

THE GAME IS AFOOT - A STUDY OF SHERLOCK HOLMES

Grade Level: 5th

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Length of Unit: approximately 3 weeks

I. ABSTRACT

This unit is an integrated study of the mystery genre, specifically Sherlock Holmes. It contains an in depth literature study of Sir Arthur Conan Doyle's, "The Red-Headed League" and "The Speckled Band." Students will perform related Language Arts activities including creating their own detective stories and publishing them in book format. They will also study chemical and physical changes, and use deductive and inductive reasoning skills in order to "solve" mysteries. Community members specializing in fields relating to mystery solving will be lending their knowledge and expertise to guide students to real-life application of learned material.

This unit will include USD259 district standards and is designed to address the needs of regular education students as well as those with Gifted Individual Education Plans. Students will engage in activities created for different learning styles and varying abilities. Authentic assessments will be used to measure students' progress.

II. OVERVIEW

- A. Learn how critical thinking skills are applied in areas of real life.
- B. Produce a variety of types of writing - stories - with a coherent structure or story line. Fiction and Drama - *Tales of Sherlock Holmes*, including "The Red-Headed League." Collect and organize data in graphic form. Plot points on a coordinate plane using ordered pairs of positive and negative whole numbers. Physical change changes only the properties or appearance of the substance, but does not change what the substance is made up of.

III. BACKGROUND KNOWLEDGE

- A. Background information on Sir Arthur Conan Doyle
- B. Background information on Sherlock Holmes

IV. RESOURCES

- The Adventures of Sherlock Holmes, unabridged and Core Knowledge Core Classics Series books
- http://www.citsoft.com/holmes/pictures/sherlock_06.gif
- http://www.citsoft.com/holmes/pictures/sherlock_07.gif
- http://www.citsoft.com/holmes/pictures/sherlock_08.gif (down-loaded pictures for "The Red-Headed League")
- Reference books related to Doyle and Holmes.

V. LESSONS

Lesson One: Introduction to MYSTERIES

- A. *Daily objectives:*
1. Concept Objective: The students will learn how critical thinking skills are applied in areas of real life.
 2. Skill Objective: The students will understand and describe elements of the mystery genre. The students will examine the lives of Sherlock Holmes and Sir Arthur Conan Doyle. The students will use their creative thinking skills to play the game.
- B. *Materials:*
- construction paper
 - markers
 - bulletin board with background information
- C. *Background Information:*
- D. *Key Vocabulary:* red herring, mystery, detective, infer, deduce, fictional
- E. *Procedures/Activities:*
1. Pass out construction paper and markers. Ask students to fold the paper in half to make a folder to keep all their work from the unit. Write MYSTERY & DETECTIVES on the chalkboard. Ask students to brainstorm all signs, symbols, pictures, and words they associate with these two words. Write and draw on the construction paper. Allow 10 minutes for this part of the activity. When you call time, ask students to share what they did on their folders with the class.
 2. Ask students, “Who do you think of when I say the words MYSTERY & DETECTIVE?” Allow students to give responses. (Students will give detectives from books they’ve read, TV shows, and cartoons.) If they do not offer Sherlock Holmes, try to steer towards that direction.
 3. Tell students that they will learn information about the famous detective Sherlock Holmes and the author, Sir Arthur Conan Doyle.
 4. Pass out hand out with SHERLOCK HOLMES written at the top of the page. Students will need to have a pencil or a pen to write with. Give directions for the game.
 - a. Students will make words from the letters in SHERLOCK HOLMES.
 - b. Students may not use proper names, slang, or incorrect spellings.
 - c. Ten-minute time limit.
 - d. The student with the most original responses will win a small prize.
 5. After the game is over, talk with the students about ways they can improve their score on the game. Discuss patterns, rhyming words, and forms of words (adding -s,-es,-ed, etc.)
 6. Discuss Bulletin Board with information about Sherlock Holmes & Sir Arthur Conan Doyle.
- F. *Evaluation/Assessment:*
1. Informal questioning of students
 2. Completion of folder
 3. Completion of game

Lesson Two: “The Speckled Band”

- A. *Daily Objectives:*
1. Concept Objective: The students will learn how critical thinking skills are applied in areas of real life.
 2. Skill Objective: The students will identify vocabulary words. The students will review what they know concerning “The Speckled Band.” The students will

analyze the story while reading. The students will answer questions related to their reading. The students will summarize the story according to the RETELLING RUBRIC (USD 259).

