1. **What are Elias and Shohei like? Describe the growing conflict between them.** Elias is the youngest brother in a large family of talented scientists and musicians. He is quiet, serious, and smart. Shohei is a Japanese-American boy adopted by an Irish-American couple. He is silly and fun-loving. He doesn’t like to work too hard at his school work. The science project is the source of conflict between the boys. Elias takes the science project seriously, but Shohei does not. Elias’ romantic feelings for Honoria also add to the conflict. Elias knows that Honoria likes Shohei, but Shohei doesn’t realize it. Elias is irritated by the situation, but promises Honoria to keep her feelings a secret. Shohei wants to help Elias tell Honoria his true feelings, but he actually makes things worse. He sends a love letter to Honoria hoping she will think it is from Elias. Instead, she thinks Goliath Reed sent it.

2. **Describe Elias and Shohei’s project for the science fair. What do they hope to prove?** Elias and Shohei are doing identical plant experiments in their homes. They are doing the same experiment that Elias’ brother performed years earlier. They are exposing fast growing plants to different kinds of music. One plant is not exposed to any music. The boys plan to observe and record how fast each plant grows. The boys hope to confirm Elias’ brother’s experiment. They expect to get the same results he got. They expect to discover that plants grow better when exposed to music, and that they grow best when exposed to chamber music.

3. **What is Honoria surprised that Mr. Eden approved Elias’ project? How is his experiment an example of good science?** Honoria thinks it is unfair for a student to copy another student’s experiment. She is surprised that Mr. Eden is allowing Elias to do the same experiment his brother performed. Actually, it is good science to repeat an experiment. Real-life scientists do this all the time. If they get the same results, they confirm the conclusions of the original experiment.

4. **What is Honoria like? State three things she would like to accomplish.** Honoria is a smart, pretty, competitive student who enjoys science. She would like to start a romantic relationship with Shohei, win the science fair competition, and beat Goliath Reed in a student court case.

5. **Why is Shohei frustrated with his parents?** Shohei’s parents think it is important for him to know and enjoy his Japanese heritage. Shohei likes Japanese culture, but he thinks his parents pressure him too much about it. For example, they redecorate his bedroom with many Japanese items. They pack his lunch with Japanese food when he would often prefer to eat American food. This situation causes tension between Shohei and his parents.
Selection Review #2

Ninjas, Piranhas, and Galileo

Chapters 8 – 17

1. **Why is Elias a better scientist than Shohei?** Elias is a better scientist than Shohei because Elias is careful to carry out the experiment exactly as it was designed. He gives each plant the same amount of distilled water. He makes sure the music CDs are working. He takes detailed measurements and photos of the plants every evening. Shohei is not nearly as careful. He gives his younger brother the job of watering the plants. There is no way he can be sure his brother waters them correctly. Shohei takes digital video records of the plants at the same time each day. He plans to look at them later and make his observations. He will not be able to record precise measurements as Elias does. For this reason, Elias is more likely to get correct results.

2. **Why does Elias want his brother’s help with his science project?** Elias is worried because he is not getting the same results his brother Johann Cristoph got with his experiment. There is no difference in plant growth in Elias’ experiment. Elias is worried that his science project will be a failure. He is hoping his brother can tell him what he is doing wrong.

3. **Why does Shohei panic when he watches his plant videos and measures his plants?** When Shohei looks at his videos and measures his plants, he is shocked at the results. The plants have grown at about the same rate. The music did not help the plants grow faster as he believed it would. Like Elias, he is worried that he has done the experiment incorrectly.

4. **What does Tim do with Shohei’s plants? Explain the irony in Tim’s response to his parents’ emphasis on Japanese culture.** Tim is disappointed that he is not allowed to create an *ikebana* along with Shohei and his friends. He decides to make his own, using the plants from Shohei’s experiment. Tim is much more interested in Japanese culture than Shohei is. This is ironic because his parents are introducing Japanese things into their home for Shohei’s sake, not Tim’s.

5. **Why is the love letter situation ironic?** The love letter situation is ironic because Honoria completely misinterprets it. Honoria believes that Shohei is her secret admirer. She also believes that Elias is trying to help him by writing love letters for him. She has the situation backwards. In reality, Elias is her secret admirer, and Shohei has been writing the love letters for him.
Selection Review #3

*Ninjas, Piranhas, and Galileo*

Chapters 18 – 26

1. **List at least three reasons why Mr. Eden is sure that Elias performed his experiment incorrectly. Explain why each reason is not a good one.** The following are possible answers:

   Reason: “Elias didn’t get the same results as Christoph.” Mr. Eden unfairly assumes that Christoph got the correct results. He should look more closely at both experiments. He should try to find out why they don’t agree.

