Appendix A

Lesson Plans

The following are lesson plans for each of the GED test modules. Each lesson plan provides the instructor with objectives and standards, as well as a step-by-step process for teaching the lesson. Handouts and activities are included.

Reasoning through Language Arts

- Finding Errors in Real-World Materials
- Are Cell Phones Safe? Creating a Constructed Response
- Themes in Short Stories

Social Studies

- Editorial Cartoons
- Primary Sources: Looking for the Answer in the Constitution
- Double Entry Note Taking: A Close Reading Strategy

Science

- Formulating a Hypothesis
- Scientific Inquiry: Which Falls Fastest?
- List-Group-Label: Building Scientific Vocabulary

Mathematical Reasoning

- The Consumer Price Index: Calculating Change
- Sugar Cube condos: Determining Surface Area and Volume
- Which Cell Phone Plan Should I Choose?

"A good teacher, like a good entertainer, first must hold his audience's attention, then he can teach his lesson."

John Henrik Clarke

Reasoning through Language Arts Lesson Plans

Module: Reasoning through Language Arts

Lesson Title: Finding Errors in Real-World Materials

Objectives and Standards

Students will:

- Revise and edit a real-world document
- Rewrite a real-world document using effective revision and editing skills

Prerequisite Skills Common Core State Standards	Reasoning through Language Arts 2014 GED® Assessment Targets
Produce complete sentences, recognizing and correcting inappropriate fragments and run-ons. (CCSS.ELA-Literacy.L.4.1f) Recognize and correct inappropriate shifts in verb tense. (CCSS.ELA-Literacy.L.5.1d) Use correct capitalization. (CCSS.ELA-Literacy.L.4.2a) Use punctuation to separate items in a series. (CCSS.ELA-Literacy.L.5.2a) Use a comma to separate an introductory element from the rest of the sentence. (CCSS.ELA-Literacy.L.5.2b) Vary sentence patterns for meaning, reader/listener interest, and style. (CCSS.ELA-Literacy.L.6.3a)	Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. (L.1) Demonstrate command of the conventions of standard English capitalization and punctuation when writing. (L.2) .

Materials

- Sample grammar and revision bloopers from newspaper articles, junk mail, books, etc.
- *Women and Heart Attacks* Sample Article

Instructional Plan

Overview

In this lesson, students will become editors by locating grammatical and spelling errors in real-world (authentic) materials. Students will revise and edit the article for clarity and correctness.

Process

Introduce the lesson by asking students if they have ever read something only to notice a word missing or a grammar or spelling error. Document the types of materials students identify, as well as the types of errors. Discuss that an important part of the writing process is the ability to recognize errors in different types of writing and how to correct them.

Divide the class into small groups of three to four students. Tell the students that they will be reading an important health article that will be published in a local newspaper. As the editor of the newspaper, it is their job to make sure that the article is correctly written. Provide each group with a copy of the handout *Women and Heart Attacks*. Have each group identify the different errors in the article. Share with students that they can use resources as needed, such as dictionaries or grammar texts. When they are done, have each group report out on the specific types of errors they noted. Errors should include: subject-verb agreement, homonym errors, sentence fragments, verb forms, possessives, run-on sentences.

In their groups, have the students rewrite the article *Women and Heart Attacks*. Share with students that they may wish to revise, as well as edit, the article to ensure clarity. As the students are writing, make sure that each member of the group is participating in the process.

Debrief the activity by having each group share their final article. As a class, identify the strengths of each rewritten article and areas that could be improved. Peer editing is an effective means to create better writing.

Sample Debriefing Questions

Have students answer the following questions regarding the revising and editing activity:

- What editing errors were made within the article?
- How did you revise the article to improve clarity?
- Which rewritten article was best revised and edited? Why?
- What strategies do you use when revising and editing your personal writing? How will this assist you when writing constructed response samples?

Assessments/Extensions

1. Have students bring examples of real-world materials in which they have found grammatical or spelling errors, such as junk mail, newspaper articles, books, signs and even items found on the Internet. Throughout the course, use these authentic materials as an exercise in editing and revising. Teaching grammar and writing skills within the context of real-world materials has a positive effect on learning.
2. This lesson is an example of an integrated lesson. Use the revised non-fiction article to build student knowledge in the areas of the human body and health and evaluating conclusions with evidence. Create text-dependent questions to determine whether students comprehend what they have read. Have students identify a health issue of interest to them and locate an article on that health issue. Students may wish to do a search on the World Wide Web or access an article from a newspaper or magazine. Have students share the central idea of the article with the class, along with details or evidence that support their central idea.

Sample Article

Women and Heart Attacks

Women account for nearly half of all heart attack deaths. There is differences in how women and men respond to a heart attack. Women are less likely than men to believe that their having a heart attack they are more likely to delay seeking emergency treatment. Further, women tends to be about 10 year older. When men have a first heart attack. They are more likely to have other conditions such as diabetes high blood pressure and congestive heart failure. Making it all the more vital that they get proper treatment fast. As with men women's' most common heart attack symptom are chest pain or discomfort. However, women are somewhat more likely then men to experienceing some of the other symptoms such as shortness of breath; nausea/vomiting; or back or jaw pain, it is important that people are informed of the many different symptoms of a possible heart attack.

Adapted from an American Heart Association Flyer

Module: Reasoning through Language Arts

Lesson Title: Are Cell Phones Safe? Creating a Constructed Response

Objectives and Standards

Students will:

- Read a nonfiction article that provides a pro and con side to an issue
- Analyze the article and develop an effective extended response using the various steps (e.g., unpacking a prompt, developing a thesis statement, identifying evidence, organizing the response, drafting an answer, editing and revising the draft)

Prerequisite Skills Common Core State Standards	Reasoning through Language Arts 2014 GED® Assessment Targets
Introduce claim(s) and organize the reasons and evidence clearly. (CCSS.ELA-Literacy.W.6.1a) Develop the topic with relevant facts, definitions, concrete details, quotations, or other information and examples. (CCSS.ELA-Literacy.W.6.2b) Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (CCSS.ELA-Literacy.W.6.4) Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text. (CCSS.ELA-Literacy.RI.6.1) Determine two or more central ideas in a text and analyze their development over the course of the text; provide an objective summary of the text. (CCSS.ELA-Literacy.RI.7.2)	Identify the main assumptions and underlying premises in an argument and evaluate the support for that belief. (R.8.6) Determine the details of what is explicitly stated and make logical inferences or valid claims that square with textual evidence. (W.1) Produce an extended analytic response introduce the idea(s) or claim(s)s clearly; create an organization that logically sequences information; develop the idea(s)s or claim(s) thoroughly with well-chosen examples, facts, or details from the text; and maintain a coherent focus. (W.2) Write clearly and demonstrate sufficient command of standard English conventions. (W.3)

Materials

- Computers for word processing (if possible)
- *Are Cell Phones Safe? Handout*
- *Extended Response Templates*

Instructional Plan

Overview

In this lesson, students will read a nonfiction article that presents a pro and con side to an issue. Students will analyze the article, select a position and develop an extended response that supports the position with evidence. This lesson is developed to be used over multiple class periods in order for students to have adequate time to complete each step of the process.

Process

Begin the lesson by asking students how many of them use cell phones on a regular basis. Discuss whether or not they have concerns over the safety of a cell phone. Share with students that over the next few class periods, they will be reading about the safety of cell phones and will use the information read to draft an extended response.

Prior to having students read the article, review the steps to drafting an effective constructed response:

1. Re-read the passage at least once, then re-read the question carefully to determine what is being asked.
2. Rewrite the question in your own words to make sure that you know exactly what is being asked. Then, turn that question into a topic sentence for your answer.
3. Go back to the passage and collect the needed information. Make sure you get the relevant details (if the question asks for 3 details, make sure you find 3 details).
4. Organize the details into a logical order. Use a graphic organizer if that helps.
5. Write (or keyboard) your answer.
6. Re-read your answer to make sure you answered all the parts of the question.

Adapted from WritingFix - http://writingfix.com

Share with students that over the next class periods, they will be drafting a constructed response similar to what they will experience on the GED® Reasoning through Language Arts test. For each step of the process, model for students how to use each of the graphic organizers.

Worksheets are provided for each of the initial steps. After unpacking the prompt, crafting a thesis statement, identifying pertinent evidence, and organizing their information, students may wish to word process their draft. Make sure that students edit and revise their final copy before submission.

Have students share their final product with the class. Discuss the effectiveness of each writing sample and how each effectively addresses the prompt.

Sample Debriefing Questions

Have students answer the following questions regarding the revising and editing activity:

- Why did you feel the position you chose was the better-supported one?
- What was your claim or thesis statement?
- How did you defend your position with evidence?
- What strategies did you use when revising and editing your draft?
- Did you use personal pronouns? Why or why not?
- What was the easiest part of the assignment for you? The most difficult?
- How do you use constructed response writing in your daily life? At the workplace?