B. *Materials:*

Vocabulary List
“The Speckled Band” KWL Chart - Appendix A
The Adventures of Sherlock Holmes
Elements of a Mystery - Appendix B
Retelling Rubric - Appendix C

C. *Background Information:*

retelling, elements of a story: characters (major & minor), setting (where & when), problem, resolution

D. *Key Vocabulary:*

1. Unabridged version - acquirement, metropolis, pitiable, rouse, dissolute, bequeathed, parapet, vagabonds, blanched, livid, aperture, stile, ventilator, vigil,
2. Core Knowledge abridged version - rouse, outset, keen, agitate, weary, bewilder, vague, trivial, encompass, annual, quarrel, hereditary, brawl, immense, disclose, sear, convulse, gale, delirious, meddle, amiable, cunning, ventilator, hideous, writhe, vigil

E. *Procedures/Activities:*

1. Pass out KWL chart to students.
2. Review that KWL stands for What I Know, What I Want to Know, and What I Learned. Fill out together. “Do you know what a Speckled Band is?” Students may know speckled or band. “What do I want to know?” Have students share their answers with the class. Remind students to fill in What I Learned when they have finished the story.
3. Pass out typed Vocabulary List.
4. Assign each student 3 or 4 words to look up and define in their own words. When everyone has completed their task, share the definitions with the class. Write them on an overhead transparency as the students define each one. Teacher may shorten them to save time.
5. Pass out comprehension questions. Preview the questions. Begin reading “The Speckled Band” together. Answer the questions while reading.
 - a. Where does Sherlock Holmes live?
 - b. Why was Helen Stoner shivering when she arrived at Sherlock Holmes’ house?
 - c. How did Sherlock Holmes know that Ms. Stoner arrived in a dog-cart?
 - d. Why has Ms. Stoner come to see Sherlock Holmes?
 - e. What is Ms. Stoner afraid of?
 - f. What was the noise in Julia’s room? What was making the noise?
 - g. What do you think the “band” is?
 - h. What does Helen think killed her sister?
 - i. What “clues” do you have so far to lead you to Julia’s killer?
 - j. Why did Dr. Roylott bend the steel poker while at Sherlock Holmes house?
 - k. What reason would Dr. Roylott have for murdering the sisters?
 - l. What things did Sherlock Holmes find in Julia’s room that were unusual?
 - m. How could these unusual items be connected to Julia’s death? Explain.

- n. What items did Sherlock Holmes find in Dr. Roylott's room that were unusual?
- o. Who are the possible suspects in this crime?
- p. Why does Sherlock Holmes believe that Dr. Roylott is the murderer?
- q. Could it have been the wild animals that killed Julia? Why or why not?
- r. What was the whistling noise heard when Julia was killed?
- s. Who killed Julia? How was she killed?

F. *Evaluation/ Assessment:*

Retelling of "The Speckled Band". Students should strive to score a 4 on the district rubric.

G. *State/District Test Connections:*

Reading Assessment/Retelling Rubric

Lesson Three: Fingerprinting

A. *Daily Objectives:*

1. Concept Objective: The students will learn how critical thinking skills are applied in areas of real life.
2. Skill Objective: The students will learn how to fingerprint. The students will learn to decipher between the three types of fingerprints. The students will collect and organize data in a pictograph.

B. *Materials:*

Fingerprint Patterns Worksheet - appendix D
 Class Thumbprint Pictograph - appendix E
 Your Fingerprints Patterns Worksheet - appendix F
 At Your Fingertips - appendix G
 pencils
 clear tape
 black tempera paint powder
 large size paint brushes
 magnifying lens
 plain white paper
 small mirror

C. *Background Information:*

D. *Key vocabulary:*

arch - lines start on one side of the finger and go to the other side
 loop - lines start on one side of the finger and loop around to the same side
 whorl - starts on one side and makes a circle
 latent prints - fingerprints left that can be dusted and transferred

E. *Procedure/Activities:*

1. Ask students what they know about fingerprints. Discuss the importance of fingerprinting. Brainstorm ideas on chart paper.
2. Pass out Fingerprint Patterns. Read it together. Have students make predictions about which is the most common type of thumbprint in the class.
3. Demonstrate the correct way to get your thumbprint. Have the students make some practice prints.
4. Review what is needed in a pictograph.