   Reason: “Elias did not use good scientific method.” Mr. Eden says this but never looks closely at how Elias did the experiment. Elias was careful to conduct the experiment correctly. Mr. Eden assumes his method was bad because he didn’t get the same results as Christoph.

   Reason: “Elias’ experiment required little effort and showed little imagination.” Mr. Eden admits that imagination is not necessary to conduct a good experiment. How much effort goes into an experiment does not affect how valid the results are either.

   Reason: “Shohei’s results disagreed with Elias’.” Mr. Eden assumes Shohei’s results were correct because they agreed with Christoph’s. In reality, Shohei did not perform the experiment carefully or record the results accurately.

   Reason: “The atrium plants grow well because baroque music plays in the garden.” Mr. Eden assumes that the plants grow well because of the music, but many other factors could be involved.

2. **Why is Mr. Eden happier with Shohei’s effort in the science fair than with Elias’?** Mr. Eden has a higher standard for Elias than Shohei. He knows Shohei is not interested in science so he doesn’t expect much from him. This is one reason he is happier with Shohei’s effort. He is also pleased when Shohei says he got the same results as Christoph. Mr. Eden thinks this proves that Shohei did a good job with the experiment.

3. **What is Shohei trying to communicate when he dresses in an Irish costume?** Shohei is trying to make a statement to his parents by dressing in a ridiculous Irish costume. He knows he looks foolish. He wants his parents to understand that they have been extreme in their approach to Japanese culture. They force Japanese culture on him but are not interested in their own Irish culture. He wants them to take a more balanced approach.

   continued...
4. **Why does Elias change the music that plays in the Atrium Garden? Why is he charged with vandalism?** Elias changes the music because he wants to prove that baroque music doesn’t help the plants grow. Mr. Eden is convinced that it does. He believes that changing the music must have damaged the plants. Elias is charged with vandalism for supposedly damaging school property.

5. **How does Honoria plan to use Elias’ experiment to defend him in the student court? How does she want Shohei to help in court?** Honoria wants the court to question whether baroque music really helps plants grow. If they doubt this, they cannot find Elias guilty of damaging school property. Honoria wants Shohei to admit that he faked his data, and that his results were the same as Elias’.
1. In what ways was Elias’ trial similar to that of Galileo? Elias and Galileo are both scientists. Like Galileo, Elias performed an experiment whose results contradicted a long-held belief. Galileo showed that the earth revolved around the sun, while the popular belief was that the sun revolved around the earth. Elias claims that baroque music does not improve plant growth, while Mr. Eden and many others at the Peshtigo School are convinced that it does. Both Galileo and Elias must go to trial to defend their scientific conclusions. Both are found guilty and ordered to “apologize and recant” for their errors.

2. Describe the weak evidence presented against Elias at his trial. Why do you think the jury found him guilty? Explain your answer. To find Elias guilty of vandalism, the jury must believe that he damaged the atrium plants. Mr. Eden testifies that Elias damaged the plants when he changed the atrium’s music from baroque music to the song “Puff, the Magic Dragon.” There is no observable damage to the plants after Elias changes the music. Mr. Eden is convinced, however, that damage did occur. His belief is based on an experiment performed ten years earlier by Elias’ brother Christoph. Mr. Eden assumes the results of this experiment must be correct because Christoph was a good student and scientist. Even though this is weak evidence, the jury finds Elias guilty. Your opinions will vary about why the jury found Elias guilty. Be sure you state reasons to support your opinion.

3. Explain why Christoph’s experiment showed that baroque music helps plants to grow. Christoph tells Elias that he faked his experimental results as a joke and to win a bet with his lab partner. He never thought he would convince Mr. Eden that the results were accurate. Christoph didn’t like the 1950s rock and roll music that Mr. Eden always played in the garden. He used his science experiment to persuade him to play baroque music instead.

4. Why won’t Elias apologize to Mr. Eden? How does he avoid being suspended? Elias won’t apologize to Mr. Eden because he knows he performed his experiment correctly. He is sure he didn’t damage the atrium plants when he changed the music. However, Elias also does not want to be suspended from school as a punishment. Mr. Eden agrees to compromise. Elias is going to recreate the plant growth experiment with Mr. Eden’s assistance. Mr. Eden agrees to this compromise after Honoria, Shohei, and Tim threaten to let grasshoppers loose to eat the plants in the atrium.

continued...
5. **Identify several conflicts in the novel. Tell how these conflicts are resolved.** Possible answers include the following: 1) Elias and Shohei have a conflict because of the science project they do together. Shohei does not do his experiment carefully, and it is eventually ruined by his younger brother, Tim. This conflict is resolved when Shohei takes responsibility for his actions and admits to the student court that he faked his results. Elias decides to overlook Shohei’s carelessness. He also realizes that Shohei has rightly compared him to Mr. Eden. Elias knows he sometimes acts obsessively, just like Mr. Eden.