Assessments/Extensions

1. Have students identify different topics in which they are interested that have a pro and con side. Provide students with time to debate the different sides of the topic. Discuss how this is the type of process that they will be using when creating their extended responses.
2. Access additional reading materials that highlight topics where there are both a pro and con side taken. One source of articles for use in the classroom is the Pro/Con.org website at http://www.procon.org. Have students read the articles or provide an annotated version as shown in this lesson. This type of activity can be used for both the writing process, as well as the teaching of nonfiction text. Remember, that using a pro/con article is a first step towards analyzing more complex text found on the GED® test.
3. Teach students to use the Reasoning through Language Arts rubric to score their writing samples so that they understand what traits are viewed as effective writing.
4. Brainstorm examples of constructed response from real-life situations so that students better understand the purpose of constructed response as a life-long communication skill.

Are Cell Phones Safe?

The radiation emitted by cell phones, known as radiofrequency (RF) radiation, is regulated by the Federal Communications Commission (FCC). Hundreds of millions of Americans use cell phones and many of them wonder if there are any health risks.

In 1993, concern over a possible link between brain tumors and cell phone use became a major public issue when CNN's *Larry King Live* show reported on David Reynard, a husband who had sued a cell phone manufacturer in a Florida US District Court for causing his wife's brain tumor. The case, Reynard v. NEC*,* was later rejected in 1995 by the court.

People who say cell phones are safe reference statements by the FCC and Food and Drug Administration (FDA) and point to peer-reviewed studies which conclude that cell phone use is not associated with an increased risk of brain tumors or other health problems. They contend there has been no increase in brain tumor rates despite hundreds of millions of people now using cell phones.

Numerous studies have found that cell phone use is not associated with an increased risk of tumors. An October 2011 study of 358,403 Danish citizens, - the largest study of its kind to date – concluded that "there was no association between tumors and the long -term use (10 years +) of mobile phones. Numerous other studies published from 2001 – 2013 have similarly concluded that there is no association between cell phone use and the development of brain tumors. A 2006 study even showed a decrease risk of certain brain tumors among cell phone users.

People who say cell phones are not safe also cite peer-reviewed studies showing an association between cell phone use and tumor growth, DNA damage, and decreased fertility. They say cancers take 20-30 years to develop and cell phone studies have only monitored periods of 10 years or less.

In 2011, the International Agency for Research on Cancer added cell phone radiation to its list of risks that are "possibly carcinogenic to humans." Other items on the list include coffee, pickled vegetables, and lead. A 2013 study in Sweden showed an association between cell phone use and a benign tumor near the ear.

In 2001, Senators Joseph Lieberman (D-CT) and Rep. Edward Markey (D-MA) commissioned the US Government Accountability Office (GAO) to compile a report on the safety of cell phones. This 2001 report concluded that there was no scientific evidence proving that cell phone radiation had any "adverse health effects" but that more research on the topic was needed.

On May 17, 2010, the largest study to date on cell phone radiation and brain tumor formation was released. The Interphone study, a 13 country, 10 year, $25 million endeavor, found that there was no overall increase in the risk of the brain tumors among cell phone users. However,

the study did find that if there are high levels of RF exposure, then there is an increase in different types of tumors.

Those individuals concerned about cell usage support using a wired earpiece or speaker phone in order to lower the amount of radiation absorbed. Another recommendation is the increase of text messaging, rather than talking, in order to further reduce the amount of radiation absorbed by cell phone users.

It's important to remember that cell phone radiation levels are tested and certified to remain within levels deemed safe by the Federal Communications Commission (FCC). However, although the radiofrequency radiation from cell phones is determined to not be powerful enough to cause cancer, a new study by the FCC is being conducted to formally reassess the effect of cell phone radiation on human health.

Adapted from the article "Are Cell Phones Safe?" from ProCon.org at http://cellphones.procon.org/#background

Prompt

The article presents arguments from both supporters and critics of cell phone usage who disagree about possible safety issues with regards to an increase in brain tumors and cancer.

In your response, analyze both positions presented in the article to determine which one is best supported. Use relevant and specific evidence from the article to support your response.

Type your response in the box below. You should expect to spend up to 45 minutes in planning, drafting, and editing your response.

Unpack the Prompt

What is the prompt asking you to do? Unpack the prompt completely by completing the following form.

Prompt

The article presents arguments from both supporters and critics of cell phone usage who disagree about possible safety issues with regards to an increase in brain tumors and cancer.

In your response, analyze both positions presented in the article to determine which one is best supported. Use relevant and specific evidence from the article to support your response.

Type your response in the box below. You should expect to spend up to 45 minutes in planning, drafting, and editing your response.

Do	What

Create a Thesis Statement

Craft your thesis statement. You may use one of the following templates or create your own.

The general argument made by _____ is that _____.

Although _____ (believes, demonstrates, argues) that _____, _____ supports/provides the clearest evidence _____.

A key factor in both _____ can be attributed to _____.

When comparing the two positions in this article, _____ provides the clearest evidence that _____.

Looking at the arguments regarding _____, it is clear that _____.

In discussion of _____, one controversial issue has been _____. _____ believes that _____. On the other hand, _____ asserts that _____. _____ is clearly the best supported argument on the issue of _____.

Create Your Own!

Support Your Claim with Evidence

Identify evidence from the article that you wish to use. Provide a direct quote and then paraphrase the information in your own words. Finally, explain how the evidence supports your claim/thesis.

Claim	**Using a Direct Quote** (What direct quote supports the claim?)	**Paraphrasing** (How can you rewrite the direct quote in your own words?)	**Explanation** (How does the evidence support the claim?)

Putting It All Together - Constructed Response Organizer

Before you begin to draft your response, you may wish to organize your ideas by completing the following graphic organizer. Then, you'll be ready to draft your answer.

Prompt/Questions:	
Restatement of question in your own words	
Thesis statement/claim	
Detailed body of evidence that supports answer. Be sure to include enough details to answer the question. Make sure that all details address the questions and are not off-topic.	
Restated question Concluding thoughts	

Module: Reasoning through Language Arts

Lesson Title: Themes in Short Stories

Objectives and Standards

Students will:

- Analyze a short story in order to make inferences about characters, setting, and plot
- Determine the theme of a short story by analyzing the problems and solutions in a narrative

Prerequisite Skills Common Core State Standards	Reasoning through Language Arts 2014 GED® Assessment Targets
Retell stories, including key details, and demonstrate understanding of their central message or lesson. (CCSS.ELA-Literacy.RL.1.2) Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas. (CCSS.ELA-Literacy.R.2) Develop the topic with relevant facts, definitions, concrete details, quotations, or other information and examples. (CCSS.ELA-Literacy.W.6.2b)	Make inferences about plot/sequence of events, characters/people, settings, or ideas in texts. (R.2.8) Identify a theme or element of a written source that supports a theme (R.2.6) Infer what an author's stated and unstated purpose is based on the details in a passage. (R.6.3)

Materials

- *The 12 Most Common Themes in Literature* handout
- *Searching for the Theme* handout
- Chart paper and markers
- Copies of a short story appropriate for interests and reading level of students
- Sample sites for downloading short stories for classroom use:
    - Short Story Library - http://americanliterature.com/short-stories
    - Story Bytes - http://www.storybytes.com/
    - Classic Short Stories - http://www.classicshorts.com/

Instructional Plan

Overview

In this lesson, students will analyze a short story and determine the theme. Different short stories or fables can be used to teach this lesson. One example of a short story to use in the GED® classroom is: *Broken Promises* by Lorraine M. Gregoire - http://www.storybytes.com/view-stories/2000/broken-promises.html. This story provides a real-world scenario, is of an appropriate length for classroom instruction, and provides students with opportunities to analyze characters, setting, plot, conflict, and themes. Students should be familiar with the various elements of a short story prior to implementing this lesson.

Process

Begin the lesson by having students identify the different elements of a short story. Students should include: setting, character, plot, conflict (including point of view), and theme. If students need a review of the elements of a short story before proceeding into determining the theme, a short review or video may be shown and discussed. One example of a short video is:

- Five Things (Elements of a Short Story) by Flocabulary http://www.youtube.com/watch?v=c6I24S72Jps

Share with students that today they are going to determine the theme of a short story. Have students define the term theme. Students may share that the theme of a story is the author's message or what the author wants the reader to take away from the story. **Theme** is one of the more difficult elements of a story to identify. A theme is a story's message. It is what the author of a piece of text wants you to remember most. Tell students that it has been argued that there are anywhere between 3 and 40 main themes in literature that continue to be explored by each successive generation of writers. No one knows for sure what the real number is. There are many variations, and there are often overlaps as well. Some sample themes are included in *The 12 Most Common Themes in Literature* handout.

