brochure and to technical processes used to create the brochure.	Several students in the group appear to have little knowledge about the facts or technical processes used in the brochure.
Writing - Vocabulary	The authors correctly use several new words and define words unfamiliar to the reader.	The authors correctly use a few new words and define words unfamiliar to the reader.	The authors try to use some new vocabulary, but may use 1-2 words incorrectly.	The authors do not incorporate new vocabulary.
Graphics/Pictures	Graphics go well with the text and there is a good mix of text and graphics.	Graphics go well with the text, but there are so many that they distract from the text.	Graphics go well with the text, but there are too few and the brochure seems "text-heavy".	Graphics do not go with the accompanying text or appear to be randomly chosen.
Attractiveness & Organization	The brochure has exceptionally attractive formatting and well-organized information.	The brochure has attractive formatting and well-organized information.	The brochure has well-organized information.	The brochure's formatting and organization of material are confusing to the reader.
Content - Accuracy	All facts in the brochure are accurate.	99-90% of the facts in the brochure are accurate.	89-80% of the facts in the brochure are accurate.	Fewer than 80% of the facts in the brochure are accurate.

Shifting Plates and Crazy Headaches: Scene 3

Cast: Narrator (to read italics), Oumou, Ashley, Brian, Shontrelle, Brandon, Daniel

Oumou: Now that Brian is okay, let's act quickly to implement what we've learned in Science and get through this disaster in one piece.

Ashley: I remember something about intensity of the shaking and magnitude. I'm pretty sure it's an earthquake, but I think we seem to be far from the epicenter.

Brian: What does the Epcot Center have to do with an earthquake?

Ashley and Shontrelle *[yelling]*: Shut up, Brian.

Brandon: I agree. The ground motion suggests that the normal character of the soil was disrupted. This happens during earthquakes.

Oumou: Okay, now that we're starting to think logically, I'll tend to Mr. Harris and Beyonce, but I'll need help sheltering them.

Brandon: I'll help you. The rest of you need to follow Ashley's directions.

Daniel: Do you want me to find a first aid kit?

Brandon: Not yet. Wait until this thing is over.

Daniel: Why?

Brandon: I'll explain later. Just trust me.

Oumou and Brandon drag several tables to encase Mr. Harris and Beyonce. The students focus on Ashley with attentiveness.

Ashley: Get under your desk and hold onto the legs.

Brian: That's a stupid idea.

Ashley: Well, then crouch yourselves against the interior wall.

Brian: Crouch. What's a crouch?

Brandon: Did you even pay attention in Science class?

Oumou: Look, we don't have time to give you a lesson in earthquake safety, so just hunker down as she says and you'll be safe.

Brian: Hunker down. What are you talking about?

Ashley [yelling]: Everybody get under a desk or crouch against the interior wall. *[Suddenly she notices Brian sitting near a window.]* Boy, get away from that window.

Brain: Why? We're all gon....

All of the sudden, the ground outside appears to turn into quicksand. The E-hall slides atop the soil in an unpredictable manner banging the building into several trees. The window shatters and screams ring out. Several girls yell, "Brian, Brian, Brian..."

Brian: I'm okay. Guess that was another earthquake, huh? How long do those things happen?

Brandon: Maybe it wasn't an earthquake. It could have been an after effect. Just move away from the window.

Shontrelle: So how many of those will occur?

The students continue to post themselves against the interior walls in a crouching manner, while other hunker under their desks.

Scene 3 Analysis Worksheet

Data: What do we already know?	Questions: What can the characters tell us?
Hypotheses: What do you think happened?	Learning Issues: What do we still need to know?

Shifting Plates and Crazy Headaches: Scene 4

Cast: Narrator (to read italics), Oumou, Brian, Daniel, Brandon

Everything is calm inside the classroom, then another tremble shakes the floor. After several minutes of minor ground motion, the Earth stands still.