2) Elias, Shohei, and Honoria’s romantic triangle has been a source of conflict. This conflict is resolved when Honoria realizes that Shohei has no romantic feelings for her, and that Elias is actually her secret admirer. She stops pursuing a romantic relationship with Shohei. Elias is relieved and hopes that Honoria may one day become interested in him.

3) There has been a conflict between Shohei and his parents about Japanese culture. This is resolved when Shohei’s parents agree to let him choose which aspects of Japanese culture to sample.

4) There was conflict between Elias and Mr. Eden about Elias’ science fair project. This conflict is resolved when Mr. Eden agrees to let Elias repeat the experiment under his supervision.
1. What is Elias’ science project? How has the project caused tension between Elias and his two closest friends, Shohei and Honoria?

2. Why is winning the science fair competition so important to Honoria?
3. Why do Shohei’s parents redecorate his room? How does he feel about it?

4. Describe the love triangle in this novel. Tell how the Shohei’s email to Honoria has made things even more complicated.
Literature Test #2

*Ninjas, Piranhas, and Galileo*

Chapters 8 - 17

1. What qualities of a good scientist has Elias shown? Give examples.

2. Why is Elias sure that he did something wrong in his experiment?
3. Do you agree or disagree that Elias has done the experiment incorrectly? Give reasons to support your answer.

_________________________________________________________________________________

_________________________________________________________________________________

_________________________________________________________________________________

_________________________________________________________________________________

_________________________________________________________________________________

4. How and why does Tim ruin Shohei’s experiment?

_________________________________________________________________________________

_________________________________________________________________________________

_________________________________________________________________________________

_________________________________________________________________________________

_________________________________________________________________________________

5. Why does Honoria think that Elias wrote the love letters for Shohei?

_________________________________________________________________________________

_________________________________________________________________________________

_________________________________________________________________________________

_________________________________________________________________________________

_________________________________________________________________________________
Literature Test #3

*Ninjas, Piranhas, and Galileo*

Chapters 18 - 26

1. Why does Mr. Eden give Elias a low grade on his science project? Why does he give Shohei a higher grade?

2. What is wrong with the way Mr. Eden judges Elias’ science project?

*continued...*
3. Why does Shohei dye his hair green and dress strangely?

4. What does Elias hope to prove by changing the music that plays in the Atrium Garden?

5. Why is Elias charged with vandalism? How does Honoria plan to defend him in court?
Literature Test #4

_Ninjas, Piranhas, and Galileo_

Chapters 27 - 36 and Author’s Note

1. How are Elias’ and Galileo’s trials similar?

2. Describe the evidence presented for and against Elias at his trial. Tell which evidence is stronger. Give reasons to support your answer.

continued...
3. What is Elias’ sentence at the end of the trial? Why does he refuse to accept this sentence? Describe the compromise he and Mr. Eden make instead.

4. How did Elias’ brother Christoph obtain his experimental results? Why did he trick Mr. Eden?

5. How is Shohei’s conflict with his parents solved?
Vocabulary Test #1

Ninjas, Piranhas, and Galileo

Chapters 1 - 7

WRITE SENTENCES FOR THE FOLLOWING WORDS:

intense  anonymously  appalled
valid  inhumane  combustible
originality  defied  radiantly
stealth
Vocabulary Test #2

*Ninjas, Piranhas, and Galileo*

Chapters 8 - 17

WRITE SENTENCES FOR THE FOLLOWING WORDS:

leeway          randomized          evocative
             din                  fidgeted           therapeutic
                       boisterous

____________________________________________________________________________

____________________________________________________________________________

____________________________________________________________________________

____________________________________________________________________________

____________________________________________________________________________

____________________________________________________________________________

____________________________________________________________________________

____________________________________________________________________________

____________________________________________________________________________

____________________________________________________________________________

____________________________________________________________________________

____________________________________________________________________________

____________________________________________________________________________
Vocabulary Test #3

*Ninjas, Piranhas, and Galileo*

Chapters 18 - 26

WRITE SENTENCES FOR THE FOLLOWING WORDS:

- exclusively
- vaguely
- wanton
- bogus
- exquisite
- barricading
- optimistic
- revoked

---

---

---

---

---

---

---

---
Vocabulary Test #4

*Ninjas, Piranhas, and Galileo*

Chapter 27 - 36 and Author’s Note

WRITE SENTENCES FOR THE FOLLOWING WORDS:

<table>
<thead>
<tr>
<th>ethically</th>
<th>customary</th>
<th>potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>absurd</td>
<td>equitable</td>
<td>wary</td>
</tr>
<tr>
<td>notions</td>
<td></td>
<td>bluffing</td>
</tr>
</tbody>
</table>

__________________________________________

__________________________________________

__________________________________________

__________________________________________

__________________________________________

__________________________________________

__________________________________________

__________________________________________

__________________________________________

__________________________________________