Have students read the selected short story, such as: *Broken Promises. Divide the class into small groups of 3 to 4 students. Provide each group with the handout – Searching for the Theme*. Have the students first identify the characters, setting, and problem(s). As a group discuss each of the elements. Have students add or delete information in the chart as necessary. Next, tell students to create a summary of the short story using the "somebody-wanted-but-so-then" summary chart. Discuss that a summary statement should incorporate the information from the chart into a sentence of 20 words. Have each group share their summary sentence with the class.

To identify the theme of the story, tell students that they need to use the information that they have gathered to determine lessons learned by the characters, as well as the overarching lesson that the author wants the reader to take away with him/her. Students should complete the

charts and craft a sentence that provides the overarching theme of the story. Have students write their themes on chart paper and post around the room.

Debrief the activity by comparing the various themes to the common themes of most short stories.

Sample Debriefing Questions

Have students answer the following questions regarding the revising and editing activity:

- Why is it necessary to first identify the character, setting, and problem of a short story prior to determining the theme?
- What clues in the story did you use to determine the theme?
- How did summarizing the story assist you in determining the theme?
- How were the themes of each group similar? Different?
- Can an author have more than one theme for a story? Explain.

Assessments/Extensions

1. Have students identify the theme in their independent reading. Provide students with short stories or excerpts to read that provide practice with the various types of common themes.

2. Have students share their definition of theme and the steps they use to determine the author's theme.

The 12 Most Common Themes in Literature

1. **Man Struggles Against Nature:** Man is always at battle with human nature, whether the drives described are sexual, material or against the aging process itself.
2. **Man Struggles Against Societal Pressure:** Mankind is always struggling to determine if societal pressure is best for living. These themes focus on characters who know how society says they should live, but feel society's dictation is contrary to what makes them happy.
3. **Man Struggles to Understand Divinity:** Mankind tries to understand and make peace with God, but satisfaction is elusive and difficult.
4. **Crime Does Not Pay:** A popular theme played out in books throughout time is the concept that honesty is honored and criminals will eventually be punished/will pay for their deeds
5. **Overcoming Adversity:** Many books laud characters who accept a tough situation and turn it into triumph.
6. **Friendship is Dependent on Sacrifice:** This is the idea that you can't have friends if you don't act like a friend.
7. **The Importance of Family:** Sacrifices for family are honored and explored, as are the family bonds that survive adversity.
8. **Yin and Yang:** Just when you think life is finally going to be easy, something bad happens to balance it all out.
9. **Love is the Worthiest of Pursuits:** Many writers assert the idea that love conquers all, appealing to the romantic side of us.
10. **Death is Part of the Life Cycle:** Literary works with this theme show how death and life are intricately connected.
11. **Sacrifices Bring Reward:** Sacrifices and hard work pay off in the end, despite the challenges along the way.
12. **Human Beings All Have the Same Needs:** From Montagues to Capulets in *Romeo and Juliet* or the characters in S.E. Hinton's *The Outsiders*, book after book asserts that rich or poor, educated or illiterate, all human beings need love and to have other basic needs met.

Searching for the Theme

Title of Short Story _____

1. To identify the theme of the story, first jot down information regarding each of the following elements of the story.

Characters	Setting	Problem

2. Use your ideas to complete a somebody-wanted-but-so-then summary:

Somebody	Wanted	But	So	Then
Write your summary here:				

3. Complete the following with information inferred from your analysis of the characters, setting, problem, and your summary:

A lesson learned by a character (review characters, problem, and summary)	The message or lesson the author wants you to take away from the story.

4. The theme of the story is: _____

_____

Social Studies Lesson Plans

Module: Social Studies

Lesson Title: Editorial Cartoons

Objectives and Standards

Students will:

- Analyze information presented in editorial cartoons
- Recognize common symbolism in editorial cartoons
- Identify different techniques used in editorial cartoons, such as symbolism, exaggeration, labeling, analogy, and irony

Prerequisite Skills Common Core State Standards	Social Studies 2014 GED® Assessment Targets	Social Studies Practices 2014 GED® Assessment Targets
Determine the central ideas or information of a primary or secondary source; provide an accurate summary of the source distinct from prior knowledge or opinions. (CCSS.ELA-Literacy.RH.6-8.2) Distinguish among fact, opinion, and reasoned judgment in a text. (CCSS.ELA-Literacy.RH.6-8.8)	Analyze information presented visually, for example, in maps, tables, charts, photographs, political cartoons, etc. (SSP.6.b) .	Draw conclusions and make inferences. (SSP.1) Determine central ideas, hypotheses, and conclusions. (SSP.2) Analyze events and ideas. (SSP.3) Interpret meaning of symbols, words, and phrases. (SSP.4)

Materials

- Sample cartoons from a newspaper of interest to students
- Sample editorial cartoons from the newspaper or World Wide Web
- *Cartoon Analysis* Activity Sheet

Instructional Plan

Overview

In this lesson, students will analyze editorial cartoons, discussing the different techniques used as well as basic background knowledge needed to assess the author's purpose and message.

Process

Introduce the lesson by taking a survey of the class. Ask students what cartoon is their favorite. Chart the different answers. Ask students why they enjoy a specific cartoon. Discuss the different reasons why students enjoy each type of cartoon. Have students share what types of reading and comprehension skills are required for each example.

Provide each student with a cartoon from the comic section of the local newspaper. Have students read the cartoon and decide why their cartoon is humorous. Have students share their personal reflections with the class. Students may share that the cartoons are similar to experiences that they have in their personal lives or that they create humorous situations. Share with students that they can apply many of the skills that they already have when reading the Sunday cartoons to the analysis of editorial or political cartoons.

Discuss that interpretation of editorial cartoons requires that they have some background knowledge related to various eras in history, current affairs, economics, civics, or government, as well as understanding such techniques as symbolism, exaggeration, labeling, analogies, and irony. The following chart provides a brief definition of each technique.

Symbolism	Symbols stand for larger concepts or ideas. Identify the symbol and why it is being used.
Exaggeration	Physical characteristics of people or things are exaggerated to make a point. Watch for any characteristic that seems overdone or overblown.
Label	Objects or people are labeled to make the meaning of them clearer.
Analogy	Analogies show the comparison between two unlike things that share some characteristics. This enables the reader to look at a complex situation or issue from a more familiar vantage point.
Irony	Irony is often used to express an opinion on an issue. Irony is the difference between the ways things are and the way things should be or are expected to be.

Show students examples of cartoons in the daily newspaper, or you may wish to access the website: http://www.cagle.com. Daryl Cagle is a highly recognized political cartoonist who hosts a website that displays the work of more than 60 cartoonists.

Two other excellent sites for resources are:

- ***Cartoons in the Classroom*** – part of *Newspapers in the Classroom*
  http://www.nieonline.com/aaec/cftc.cfm

- ***The Dirksen Center's Editorial Cartoon Collection*** (with lesson plans) http://www.congresslink.org/cartoons/about.htm

Sample Debriefing Questions

Model for students how to interpret an editorial cartoon. Use cartoons that have points of interest to your students. Show students the cartoon and have them answer the following questions:

- What is the event or issue that inspired the cartoon?
- Are there any real people in the cartoon? Who is portrayed in the cartoon?
- Are there symbols in the cartoon? What are they and what do they represent?
- What is the cartoonist's opinion about the topic portrayed in the cartoon?
- Do I agree or disagree with the cartoonist's opinion? Why?

Have students practice interpreting cartoons by showing the class additional cartoons and having them provide the answers to each of the above questions.

Assessments/Extensions

Divide students into small groups of four. Provide each group with an editorial cartoon. Have students answer the *Debriefing Questions* about each cartoon. As students' skills increase, you may wish to have students respond to the editorial cartoon by completing the *Cartoon Analysis Worksheet*.

Start classes with the "Cartoon of the Day" to assist them in transferring their skills. You may wish to have students bring in their own sample cartoons that they have found in their local newspapers.

Cartoon Analysis Worksheet

Level 1	
Visuals	**Words**
1. List the objects or people you see in the cartoon.	1. Identify the cartoon caption and/or title. 2. Locate three words or phrases used by the cartoonist to identify objects or people within the cartoon. 3. Record any important dates or numbers that appear in the cartoon.
Level 2	
Visuals	**Words**
2. Which of the objects on your list are symbols? 3. What do you think each symbol means?	4. Which words or phrases in the cartoon appear to be the most significant? Why do you think so? 5. List adjectives that describe the emotions portrayed in the cartoon.
Level 3	
A. Describe the action taking place in the cartoon. B. Explain how the words in the cartoon clarify the symbols? C. Explain the message of the cartoon. D. What special interest groups would agree/disagree with the cartoon's message? Why?	

