Mrs. Worsham's 7th grade life sciences students are on a field trip to Sweetwater Creek as an extension to their ecology unit. The students have been hiking all morning and have come to a grassy area where they are going to enjoy a picnic lunch and some much needed rest.

A small group of students including Jennifer, known for bossing everyone around, her friend Kim, Marcus and his buddy Phillip, Abu, a new student from Nigeria (and the smallest of the bunch) and his friend Jonathon have finished their lunch early and are milling around.

Jennifer suddenly complains, "I am so bored!!! Let's head back to the bus – my CD player is there. I've been hiking here before and know a shortcut".

The small group sneaks off down a path with Jennifer in the lead. An hour later the group realizes that Jennifer's "short cut" is an absolute disaster. The students begin grumbling about the heat and the length of the trail.

"Way to go Jennifer," Marcus says.

"Yeah" Phillip chimes in, "Some shortcut!!"

Kim begins complaining about being hot, sweaty and thirsty. Jonathon notices that Abu has started breathing heavy and is having a hard time keeping up with the group. He gives Abu some water and notices the others getting further ahead.

"Hey, wait up!!" Jonathon shouts at the others.

Jonathon and Abu start to run but Abu stumbles and falls to the ground, breathing heavily. Marcus looks back and sees that Abu has fallen and Jonathon can't get him to stand up.

"Come on you wimps, hurry up, the buses will leave us"

Abu is sitting on the ground holding his calves. "I'm too tired and my legs hurt too bad to stand up... my hands are really starting to hurt too," he tells Jonathon.

Jonathon notices that Abu's eyes appear jaundice and he seems oxygen deprived. He doesn't know what to do.

Jonathon tells Abu to keep still and to keep drinking water. He refuses to let Abu try to stand and walk. Jonathon runs after Jennifer and the group.

"Hey guys," he yelled. "Abu is not feeling well and can't walk. You guys tell Mrs. Worsham to get help and I'll stay with him."

The group says ok and runs on ahead. Jonathon heads back to sit and wait for help with Abu. Jonathon keeps encouraging him to drink more water.

Thirty minutes later, emergency personnel show up with medical first aid equipment. They immediately put an oxygen mask on him and give him a shot of penicillin. They load him on stretcher and carry him out of the woods and put him in the ambulance.

One of the EMT's tells Jonathon, "Good work. He was in a lot of pain and did not need to keep walking. You did the right thing keeping him still and giving him lots of water."

Despite the encouragement, Jonathon felt horrible as he watched the ambulance pull away with Abu in it. What was going to happen to his friend?

The following Wednesday, Jennifer, Kim, Phillip, Marcus, and Jonathon are sitting in detention after school.

"Thanks a lot Jennifer", Marcus sneers, scratching his arm. "Not only did that little short cut get us detention, but I got poison ivy too".

"Yeah, and I got tons of mosquito bites AND I found a tick on my leg!" Phillip claimed.

Jennifer, trying to switch their attention, turns to Jonathon. "Have you talked to Abu since the field trip? she asked.

Before Jonathon can reply, Marcus interrupted with "That boy is just a wimp. He's so small and he's always getting out of PE class."

Kim points out that Abu's little sister, who is in the same class as her little sister never attends PE either. "Maybe it's a cultural thing," she says.

"What if Abu is really sick?" asked Phillip, "and what if we get it next!"

"Yeah" says Jennifer " and we all ate that food together that his folks brought in for the cultural fair last week in social studies."

Jonathon finally tells the group, "I'm actually going to see him this afternoon. He's still in the hospital so I thought I'd go and try to cheer him up."

"Wow, the hospital. I didn't realize it was that serious," says Marcus sheepishly.

"Man, I wouldn't go, he might breathe on you!!!" Phillip told Jonathon. "You don't want to get whatever messed him up on the field trip!"

Jonathon's sister drops him off at the hospital after school. Because he's a little scared of catching Abu's illness he hesitates outside of Abu's door. Abu sees him and waves at him to come into his room.

"You don't have to be afraid," Abu tells him, his voice muffled from the oxygen mask he's wearing. "I'm not contagious. My sister and I have both dealt with this blood disorder all of our lives. You can ask the doctor if you want to."

The doctor was reading some measurements from the heart monitor. "It's completely safe," said the doctor "he's not contagious and I'm sure he would enjoy some company."

Jonathon walks into the hospital room where Abu is lying propped up on pillows watching TV. Jonathon notices a large, oozy sore on Abu's right leg and feels awkward seeing his friend hooked up to all sorts of machines.

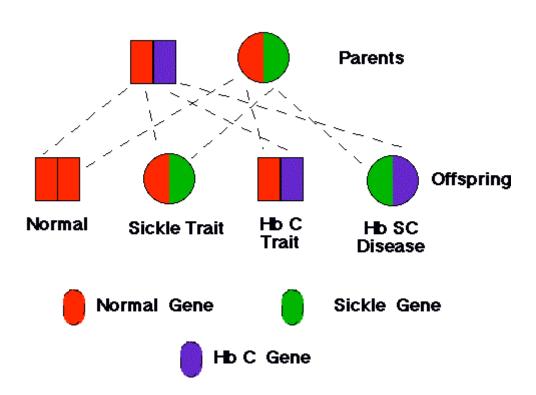
Abu is released from the hospital the day after Jonathon's visit. Jonathon visits Abu at home, bringing him his school assignments. Abu notices that Mrs. Worsham has assigned a team project due in two weeks.