Oumou: That didn't feel as intense as the first one. I think it has stopped for a while. Daniel, now you can look for a first aid kit.

Brian: Does Mr. Harris even have a first aid kit and where would he keep it?

Daniel: Of course he does. We covered that during our emergency safety lesson... remember?

Brian: I guess. Does that mean this thing is over? Can I leave now?

Brandon: It may not be safe to exit the building just yet? Something else you must have slept through. *[He turns to the other students.]* Everybody stay where you are. Only one or two students need to move around for now. Let's find a flash light for safety... Oh, and see if Mr. Harris keeps a radio in the class.

Brian: When this is over, can you all please bring me up to speed on what to do before, during and after an earthquake?

Scene 4 Analysis Worksheet

Data: What do we already know?	Questions: What can the characters tell us?
Hypotheses: What do you think happened?	Learning Issues: What do we still need to know?

SHIFTING PLATES AND CRAZY HEADACHES: POSTER RUBRIC

Student Name: _____				
CATEGORY	4	3	2	1
Required Elements	The poster includes all required elements as well as additional information.	All required elements are included on the poster.	All but 1 of the required elements are included on the poster.	Several required elements were missing.
Graphics - Relevance	All graphics are related to the topic and make it easier to understand. All borrowed graphics have a source citation.	All graphics are related to the topic and most make it easier to understand. All borrowed graphics have a source citation.	All graphics relate to the topic. Most borrowed graphics have a source citation.	Graphics do not relate to the topic OR several borrowed graphics do not have a source citation.
Graphics - Originality	Several of the graphics used on the poster reflect a exceptional degree of student creativity in their creation and/or display.	One or two of the graphics used on the poster reflect student creativity in their creation and/or display.	The graphics are made by the student, but are based on the designs or ideas of others.	No graphics made by the student are included.
Knowledge Gained	Student can accurately answer all questions related to facts in the poster and processes used to create the poster.	Student can accurately answer most questions related to facts in the poster and processes used to create the poster.	Student can accurately answer about 75% of questions related to facts in the poster and processes used to create the poster.	Student appears to have insufficient knowledge about the facts or processes used in the poster.
Content - Accuracy	At least 7 accurate facts are displayed on the poster.	5-6 accurate facts are displayed on the poster.	3-4 accurate facts are displayed on the poster.	Less than 3 accurate facts are displayed on the poster.
Attractiveness	The poster is exceptionally attractive in terms of design, layout, and neatness.	The poster is attractive in terms of design, layout and neatness.	The poster is acceptably attractive though it may be a bit messy.	The poster is distractingly messy or very poorly designed. It is not attractive.
Title	Title can be read from 6 ft. away and is quite creative.	Title can be read from 6 ft. away and describes content well.	Title can be read from 4 ft. away and describes the content well.	The title is too small and/or does not describe the content of the poster well.
Grammar	There are no grammatical mistakes on the poster.	There is 1 grammatical mistake on the poster.	There are 2 grammatical mistakes on the poster.	There are more than 2 grammatical mistakes on the poster.

Peer & Self-Evaluation Form

I. Discuss aloud in your group:

- How well did the group work together?
- How did each person contribute?
- How can each person improve?
- How can the group improve?

II. Complete chart below individually. Score each group member (including yourself) from 1-5 (1=never; 2=seldom; 3=sometimes; 4=usually; 5=always) on three criteria:

Interactions with Teammates:

- Respectful of all opinions
- Listens actively to others' ideas
- Stays on tasks, aids in clarifying issues

Accountability:

- Actively participates in group learning
- Shares responsibility with team members
- Self-directed learner

Contributing Team Member:

- Contributes valuable insights in clear concise manner
- Gathers relevant information
- Utilizes credible references

Group Member	Scene # _____		
	Interaction	Accountability	Contribution
Place a * by your own name			
1			
2			
3			
4			
5			

III. Address the following items in your journal:

- What went really well in your group?
- How can we improve as a group?