The U.S. National Archives and Records Administration.
http://www.archives/gov/education/lessons/worksheets/cartoon.html

Module: Social Studies

Lesson Title: Primary Sources: Looking for the Answer in the Constitution

Objectives and Standards

Students will:

- Explore the basic ideas of the U.S. Constitution and Amendments through a scavenger hunt
- Determine central ideas in a primary source document
- Interpret meaning from complex text

Prerequisite Skills Common Core State Standards	Social Studies 2014 GED® Assessment Targets	Social Studies Practices 2014 GED® Assessment Targets
Determine the central ideas or information of a primary or secondary source; provide an accurate summary of the source distinct from prior knowledge or opinions. (CCSS.ELA-Literacy.RH.6-8.2)	Determine the clearly stated details in primary and secondary sources, and use this information to make logical inferences or valid claims. (SSP.1.a) Determine the central ideas or information from a primary or secondary source document. (SSP.2.a)	Draw conclusions and make inferences. (SSP.1) Determine central ideas, hypotheses, and conclusions. (SSP.2) Interpret meaning of symbols, words, and phrases. (SSP.4)

Materials

- Copies of the U. S. Constitution and the Amendments
- Copies of the *Let's Find the Answer Scavenger Hunt* Activity

Instructional Plan

Overview

In this lesson, students will explore basic ideas of an important primary source – The U.S Constitution. Primary sources are the raw materials of history — original documents and objects which were created at the time. They are different from secondary sources, accounts or interpretations of events created by someone without firsthand experience.

Examining primary sources gives students a powerful sense of history and the complexity of the past. Helping students analyze primary sources can also guide them toward higher-order thinking and better critical thinking and analysis skills.

Process

Introduce the lesson by writing the phrase "primary source" on the board. Have students work together to create a definition of a primary source. Students should include that a primary source is an original record of the political, economic, artistic, scientific, social and intellectual thoughts and achievements of a specific historical period. A primary source is one that has been created by firsthand witnesses of an event. Have students brainstorm specific examples of primary documents. Answers may include: the Constitution, speeches, photographs of a certain period of time, diaries, legal agreements, treaties, laws, etc.

Show students a copy of the U.S. Constitution. Explore what students remember about the U.S Constitution. Reinforce that the Constitution is the highest law in our land and explains how our whole government works and lists the basic freedoms that all Americans enjoy. Discuss that although the Constitution was written more than 200 years ago, it is still very important in our lives today.

Explain that the Constitution is divided into several sections:

- The first part, the Preamble, explains who is writing the Constitution and why.
- The second part, which is composed of seven Articles, explains how our government works.
- The third part is a list of amendments, or additions to the Constitution. These additions, or amendments, name the rights or freedoms that Americans have..

Challenge your students to name the first 10 amendments, known as the Bill of Rights.

Discuss that because the Constitution is the supreme law of the land and was written over 200 years ago, reading the various sections is often viewed as difficult. Explain that although students will not need to know everything there is to know about the Constitution, it is important to understand the "big ideas."

Divide the class into small groups of 4 – 5 students. Provide each group with a copy of the Constitution, including the Amendments, as well a copy of the *Let's Find the Answer Scavenger Hunt* Activity.

Websites that include copies of the Constitution and Amendments to download include:

- http://www.archives.gov/exhibits/charters/constitution_transcript.html
- http://constitutionus.com/

- http://www.gpo.gov/fdsys/pkg/CDOC-110hdoc50/pdf/CDOC-110hdoc50.pdf
- http://www.usconstitution.net/const.pdf

Tell students that today, they will be competing with the other groups in the class to see if they can find the correct answer to each of the questions on the scavenger hunt. Share with students that answers need to be complete and accurate.

Note: Dependent on the time frame of the class, you may wish to shorten the scavenger hunt or have students only complete a specific section, such as only the Amendments.

Sample Debriefing Questions

- Who created the U. S. Constitution?
- When was it written? What was happening during the different time periods?
- When looking at the Constitution and the Amendments, what did you notice about the style of writing?
- What did you see that you didn't expect?
- What are some of the powerful words and ideas expressed?
- What is one thing that you learned by completing the scavenger hunt on the Constitution?
- What big ideas of the Constitution are important to you in your daily life?

Assessments/Extensions

1. Provide students with a copy of the Bill of Rights. Have students create a chart or poster in which they identify the "big idea" of each of the amendments. Example: 1st Amendment – freedom of speech, religion, press, assembly, petition.
2. Divide the class into small groups. Provide each group with a small section of the Constitution. Have each group closely read their section and create a one-sentence summary of the big ideas of the section. Next have each group identify how their assigned section impacts them in their daily lives. Have each group share their ideas and their written summary with the group.

U. S. Constitution Scavenger Hunt

Preamble
The Preamble was written to declare a purpose of this Constitution (to form a more perfect union) by promoting fairness (justice), peace (domestic tranquility), safety (common defense), well-being (general welfare), and freedom (blessings of liberty) for Americans both then and in the future (posterity).

Article I – The Legislative Branch
This section focuses on the responsibilities and limitations of the Legislative Branch, often referred to as Congress.

1. The two parts of Congress are the _____ and the _____.

2. Members of the House of Representatives are elected to _____-year terms.

3. In order to be eligible for the House of Representatives, candidates must be _____ years old, a citizen of the U.S. for _____ years, and live in the state they plan to represent.

4. The number of Representatives allotted to each state is determined by _____.

5. How is the Speaker of the House chosen? _____.

6. Members of the Senate are elected to _____-year terms.

7. The number of Senators is _____ per state.

8. In order to be eligible for the Senate, candidates must be _____ years old, a citizen of the U.S. for _____ years, and live in the state they plan to represent.

9. Who is the President of the Senate? _____. When is the only time this person can vote on bills? _____.

10. At minimum, how often must Congress meet? _____.

11. Are Senators and Representatives paid for their work? _____ (Yes or No)

12. All money/revenue bills must originate in the _____ .

13. Before bills can be signed into law by _____, they must pass both the House and the Senate.

14. Even if a bill is vetoed/sent back to Congress by the President, the bill can still become law with a _____ (fraction) vote for it in both the House and the Senate.

15. True/False: Votes by members of Congress are secret and not recorded individually. _____.

16. True/False: Congress has the power to raise armies and declare war. _____.

17. True/False: Congress has the power to collect taxes and print money. _____.

18. True/False: Congress has the power to select Supreme Court judges. _____.

19. True/False: Congress has the power to regulate trade with other countries. _____.

20. True/False: Congress has the power to make treaties with other countries. _____.

Article II – The Executive Branch

This section focuses on the responsibilities and limitations of the Executive Branch and its leader, the President.

21. The President is elected to a _____-year term. This term may be repeated one time.

22. The President is directly elected by a body of electors. How many electors are allotted to each state?
_____.

23. In order to be elected President, a candidate must be _____ years old, be a _____ citizen, and have lived in the U.S. for _____ years.

24. True or False: The President is paid for his service. _____

25. Name 5 powers of the President.
_____.

26. What is the purpose of the President's "State of the Union"?
_____.

27. The President and the Vice-President can both be removed from their positions in office if convicted of treason, bribery, or other high crimes and misdemeanors. This process is known as _____.

Article III – The Judicial Branch
This section focuses on the responsibilities and limitations of the Judicial Branch, the court system.

28. Congress has established both a _____ Court and _____ Courts.

29. Name 5 types of cases that are tried by the Judicial Branch. _____ _____.

30. In most cases aside from trials involving public officials and states, the Supreme Court has _____ jurisdiction. This concept comes from the word "appeal" and means that the cases have to be started elsewhere first and been re-tried in other lower courts before making it to the Supreme Court.

31. True or False: Judges are paid for their service and may remain on the court until they can no longer serve. _____.

Article IV, V, VI, VII – The States, Amendments, Oaths, and Ratification
These sections lay out instructions of how the federal/national government and state governments interact, how changes can be made to the Constitution, expectations of public officials, and how the Constitution is approved.

32. All state laws, records, and court decisions that are made in one state are also in effect in all other states. This is known as "Full _____ and _____". Example: If you were married in Florida, you are still considered married if you move to North Carolina.

33. Yes/No: Can a person who is charged with a crime in one state and flees to another state be sent back to the state where he/she is charged with the crime? _____ .

34. If Congress desires to propose a change to the Constitution, called an amendment, what percentage of each part of Congress must propose the change? _____ .

35. What percentage of states must ratify/approve of an amendment for it to be added to the Constitution? _____.

Amendments

An Amendment is a change or addition to a document. The First Ten Amendments were added to the Constitution at the direction of the very first Congress in 1789, though they were not official law until 1791. They were added because many people believed the Constitution did not adequately protect them from the government's power.