5. Allow students to fingerprint each other. Be sure that they write the names of the students from whom they have gotten prints. Stress the importance of careful and concise data collection.
 6. As the students to complete the graph; they should refer to the questions at the bottom of Fingerprint Patterns and answer the questions.
 7. Pass out materials for Dusting for Prints (mirror, towel, black tempera paint powder, large size paint brushes, clear tape, paper)
 8. Wipe the mirror clean with a towel.
 9. Place a thumbprint on the mirror. If you don't see the print, rub your fingers through your hair or on the back of your neck to increase the oil on your fingers.
 10. Dip the paintbrush in the tempera powder. Tap off the excess in a cup. GENTLY tap the powder onto the print.
 11. Carefully blow off any remaining powder.
 12. Take a piece of clear tape and fold an end tape to tape (to give you a tab to pull away from the mirror). Place the piece on the print.
 13. Remove the tape and place the print on your paper.
 14. Continue to practice techniques to get the proper amount of powder on the print.
 15. When students become proficient, they can try to "lift" prints from objects in the classroom.
- F. *Evaluation/Assessment:*
 Fingerprinting Test - give the students a fingerprint on a mirror to "dust." Have them follow the steps they have just practiced.
 Gifted Extension - Have students work in centers to complete At Your Fingertips, Bloom's Taxonomy Activities. Students can work on these for the duration of the unit. Share with the class at the conclusion.

Lesson Four: Coordinate Plane

- A. *Daily Objectives:*
1. Concept Objective: The students will learn how critical thinking skills are applied in areas of real life.
 2. Skill Objective: The students will plot points on a coordinate plane of positive and negative numbers.
- B. *Materials:*
 Coordinate Plane (+,+)
 Coordinate Plane - four quadrants
 copy of coordinate points "Tool of the Trade" and "Up in Smoke"
 pencil
 straight edge
- C. *Background Information:*
- D. *Key Vocabulary:*
- E. *Procedures/Activities:*
- 1 Prior to activity, prepare worksheet with list of coordinate points.
 - a. "Tool of the Trade"
 - (1) Regular Ed. - to be used with (+,+) quadrant
 Connect the points as you make them until you come to the word STOP. Then you pick up your pencil and begin connecting the next set of coordinate points together.
 (3,4), (9,10), (8,11), (2,5), (3,4), STOP

(9,11), (11,10), (12,10), (14,11), (15,13), (15,14), (14,16), (12,17),
(11,17), (9,16), (8,14), (9,11), STOP

(2) Gifted Ed. - to be used with all quadrants

Connect the points as you make them until you come to the word STOP. Then you pick up your pencil and begin connecting the next set of coordinate points together.

(-5,-7), (1,-1), (0,0), (-6,-6), (-5,-7), STOP

(1,0), (3,-1), (4,-1), (6,0), (7,2), (7,3), (6,5), (4,6), (3,6), (1,5), (0,3),
(0,2), (1,0), STOP

b. "Up in Smoke" to be used with all quadrants.

Connect the points as you make them until you come to the word STOP. Then you pick up your pencil and begin connecting the next set of coordinate points together.

(-1,1), (-2,4), (-3,6), (-5,7), (-6,7), (-6,8), (-5,8), (-3,7), (-1,5), (0,2), STOP

(-1,1), (0,-4), (1,-7), (2,-8), (3,-8), (5,-7), (6,-4), (6,-1), (3,0), (3,-3), (2,-4),
(1,-1), (0,2), STOP

2. Distribute "Tool of the Trade" worksheet and coordinate plane to students.
3. Plot first few points with students.
4. Allow students to finish while teacher monitors activity.
5. Share finished product with the class. Discuss any difficulties.
6. Distribute "Up in Smoke" worksheet and coordinate plane to students.
Continue as first coordinate plane.

F. *Evaluation/ Assessment:*

Completion of "Up in Smoke" coordinate plane.

Gifted Extension - Have the students design their own picture on the quadrant plane.

Write the coordinates on a separate sheet of paper. Trade with the other students.

Ideas for designs: question mark, "TOP SECRET", walking stick, and Sherlock's hat.

Lesson Five : Chromatography

A. *Daily Objectives:*

1. Concept Objective: The students will learn how critical thinking skills are applied in areas of real life.
2. Skill Objective: The students will learn what is physical change. The students will perform an experiment. The students will make an inference that the check was written with two different pens.

B. *Materials:*

filter paper

cup

water

pencil

tape

4 different water-soluble black pens labeled 1-4

Paper Chromatography Worksheet

C. *Background Information:*

D. *Key Vocabulary:*

chromatography - a separation method in which the components of a solution are absorbed at different locations along a piece of filter paper.

hypothesis - a possible explanation of a question or a problem, based on observations.

inferences - conclusions, based on observations or facts, that attempt to make sense of the observations.