"Hey" says Abu "My illness would fit with this project. Why don't we present it together to the class as our team project?"

Jonathon says, "That's a great idea. How should we start?"

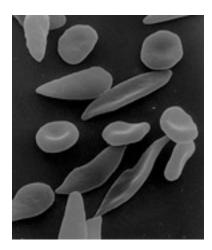
Abu digs in a trunk at the foot of his bed. "We could start with this," he said, holding up a large sheet of paper. "My doctor in Nigeria made it for my family so we could understand why my sister and I were sick, even though my parents and my older brother weren't."

Inheritance of Hb SC Disease



Two weeks later, Abu and Jonathon are in front of Mrs. Worsham's class presenting their team project. Abu is looking healthy and is full of energy.

Abu begins the presentation with a normal blood cell. "For most of you, this is what your blood is made of and how your blood cells look. My blood cells normally look like this too. But when I get sick, my some of my blood cells look like this."



A Friday in September: Epilogue

Abu and Jonathon continue their presentation. As a special addition to their project they have invited Abu's doctor to come and speak to the class about why sickle cell happens and how it can be managed.

A Friday in September: Assignments

Individual assignment:

Create a pamphlet about sickle cell anemia using the information you have learned from the case. Create this pamphlet so that it can be used by a children's hospital for children and parents of children with sickle cell disease.

Your pamphlet should include the following:

- The genetics of sickle cell disease
- Systems affected by sickle cell disease
- How specific systems are affected during a sickle cell crisis
- Management of sickle cell disease and how to prevent a crisis
- Atlanta area resources for people with sickle cell disease

<u>Group assignment – Team Portfolio:</u>

Each group will complete a collaborative portfolio that contains the following:

•	Learning issues from each session	50 points
•	Hypotheses generated from each session	10 points
•	Data/analysis from each session	10 points
•	Individual research presentations to the group	20 points
•	All references used in research presentations and pamphlets	30 points
•	All graphics used in the process and final brochure product (be sure to include references for graphics)	10 points
•	The process of elimination used to narrow the focus of case direction	10 points
•	Further questions the group would like to explore	10 points

Total 150 points

A Friday in September: Box Chart

Facts	Questions
Facts (What we know right now)	(Based on current knowledge)
(what we know light now)	(Based off current knowledge)
<u>Hypotheses</u>	<u>Learning Issues</u>
(Based on facts and questions)	(What we need to learn)
((

A Friday in September: Pamphlet Rubric

CATEGORY	4	3	2	1
Writing - Organization	Each section in the pamphlet has a clear beginning, middle, and end.	Almost all sections of the pamphlet have a clear beginning, middle and end.	Most sections of the pamphlet have a clear beginning, middle and end.	Less than half of the sections of the pamphlet have a clear beginning, middle and end.
Writing - Grammar	There are no grammatical mistakes in the pamphlet.	There are no grammatical mistakes in the pamphlet after feedback from an adult.	There are 1-2 grammatical mistakes in the pamphlet even after feedback from an adult.	There are several grammatical mistakes in the pamphlet even after feedback from an adult.
Content	All required components of the pamphlet have been included.	4 of the 5 required components are included.	3 of 5 required components are included.	2 or less of the required components are included.
Attractiveness & Organization	The pamphlet has exceptionally attractive formatting and well-organized information.	The pamphlet has attractive formatting and well-organized information.	The pamphlet has well-organized information.	The pamphlet's formatting and organization of material are confusing to the reader.
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.

Self/Group Evaluation

Date				
Your Name:		Group #		
Instructions: Please ci				s evaluatior
1. How would you rate	your ability to listen to	directions durin	g this project?	
5 Excellent	4 Very Good	3 Good	2 Fair	1 Poor
2. How would you rate	your ability to stay on	task during this	project?	
5 Excellent	4 Very Good	3 Good	2 Fair	1 Poor
3. How well did <u>you</u> lis	eten as the case was rea	d?		
5 Excellent	4 Very Good	3 Good	2 Fair	1 Poor
4. How well did you pa	rticipate in brainstorm	ing ideas about the	he case?	
5 Excellent	4 Very Good	3 Good	2 Fair	1 Poor
5. How well did <u>you</u> re	search the assigned top	ic?		
5 Excellent	4 Very Good	3 Good	2 Fair	1 Poor
6. How well did <u>you</u> re	port researched finding	s to the group?		
5 Excellent	4 Very Good	3 Good	2 Fair	1 Poor
7. How well did <u>you</u> lis	ten to others in the gro	up?		
5 Excellent	4 Very Good	3 Good	2 Fair	1 Poor
8. How well did <u>you</u> all	low to report research of	or shared ideas (1	not interrupt ot	hers)?
5 Excellent	4 Very Good	3 Good	2 Fair	1 Poor
9. How well did <u>you</u> we	ork quietly in your grou	up?		
5 Excellent	4 Very Good	3 Good	2 Fair	1 Poor
10. How well did <u>you</u> p	participate in preparing	the student prod	uct?	
5 Excellent	4 Very Good	3 Good	2 Fair	1 Poor
11 Your total score				

12. Rate each group member on a scale of 1-5

Group Member	Listened to Directions	Stayed on Task	Listened As Case Was	Participate In Brainstorming	Research Assigned	Total Score
			Read		Topic	

Group Member	Reported	Listened to	Did Not	Worked	Participate	Total
	Research	Others in	Interrupt	Quietly in	in Product	Score
	Findings	Group	Others	Group		