36. The first ten amendments are called _____.

37. Which amendment gives 18 year olds the right to vote? _____.

38. The First Amendment guarantees freedom of _____, _____, _____, _____, _____.

39. This amendment protects citizens from searches without a warrant. _____.

40. What basic protection does the 6th Amendment provide citizens? _____.

41. Who gained the right to vote from the 19th Amendment? _____.

42. Amendment _____ says citizens should not be denied the right to vote based on race.

43. What does the 10th Amendment say about rights or powers that are not given to the federal government? _____.

44. How does the 22nd Amendment affect the President of the United States? _____.

45. Which amendment allowed the U.S. Government to implement income tax? _____.

U. S. Constitution Scavenger Hunt – Answer Key

1. Senate and House of Representatives
2. Two year terms
3. 25 years old and a U.S. citizen for 7 years
4. Population
5. Speaker of the House is chosen by the members of the House of Representatives
6. Six year terms
7. Two senators per state
8. 30 years old and a U.S. citizen for 9 years
9. The Vice-President and he/she can only vote if there is a tie (he/she is tie-breaking vote)
10. Once per year
11. Yes
12. House
13. The President
14. Two-thirds (2/3)
15. False
16. True
17. True
18. False
19. True
20. False
21. Four
22. It is based on population = # of representatives + two senators
23. 35 years old, a natural-born citizen (born in U.S.), and resident of U.S. for 14 years
24. True
25. Answers will vary, but can include: Commander in Chief of the Military, grant pardons, make treaties with consent of Senate, nominate ambassadors and public officials, nominate Supreme Court judges, fill Congressional vacancies, give State of the Union speech, call special sessions of Congress, etc.
26. To provide information and to recommend items of consideration to Congress
27. Impeachment
28. Supreme Court and Inferior (or Lower) Courts. Note: Inferior courts can be district courts and/or Courts of Appeal
29. Answers will vary, but can include: Constitutional issues, trials of Ambassadors or other Public officials, cases of maritime/sea jurisdiction, cases between states, cases between a state and a citizen, cases between citizens of different states, cases between the U.S. and foreign citizens, etc.
30. Appellate
31. True
32. Full Faith and Credit
33. Yes
34. Two-Thirds (2/3) approval in both the Senate and the House of Representatives
35. Three-Fourths (3/4) of state legislatures must approve the amendment

36. The Bill of Rights
37. 26th Amendment
38. Religion, Speech, Press, Assembly, Petition
39. Amendment 4
40. Jury Trial, Right to Confront and to Counsel, Speedy Trial
41. Women's right to vote (women's suffrage)
42. Amendment 15
43. Reserves powers that are not given to the U.S. government under the Constitution, nor prohibited to a State of the U.S., to the people and the States.
44. Limits the terms that an individual can be elected as president (at most two terms). Individuals who have served over two years of someone else's term may not be elected more than once.
45. 16th Amendment

Module: Social Studies

Lesson Title: Double Entry Note Taking: A Close Reading Strategy

Objectives and Standards

Students will:

- Identify ideas within a text, express their thoughts, and become more involved in the reading process
- Determine the "big ideas" of nonfiction text and connect to the text

Prerequisite Skills Common Core State Standards	Social Studies 2014 GED® Assessment Targets	Social Studies Practices 2014 GED® Assessment Targets
Determine the central ideas or information of a primary or secondary source; provide an accurate summary of the source distinct from prior knowledge or opinions. (CCSS.ELA-Literacy.RH.6-8.2)	Compare different sets of social-studies-related ideas and make judgments about how those ideas create meaning in different arguments. (SSP.3.d) Determine the meaning of words and phrases used in a social studies context. (SSP.4.a) Determine how authors reveal their points of view or purposes in historical documents. (SSP.5.a)	Determine central ideas, hypotheses, and conclusions. (SSP.2) Analyze events and ideas. (SSP.3) Analyze purpose and point of view. (SSP.5) Evaluate reasoning and evidence. (SSP.7)

Materials

- Nonfiction text
- Paper

Instructional Plan

Overview

In this lesson students will learn how to use a note-taking strategy called the Double-Entry Journal. Double-Entry Journals are an excellent option for students when they are reading materials that cannot be marked, such as textbooks or class sets of books.

Process

Begin the lesson by sharing with students that using a double-entry journal is a way to closely read passages from a text in order to discover what individual words and sentences reveal about the author's argument/position, supporting research and evidence, as well as making text-to-text, text-to-self, and text-to-word connections. Discuss that using a journal serves as an ongoing record of the reader's responses to the text. It is one way to closely read with an investigative eye.

Introduce the Double-Entry Journal by asking students to divide a sheet of paper into two vertical columns by folding it lengthwise in half. The left side of the paper is for specific information from a text, such as a short passage, factual information, or a summary. The right column provides students with space to provide written responses to the text material that they have selected on the left side. This technique provides students with both factual material and their own reactions to that material.

Model for students how to use the Double-Entry Journal be reading a passage or statement from the newspaper, such as the number of deaths from the war in Afghanistan. Model what you think about this statement and how it connects to what you know about past conflicts or the area described. As you model reading the text and completing the Double-Entry Journal, make sure to show students how you:

- Watch for repeating words or phrases
- Make notice of references in the text that provide insight into the main arguments of the author
- Continually question the author's arguments in the text
- Make predictions on how the argument of the author affects future events
- Take note of features of the text, such as graphics, research provided, etc.

Provide students with a nonfiction text and a piece of paper. You may wish to use a primary source, such as a quote from a historic document or one of the Amendments to the U.S. Constitution, or you may wish to use a short nonfiction article on a current or past historical event. Have students read the text, identify quotes, phrases, and/or graphics in the left hand column and respond to each in the right hand column.

It's important to remember that close reading is often a difficult skill for students and that they may not have had extensive practice in closely analyzing text. To better assist students in describing information in the right column, you may wish to have them label the right column

- This reminds me of . . . (Supports background knowledge)
- I wonder . . . . (Supports questioning skills)
- I think . . . . (Supports making inferences)
- I am confused because . . . . (Supports clarification)
- I would describe the picture I see in my head as . . . . (Supports visualization)
- This is important because . . . . . (Supports importance of certain information)

Other ideas are included on the *A Few Ideas to Get Started: Different Ways to Keep Double-Entry Journals* handout.

With practice, this strategy can help students who are struggling with challenging text or as a study technique to review for exams. Debrief the close reading of social studies text by having students share their ideas.

Sample Debriefing Questions

Have students answer the following questions regarding the use of Double-Entry Journals:

- How did using Double-Entry Journals assist you in better comprehending nonfiction text?
- What types of questions/answers were most useful for you to use?
- How would Double-Entry Journals be useful when reading nonfiction text on the GED® test?
- How can you use Double-Entry Journals in your daily life?

Assessments/Extensions

1. Have students use Double-Entry Journals for current events by reading and responding to newspaper articles or updates on the World Wide Web.
2. Transfer student use of Double-Entry Journals to other content area, such as fiction text and nonfiction text in the area of science.

A Few Ideas to Get Started: Different Ways to Keep Double-Entry Journals

Left Hand Side	**Right Hand Side**
Quotes from the text	Visual commentary (drawings, visual analogies, doodles)
Quotes from the text	Written reactions, reflections, commentary
Quotes from the text	Connections • Text to text • Text to self • Text to the world
Quotes from the text	Questions that I have are . . .
What the text says	This is what I know
What the text says	Why the text says this
Questions: "I wonder why . . . "	Possible answers: "Maybe because . . . "

Science Lesson Plans

Module: Science

Lesson Title: Formulating a Hypothesis

Objectives and Standards

Students will:

- Identify the reason for creating a hypothesis
- Identify the different types of hypotheses
- Create an effective scientific hypothesis

Prerequisite Skills Common Core State Standards	Science 2014 GED® Assessment Targets	Science Practices 2014 GED® Assessment Targets
Determine the central ideas or information of a primary or secondary source; provide an accurate summary of the source distinct from prior knowledge or opinions. (CCSS.ELA-Literacy.RH.6-8.2) Interpret words and phrases that appear frequently in texts from a wide variety of disciplines. (CCSS.ELA.R4.2)	Identify and refine hypotheses for scientific investigations. (SP2.b)	Comprehending Scientific Presentations (SP.1) Investigation Design (Experimental and Observational) (SP.2)

Materials

- Sample scenarios and general hypothesis statements

Instructional Plan

Overview

In this lesson, students will become familiar with the steps for writing a scientific hypothesis.

Process

Begin the lesson by asking students to define the word hypothesis. Have students share their definitions.

Share with students that one of the most important skills a scientist has is the ability to write a good hypothesis. Discuss that the ability to write a hypothesis is a skill that will be used throughout science, as well as on the GED® Science module. Provide students with information on the types of hypotheses, as well as a step-by-step process on how to write a hypothesis.

Here are the basic steps. A hypothesis is an educated guess or proposition that attempts to explain a set of facts or natural phenomenon. It is used mostly in the field of science, where the scientific method is used to test it.

The goal of a hypothesis is to state the purpose of the research or study and identify what variables are used. In order to be a good hypothesis that can be tested or studied, a hypothesis:

- Needs to be logical
- Must use precise language
- Should be testable/validated with research or experimentation

There are three basic types of hypotheses: the *general hypothesis*, a *specific hypothesis*, and a *measurable hypothesis*. The *general hypothesis* states the general relationship between the major variables. The *specific hypothesis* fills in important details about the variables given in the hypothesis. The *measurable hypothesis* refines the specific hypothesis by stating the direction of the difference or nature of the relationship.