- E. *Procedures/Activities:* Prior to the activity, make enough samples of one marker for each group. Use this as your control.
1. Pour water into the container to a depth of 2 cm.
 2. Using a pencil, draw a line approximately 3 cm from the bottom of your strip of filter paper.
 3. Mark small x's at least 1 cm apart on the line you have drawn.
 4. Place a dot from pen #1 on the first X. Continue with the other pens.
 5. Let the inks dry.
 6. Pass out Paper Chromatography worksheet and read to class. **You will need to type this out for the students before the activity.** [I wrote a check for \$8000 to buy a used car from Rob Err, who had an ad in the paper. The next day, I got a call from the bank asking about my large purchase. I said that I had bought a car for \$8000. The manager at the bank said that he was holding in his hand a check for \$80,000, and that I didn't have that much money in my checking account. We called the police. The accused was charged for making an unauthorized withdrawal from another person's checking account. The accused said that he was given this amount. After inspecting the check carefully with a magnifying lens, the check still looked authentic. The only way to settle the dispute was to perform a paper chromatography test. If the check was a forgery, there would be a difference in the inks. (Insert a copy of a check with the \$80,000 written in.)] Ask the students, what do you think happened? How is this possible?
 7. Using the tape, attach the filter paper to the pencil. Suspend the strip so that the bottom of the strip is immersed in the water. Be sure that the dots are at least one cm above the water line.
 8. Have the students write what they observe. After 15 minutes, remove the strip and let it dry. Write down what each of the pens looks like.
 9. Pass out the control samples (which were made ahead of time). Have students compare what they find on their filters with the sample they've been given. Can they match which marker made the sample?
 10. Discuss that they police tested the last zero in the \$80,000, the y in the word eighty and also my signature. Sample A came from my signature and Sample B came from the alleged extra writing. How did the police infer that the check was written with two different inks?
 11. Write information learned in reflection log.

F. Evaluation/ Assessment:

Completion of activity

Reflection Log

Gifted Extension - allow students in-depth research on chromatography.

Discuss how it can be used in other areas. Present ideas to class.

Lesson Six: Guest Speaker - Detective

A. *Daily Objectives:*

1. Concept Objective: The students will learn how critical thinking skills are applied in areas of real life.

2. Skill Objective: The students will write questions related to solving mysteries. The students will interview a detective.
- B. *Materials:*
 index cards with questions for the detective
 paper
 pencil
- C. *Background Information:*
- D. *Key Vocabulary:*
- E. *Procedures/Activities*
1. Prior to guest speaker's arrival, brainstorm ideas for questions to ask the detective.
 2. Pass out index cards for students to write questions.
- F. *Evaluation/ Assessment:*
 Students will write a reflection of their opinions and insights concerning detective work.
 Gifted Extension - Students will take a field trip to a crime lab.

Lesson Seven: "The Red-Headed League"

- A. *Daily Objectives:*
1. Concept Objective: The students will learn how critical thinking skills are applied in areas of real life.
 2. Skill Objective: The students will identify vocabulary words. The students will review what they know concerning "The Red-Headed League." The students will analyze the story while reading. The students will answer questions related to their reading. The students will summarize the story according to the RETELLING RUBRIC (USD 259).
- B. *Materials:*
 Vocabulary List
 "The Red-Headed League" KWL Chart - appendix H
The Adventures of Sherlock Holmes
 Elements of a Mystery - appendix B
 Retelling Rubric (USD 259)- appendix C
- C. *Background Information:*
 retelling
 elements of a story: characters (major & minor), setting (where & when), problem, resolution
- D. *Key Vocabulary:*
1. Unabridged version - florid-faced, intrusion, stout, settee, chronicle, embellish, narrative, recommence, portly, greatcoat, endeavored, obese, pompous, frockcoat, waistcoat, chagrin, Freemason, obliging, pensioners, benefactor, avail, billet, hoax, foolscap, bade, sovereigns, diligence, curt, rueful, solicitor, pound, vex, condumdrums, napoleans, acute, lurid, snigger, ingenious, accomplice, lure, rogue, skirmish, ennui
 2. Core Knowledge abridged version - utmost, stout, narrative, singular, peculiar, bore, tradesman, pompous, drab, frayed, candid, bequest, nominal, obliging, widower, trustee, avail, hoax, dissolved, grave, gypsy, commerce, pedestrians, sleuth, formidable, ominous, nocturnal, forger, cunning, imbecile, tenacious, terminated, extinguish, benefactor
- E. *Procedures/Activities:*