A hypothesis is usually written in a form where it proposes that if something is done, then something else will occur. To write a hypothesis:

- Identify what the problem is. If you fail to identify the problem, you most certainly will have difficulty writing the hypothesis.
- Make an educated guess as to what direction of the relationship or difference is.
- Identify the major variables.
- The format for writing a hypothesis is . . .
    - If (variables),
    - Then (predict the outcome of the experiment using the dependent variable).

Model for students how to write a hypothesis using the" if, then" format. Share with students an observation, such as:

- Chocolate may cause acne.

Turn the observation into a scientific hypothesis statement that is measurable:

- *If* a person's frequency of acne is related to the amount of chocolate a person consumes, *then* the frequency of acne will be 25% higher when subjects consume large

amounts of chocolate (5 chocolate bars per day) than when subjects consume little or no chocolate.

As a group, create hypothesis based on sample observations/general hypotheses. Have students use the "if, then" style and include a measurable prediction. A few sample items from which to develop scientific hypothesis are:

1. Salt in soil may affect plant growth.
2. Temperature may cause leaves to change color.
3. Sunlight causes fruit to ripen more quickly.
4. Plant growth may be affected by the color of the light.
5. Bacterial growth may be affected by temperature.
6. Ultra violet light may cause skin cancer.

Have students review each other's scientific hypothesis. Have students determine whether each hypothesis includes a measurable prediction about results. Students should check that they avoid phrases like: better than, bigger than, a little more than, sometimes, a lot, will occur more often than, greater than. Hypothesis need to be specific and objective. Debrief the activity. Discuss that on the GED® Science module, students may encounter questions that require them to set up an experimental design, including the development of a hypothesis statement.

Sample Debriefing Questions

Have students answer the following questions regarding writing an effective hypothesis:

- What is the difference between a general and a measurable hypothesis?
- Which of the three types of hypotheses described do you think a scientist is likely to use in his/her research?
- Why is it important to state a direction of the difference or relationship when writing a specific hypothesis?
- Why is it inappropriate to begin a hypothesis with the words "I think"?
- Look at each of the sample hypothesis. Which is most specific and measurable? Why?

Assessments/Extensions

Have students write a scientific hypothesis based on information obtained through a scenario. The following are sample scenarios that can be used to get started.

1. Geraldo believes that groceries at Costco will be less expensive than groceries at Safeway. Write a measurable hypothesis related to Geraldo's observation.
2. Amanda is having trouble focusing on homework. She sits at her desk and stares at her books, but her mind wanders and she can't focus on her work. Amanda wonders if she

would focus better if she turns off all of the distractions around her. She gets her homework together and turns off the television and all other things that make noise in her room. Amanda predicts that eliminating "background noise" will help her focus.

3. Dillon wondered if eliminating all carbohydrates from his diet would help him lose weight. He weighed himself on Monday and then ate no food high in carbs for 7 days. He weighed himself the following Monday expecting that his weight would be the same as the previous week.
4. Scientists from the Department of Fish and Game have noticed that trout are more likely to get parasites when they are living in shallower, warmer, and muddy waters.
5. In my garden, I noticed that the shade-loving plants were not flourishing this year. In the past this has never been a problem.
6. A turtle kept at one of the New Zoo's exhibits is fed a green diet, which is consistent with her herbivorous food preference. In the past few months, however, this turtle refuses to eat any sort of vegetable.

Module: Science

Lesson Title: Scientific Inquiry: Which Falls Fastest?

Objectives and Standards

Students will:

- Identify the steps of the scientific inquiry method
- Conduct a physics experiment
- Recognize and understand basic concepts of laws of motion

Prerequisite Skills Common Core State Standards	Science Content Area 2014 GED® Assessment Targets	Science Practices 2014 GED® Assessment Targets
Read and comprehend science/technical texts in the grades 6–8 text complexity band independently and proficiently. (CCSS.ELA-Literacy.RST.6-8.10) Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks. (CCSS.ELA-Literacy.RST.6-8.3)	**Physical Science** Recognize and understand the concepts of force, Newton's Laws, gravity, acceleration due to gravity (e.g., freefall, law of gravitational attraction), mass, and weight.	Comprehending Scientific Presentations (SP.1) Investigation Design (Experimental and Observational) (SP.2) Reasoning from Data (SP.3) Evaluating Conclusions with Evidence (SP.4)

Materials

- Calculators
- *Scientific Inquiry - Which Falls Fastest?* Activity Sheet
- Sheets of paper

Instructional Plan

Overview

In this lesson, students will become familiar with the scientific inquiry method by conducting a simple physics experiment. A step-by-step format is provided to ensure that students explore the process.

Process

Begin the lesson by asking students how science is important in their daily lives. Discuss that a major goal of science is to investigate and understand the natural world, to explain events in the natural world, and to use those explanations to make useful predictions.

Share with students that they will be taking the role of scientists today as they observe a simple phenomenon of physics.

Review with students the basic terms of inquiry: quantitative data, qualitative data, observation, hypothesis, controlled experiment, controlled variables, and uncontrolled variables.

Divide the class into small groups of three to four students. Provide each group with the *Scientific Inquiry - Which Falls Fastest?* Activity Sheet. Review the expectations of the activity with the class. Share with students that they should follow each step carefully as they create their hypothesis and then test whether or not they were correct.

Debrief the activity by having students share their results with the class. As a class, identify whether other shapes were more aero dynamic and fell more quickly than those indicated on the sheet.

Sample Debriefing Questions

Have students answer the following questions regarding their experiment:

- Which paper shape fell fastest? Slowest? Why?
- What types of shapes did you also use to view similarities and differences in falling rate? Which were slower? Faster? Why?
- Would weight impact whether or not an item fell faster or slower? Example: What would happen if you dropped an orange and a grape from the same height at the same time? Why?
- What variables impact the speed of a falling object? Why?
- What law(s) of physics were you able to prove or disprove through your experiment?

Assessments/Extensions

Have students use the scientific inquiry method to prove or disprove hypothesis through creating different types of experiments.

Make sure that students complete a science inquiry sheet as they observe, form a hypothesis, conduct an experiment, and then determine the accuracy of their prediction. A sample Science Inquiry Form is located at the end of this lesson.

Sample experiments and videos of experiments can be found via a search of the World Wide Web. Sites to start your exploration for experiments to use in the classroom are:

- **Newton's Apple.** NEWTON'S APPLE is a production of Twin Cities Public Television from a grant from the 3M Foundation. The site is filled with free videos for use in many different areas. http://www.newtonsapple.tv/
- **Steve Spangler.** This site has lots of free experiments and videos for use in the classroom. http://www.stevespanglerscience.com/lab
- **Edible/Inedible Experiments.** Lots of experiments which are easy to use in any type of classroom. http://www.madsci.org/experiments/
- **Home Experiments.** The name says it all as most products for these experiments are found in one's home. http://scifun.chem.wisc.edu/HOMEEXPTS/HOMEEXPTS.HTML
- **TryScience/New York Hall of Science.** Experiments online and with directions. Fun activities for all types of science. http://www.tryscience.org/

Scientific Inquiry – Which Falls Fastest?

Which shape of paper falls fastest: An unfolded sheet of paper, a paper folded in fourths, or a sheet of crumpled paper? Or can you create a different shape with paper that falls even faster?

Make Your Plan:

What is your independent (manipulated variable)?	
What is your dependent (responding) variable	
What is your question?	
What is your hypothesis?	If, then . . .
What are the constants? (name at least 3)	

Data:

Identify your dependent and independent variables for each trial.

- Independent variables are the variables that are changed in a given model or equation. One can also think of them as the 'input' which is then modified by the model to change the 'output' or dependent variable.
- Dependent variables are considered to be functions of the independent variables, changing only as the independent variable changes.

Dependent Variables _____

Independent Variables _____

	Unfolded paper	Paper in Fourths	Crumpled Paper	Unique Shape
Trial 1				
Trial 2				
Trial 3				
Trial 4				
Average				

Calculations: Show work below:

Average for _____ paper:
_____ + _____ + _____ + _____ = _____÷ 4 =

Average for _____ paper:
_____ + _____ + _____ + _____ = _____÷ 4 =

Average for _____ paper:
_____ + _____ + _____ + _____ = _____÷ 4 =

Average for _____ paper:
_____ + _____ + _____ + _____ = _____÷ 4 =

Find your largest difference:
_____ paper fell in the slowest average time which was _____s.

_____ paper fell in the fastest average time which was _____s.

The difference between these two number (use subtraction) is =_____s

Is this Qualitative or Quantitative Data? Why?

Conclusion:

Based on the data from my experiment, I reject or accept the hypothesis that (Restate your hypothesis WORD FOR WORD)_____
_____
_____.

The evidence to support this is that the average time for an unfolded piece of paper was _____ s, for a sheet folded in fourths was _____s, and a crumpled sheet of paper was _____s. The difference between the _____ piece of paper and _____ piece of paper was _____s. This difference does or does not seem significant to me. Therefore, I conclude that _____ paper _____.

Inquiry Method Recording Sheet

Step 1 – Observations, Questions, and Hypotheses	
Observations	Questions
Hypothesis If . . . Then . . .	
Step 2 – Scientific Testing	
Investigation & Data	
Step 3 – Analysis and Conclusion	
Discuss data & draw conclusion	
Step 4 - Communication	
We communicated our results by	

Module: Science

Lesson Title: List-Group-Label: Building Scientific Vocabulary

Objectives and Standards

Students will:

- Activate background knowledge on a specified topic
- Brainstorm words and phrases related to the science topic being studied
- Group words into specific categories/clusters
- Revise and edit categories/clusters based on the reading of a nonfiction text

Prerequisite Skills Common Core State Standards	Science Content Area 2014 GED® Assessment Targets	Science Practices 2014 GED® Assessment Targets
Read and comprehend science/technical texts in the grades 6–8 text complexity band independently and proficiently. (CCSS.ELA-Literacy.RST.6-8.10) Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant *texts and topics*. (CCSS.ELA-Literacy.RST.6-8.4)	Express scientific information in words (SP1.a) Determine the meaning of symbols, terms, and phrases as they are used in scientific presentations. (SP.1.b) Content Area Vocabulary and Concepts from: • Life Science • Physical Science • Earth and Space Science	Comprehending Scientific Presentations (SP.1)

Materials

- Science articles or texts
- *List-Group-Label* Activity Sheet

Instructional Plan

Overview

Activating prior knowledge about a topic assists in the development of a clearer understanding about concepts to be learned. In this lesson, students will use the List-Group-Label strategy to build science vocabulary and categorizing skills. This strategy provides students with a way to

recognize the relationships between words and concepts using their prior knowledge about a topic. The list-group-label strategy can be used before and after students read.

Process

Identify a science article or text that students will read during the class period. Prior to sharing the article with students, write a cue vocabulary word on the board or chart paper. Have students brainstorm other words related to the vocabulary word. Write down all of the students' ideas.

Lead a discussion about whether any words or concepts should be eliminated and if so, why. Remember, the ability to group and classify terms or concepts on the basis of their common elements is a higher-order thinking skill. Students may initially need support in the identification of elements on which to base a grouping.

Divide the class into groups of 3 to 4 students. Have each group cluster the words and give each cluster a descriptive term. Have the groups share their clusters and give reasons for their choices.

Next, have students read the text. When finished, have the students revisit their clusters and change, add, or modify their clusters. Have students share the changes that they made and their rationale.

Close the activity by discussing how students can use list-group-label in their own reading and learning in order to better understand scientific text.

Key words should be selected from the reading selection for the lesson. To cover basic science concepts/principles, science text which deals with words such as the following would be appropriate for use in the GED® classroom:

- homeostasis
- nutrition
- pathogens
- ecosystem
- heredity
- symbiosis
- energy
- conservation
- forces
- waves
- chemical properties
- natural hazards
- organism

- sustainability
- non-renewable resources
- chemical reactions

Debriefing Questions

Have students answer the following questions regarding completion of the list-group-label activity:

- Why is scientific vocabulary important to understand?
- What types of criteria did you use to categorize your words/phrases?
- How did brainstorming assist you in the reading of nonfiction text?
- Did you find any of the words/categories that you brainstormed in the text that you read?

Assessments/Extensions

Have students use the list-group-label strategy prior to reading complex, science text. Provide time during the lesson for students to share their background knowledge on a specific scientific concept.

List-Group-Label

In the first column, list all of the words and phrases that are related to the topic. Once you have created your list, group the words based on their similarities. Label each group/category when you are finished.

List	Group and Label

Mathematical Reasoning Lesson Plans

Module: Mathematical Reasoning

Lesson Title: The Consumer Price Index: Calculating Change

Objectives and Standards

Students will:

- **Compute percentage of increase and decrease using information from a table.**
- **Determine whether inflation or deflation has occurred between decades**

Prerequisite Skills Common Core State Standards	Mathematical Reasoning 2014 GED® Assessment Targets	Mathematical Practices Common Core State Standards
Use proportional relationships to solve multistep ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error. (CCSS.Math.Content.7.RP.A.3) Solve real-world and mathematical problems involving the four operations with rational numbers. (CCSS.Math.Content.7.NS.A.3)	Compute with and solve problems using rational numbers. (Q.2.a, Q.2.b) Solve two-step, arithmetic, real-world problems that involve ratios, proportions, and percents. (Q.3.c, Q.3.d) Represent, display, and interpret categorical data in bar graphs, circle graphs, dot plots, histograms, box plots, tables, and scatter plots. (Q.6)	Make sense of problems and persevere in solving them. (CCSS.Math.Practice.MP1) Use appropriate tools strategically. (CCSS.Math.Practice.MP5) Attend to precision. (CCSS.Math.Practice.MP6) Look for and make use of structure. (CCSS.Math.Practice.MP7)

Materials

- Computers and internet access
- Calculators
- *Consumer Price Index (Percentages of Change)* Activity Sheet

Instructional Plan

Overview

In this lesson, students calculate changes in the price level of consumer goods and services using information from the Consumer Price Index (CPI). Students will calculate percentage of increase or decrease using a mathematical formula and information from provided tables.

Process

Begin the lesson by asking students if they have ever heard of the Consumer Price Index (CPI). Share with students that the CPI measures changes in the price level of consumer goods and services purchased by households. The CPI inflation calculator uses the average Consumer Price Index for a given calendar year. This data represents changes in prices of all goods and services purchased for consumption by urban households. This index value has been calculated every year since 1913. For example, in 1913 something that cost $1.00 would cost $23.53 in 2013. That's a huge increase.

Share with students that today they will be comparing the comparative costs of goods in different decades by using data obtained from the inflation calculator from the Bureau of Labor and Statistics. The calculator is located at: http://data.bls.gov/cgi-bin/cpicalc.pl

Show students how the calculator works by putting in $100 for 1920 and determining how much that $100 would be worth in 2013 ($1,164.79).

Have students select a partner with whom to complete the activity. Provide each team with a copy of the *Consumer Price Index (Percentages of Change)* Activity Sheet and calculators.

Show students how something that cost $10 in 1920 would cost $109.03 in 2010. Discuss that they will be calculating the percentage of increase or decrease (inflation or deflation) for each decade period.

Model for students how to complete the first example:

$10.00 - $8.35/$10.00 X 100 = 16.5% decrease

Have students complete the chart. Debrief the activity by discussing their answers, as well as discussing what was occurring historically during the different decades.

Sample Debriefing Questions

- Which decades had the largest percent increase? How much?
- Did the CPI ever have a percent decrease? If so, which year(s)? What events could have contributed to this decrease?

- How could you use the CPI calculator? Why is this type of information important?

Assessments/Extensions

1. Have students identify something that they have recently purchased. Using the CPI calculator, have students determine the cost of the item 100 years ago, 50 years ago, 25 years ago, and 10 years ago. Have students determine the percentage of increase for each time frame. Students will need to determine how to use the calculator when using a current year as opposed to a past time frame.
2. Provide students with a more complex beginning amount on which to determine percent, such as: $139.46. This provides students with additional practice in calculating percentages of increase and decrease.
3. Have students brainstorm different ways in which they use percent of increase and decrease in their daily lives. Discuss the importance of understanding the basic economic concepts of inflation and deflation and how each impacts one's buying and purchasing power. From interest rates to the value of money to the cost of goods and services, inflation and deflation are important concepts to understand. Students may wish to research more about these two terms and how these economic concepts affect them in their lives.

Consumer Price Index (Percentages of Change)

Directions: Fill out the chart below to determine the percent of inflation for each decade. Use the data in the Buying Power Equivalent Chart to determine the percentage of change.

Remember, percent change = difference/original x 100.