1. Pass out KWL chart to students.
2. Review that KWL stands for What I Know, What I Want to Know, and What I Learned. Fill out together, “Do you know what a “Red-Headed League” is?” Students may know Red-headed or league. “What do I want to know?” Have students share their answers with the class. Remind students to fill in What I Learned when they have finished the story.
3. Pass out typed Vocabulary List.
4. Assign each student 3 or 4 words to look up and define in their own words. When everyone has completed their task, share the definitions with the class. Write them on an overhead transparency as the students define each one. Teacher may shorten them to save time.
5. Pass out comprehension questions. Preview the questions. Begin reading “The Red-Headed League” together. Answer the questions while reading.
 - a. What are three things Sherlock Holmes learned about Jabez Wilson?
 - b. How did Sherlock Holmes use deductive reasoning when learning about Mr. Wilson?
 - c. Why is there a vacancy in The Red-Headed League?
 - d. What do you think is meant by “nominal work” done for The Red-Headed League?
 - e. Mr. Wilson says that Vincent Spaulding wants to learn the business. Do you think this is the only reason he is working there? List some ideas that you have for why he wants to work there.
 - f. Why would someone want the encyclopedia copied? List any ideas.
 - g. Why do you think the conditions of the job are so strict?
 - h. Why was Mr. Wilson chosen for the job?
 - i. How much is a gold sovereign worth?
 - j. What do you think happened to Duncan Ross?
 - k. Do you think Duncan Ross and William Morris is the same person? Explain why or why not.
 - l. Sherlock Holmes believes that Mr. Wilson has no complaint against The Red-Headed League. Why do you think Mr. Wilson has come to Sherlock Holmes for help?
 - m. Why does Sherlock Holmes want to know so much about Vincent Spaulding?
 - n. Is there any connection between Vincent Spaulding and The Red-Headed League? Why or why not?
 - o. Sherlock Holmes states, “The more bizarre a thing is the less mysterious it proves to be.” What does he mean?
 - p. Why didn’t Sherlock Holmes and Dr. Watson go into the pawnshop?
 - q. What clues did Sherlock Holmes find on his trip to Saxe-Coburg Square?
 - r. Using all the information you have so far, tell what you think Sherlock Holmes thinks is the serious crime that will happen that night.
 - s. Who is John Clay? How do you know?
 - t. How did Sherlock Holmes know when the crime was to be committed?
 - u. What did Mr. Merryweather do that almost ruined the set up?
 - v. Why didn’t anyone chase Mr. Clay’s partner into the tunnel?
 - w. How did Sherlock Holmes guess the motive?
 - x. What was the significance of Vincent Spaulding’s worn knees? The

- walking stick upon the pavement?
- y. How did Sherlock Holmes know that the attempt would be made that night?
- F. *Evaluation/Assessment:*
Retelling of “The Red-Headed League.” Students should strive to score a 4 on district rubric.
Gifted Extension - allow students to read and respond independently or in response groups.
- G. *State/District Test Connections*
Reading Assessment/Retelling Rubric

Lesson Eight: Create a Mystery

- A. *Daily Objectives*
1. Concept Objective: The students will learn how critical thinking skills are applied in areas of real life.
 2. Skill Objective: The students will create a mystery.
- B. *Materials:*
Elements of a Mystery worksheet - appendix B
- C. *Background Information:*
- D. *Key Vocabulary:*
- E. *Procedures/Activities:*
1. Pass out Elements of a Mystery worksheet.
 2. Review the steps of the Writing Process as a class.
 3. Use the worksheet to gather ideas for their story. Focus on Character for the first part of the lesson. Encourage students to use themselves for the basis of the detective.
 4. Have the students choose a general plot line for their story. Problem and resolution should be appropriate for school.
 5. Review the clues from previous readings. Which helped you solve the crime and which were red herrings? Have students choose at least three clues to help solve the crime and one that is a red herring.
 6. Once the planning sheet is filled in, begin writing the first draft.
 7. Have students partner conference to make revisions. Encourage students to use a thesaurus to find more powerful words.
 8. Have students partner conference for editing. Focus on spelling, grammar, and sentence structure.
 9. Type final draft, double-spaced.
 10. Have students design and create book covers to complement their books. Be sure to include a synopsis of the story, about the author, and date published. Publish in book format.
 11. Share with students in other classes.
- F. *Evaluation/Assessment:*
Evaluate students writing using anecdotal records or the Analytical Rating Guide.

VI. CULMINATING ACTIVITY

Students will participate in solving a school-wide mystery. They will work in small groups to use the skills they have learned in this unit. They will fingerprint suspects and use their knowledge of chromatography to interpret information about a note left at the scene of the

crime. We will celebrate the end of the study with a small assembly to “unmask” the culprit.

VII. HANDOUTS/WORKSHEETS

VIII. BIBLIOGRAPHY

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