Percent Change Between the Years	
Decade	**Percent of Change (increase/decrease)**
1920-1930	
1930-1940	
1940-1950	
1950-1960	
1960-1970	
1970-1980	
1980-1990	
1990-2000	
2000-2010	
1920-2010	

Buying Power Equivalents (Based on CPI)

1920	**$10.00**
1930	**$8.35**
1940	**$7.00**
1950	**$12.05**
1960	**$14.80**
1970	**$19.40**
1980	**$41.20**
1990	**$65.35**
2000	**$86.10**
2010	**$109.03**

Module: Mathematical Reasoning

Lesson Title: Sugar Cube Condos: Determining Surface Area and Volume

Objectives and Standards

Students will:

- Use manipulatives to determine surface area and volume of a prism
- Determine the relationship between scale factor, area, and volume and identify the pattern

Prerequisite Skills Common Core State Standards	Mathematical Reasoning 2014 GED® Assessment Targets	Mathematical Practices Common Core State Standards
Recognize volume as an attribute of solid figures and understand concepts of volume measurement. (CCSS.Math.Content.5.MD.C.3) Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised units. (CCSS.Math.Content.5.MD.C.4) Classify two-dimensional figures in a hierarchy based on properties. (CCSS.Math.Content.5.G.B.4)	Compute volume and surface area of right prisms and pyramids, cylinders, spheres, cones, and composite figures. (Q.5.a, Q.5.b, Q.5.c) .	Make sense of problems and persevere in solving them. (CCSS.Math.Practice.MP1) Model with mathematics. (CCSS.Math.Practice.MP4) Use appropriate tools strategically. (CCSS.Math.Practice.MP5) Look for and make use of structure. (CCSS.Math.Practice.MP7)

Materials

- Sugar cubes (approximately 100 cubes per student group)
- Measuring tapes
- Recording sheet
- Copies of either the Formula Page for the GED® test – located at: http://www.gedtestingservice.com/uploads/files/15a951dfbdd875be5a7a73aa7912e2a0.pdf

or

The Math Formulas and Symbols Chart
http://www.gedtestingservice.com/uploads/files/3fd9475e25b36d78af7305296c23d581.pdf

Instructional Plan

Overview

In this lesson, students explore the relationship between scale factor, area, and volume using manipulatives.

Process

Begin the lesson by writing the formulas for surface area and volume of a rectangular/right prism on the board: SA = ph + 2B and V = Bh. Have students discuss situations in which they may use each type of formula in their workplaces or daily lives. Explain that in today's lesson they will be using these formulas to explore the relationship between scale factor, area, and volume.

Divide students into small groups of 3 to 4 students. Provide each group of students with a set of sugar cubes. Explain to students that they will be using the sugar cubes to build "condos." Tell each group that you want them to build a rectangular prism (sugar cube condo) with the sugar cubes that measure 2" x 2" x 3". Have students record measurements in a table and determine the surface area and volume of the condo. You may wish to provide students with a copy of the Formula Page for the GED Mathematics module.

Have students record these measurements in a table.

Next, direct students to build another condo with a scale factor of 2/1. Students should recognize that all original lengths should be doubled using this scale factor. Have students record the new measurements in the table and determine the surface area and volume of the new figure.

Have students build a third condo where the scale factor is 3/1 in relation to the original condo. Students should recognize that all lengths are tripled. Have students record the new measurements in the table and determine the surface area and volume of this final figure.

Have students analyze their data and determine a pattern that occurs in both the surface area and the volume when increasing the scale factor.

Sample Debriefing Questions

- What would the surface area be for a sugar cube condo if the scale factor were 4/1?
- What would the volume be for a sugar cube condo if the scale factor were 4/1?
- What pattern occurs when increasing the scale factor for surface area?
- What pattern occurs when increasing the scale factor for volume?
- How would you determine surface area and volume if the scale factor were 10/1? 15/1?

Assessments/Extensions

1. Provide students with a specific volume and see if they come up with possible surface areas. For example, a rectangular prism with a volume of 180 cubic units might have dimensions of 6 by 5 by 3 or 30 by 3 by 2. Have students explain how different possibilities of dimension affect surface area.
2. Have students solve real-world word problems that assess their knowledge of surface area and volume. You may wish to create samples or use sample problems from texts or the World Wide Web.

   Sample Problems

   - Ariel bought a large cube of bird feed to put out in her backyard for all the beautiful birds. One side of the cube has an area of 9 square inches. What is the volume of the cube? (27 cubic inches)
   - Charlie's favorite snack is Crunch and Munch. He buys a big box for a special treat and wants to figure out exactly how much of his sweet and salty snack is in the box. The box has a base area of 18 square inches, and the height is 2 feet. How many cubic inches of snack fills the box? (432 cubic inches)
   - A local movie theatre is deciding whether they will serve popcorn in a bucket or in a box. The bucket is a cylinder with a radius of 2 inches and a height of 7 inches. The box is a rectangular prism with a length of 4 inches, width of 2 inches, and height of 11 inches. What is the surface area and volume of both containers? If you were the theatre owner, how would you determine which package to use? Provide reasons for your answer.

3. Provide students with the box in which the sugar cubes were contained. Have students measure the box and a single sugar cube. Have students predict how many sugar cubes it would take to fill the box. Have students check their predictions by using the correct formula for volume and then checking their answer by "filling" the box. Extend the lesson by asking students the following types of questions:
   - If the sugar company decided to decrease the size of the sugar cubes and make them ½ in. on all sides, how many ½ in. sugar cubes would it take to fill the box?
   - The sugar cube company packs 36 boxes in cases to ship to stores. You have been assigned the task of determining the dimensions of a case that will hold 36 boxes. Determine the dimensions and explain how you arrived at your answer.

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Recording Sheet

Scale	Measurement			Surface Area	Volume
	Length	Height	Width		
1/1					

Module: Mathematical Reasoning

Lesson Title: Which Cell Phone Plan Should I Choose?

Objectives and Standards

Students will:

- Compare two cell phone plans through examples of different usage
- Write equations to model allocation of money for cell phone usage
- Graph and solve a system of equations
- Analyze the solution and the meaning of the graph

Prerequisite Skills Common Core State Standards	Mathematical Reasoning 2014 GED® Assessment Targets	Mathematical Practices Common Core State Standards
Apply the properties of operations to generate equivalent expressions. (CCSS.Math.Content.6.EE.A.3) Use variables to represent numbers and write expressions when solving a real-world or mathematical problem/ understand that a variable can represent an unknown number or, depending on the purpose at hand, any number in a specified set. (CCSS.Math.Content.6.EE.B.6) Use variables to represent two quantities in a real-world problem that change in relationship to one another; write an equation to express one quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable. (CCSS.Math.Content.6.EE.C.9)	Solve algebraic and real-world problems that involve linear equations. (A.2.a and A.2.b) Locate points and graph linear equations on the coordinate place. (A.5.a and A.5.d) Find the slope of a line from a graph, equation, or table. (A.5.b) .	Make sense of problems and persevere in solving them. (CCSS.Math.Practice.MP1) Model with mathematics. (CCSS.Math.Practice.MP4) Use appropriate tools strategically. (CCSS.Math.Practice.MP5) Look for and make use of structure. (CCSS.Math.Practice.MP7)

Materials

- Computer with Internet access (optional)
- Information about current cell phone plans (optional)
- *What Plan Will You Choose?* Activity Sheet
- *What Plan Will You Choose?* Answer Key
- *What's the Best Plan?* Activity Sheet

Instructional Plan

Overview

In this lesson, students compare and contrast different costs associated with cell phone plans. The lesson requires that students write equations with two variables and graph the equations. Then students analyze the meaning of the graph and discuss other factors that may be important when selecting a cell phone plan.

Process

Ask students whether or not they have a cell phone and what type of plan they have. Ask students how they selected the specific plan. As a class, discuss different options provided by phone plans, such as rates charged for text messaging, rates for voice minutes, data plans, etc. Discuss the difference between pre-paid plans, monthly contracts, and one- or two-year contracts. Examples of current plans offered by cell phone companies may be included as part of the discussion.

Divide the class into small groups of 2 to 4. Explain that students will be reviewing two prepaid plans offered by two different cell phone companies. Distribute the What Plan Will You Choose? activity sheet to each student. Have students complete questions 1 to 5. When finished, have the class discuss the answers. Students may have found *x*- or *y*- values that are decimals or fractions. Discuss why this is not a viable answer. Ensure that everyone has the correct equation.

Next, have groups graph their equations using whatever method they choose (slope and *y*-intercept, *x/y* table, or *x* and *y* intercepts).

Discuss the students' graphs. Determine which plan was most popular and why. Create a list of pros and cons of each plan on the board. Discuss that there is no right answer for this question. However, investigating plans mathematically can lead one to make a better, more informed decision.

Sample Debriefing Questions

- Under what circumstances is each cell phone plan better? (Plan A is better when you talk on the phone more. Plan B is better when you send text messages more.)

- What does the graph of each equation represent? (Combinations of texts and minutes that cost exactly $25.)
- What does the space underneath the graph of the line represent? (Combinations of texts and minutes that cost less than $25.)
- What does the space above the graph of the line represent? (Combinations of texts and minutes that cost more than $25.)
- Can you use quadrant II, III, or IV?(No, because you cannot have negative minutes or negative text messages.)
- What other factors might you consider when choosing a cell phone plan? (Answers will vary.)

Assessments/Extensions

1. Have students solve a similar problem using two other cell phone plans.
2. Provide students with the average number of text messages sent and the average number of minutes used by a particular person. Have students determine which plan the person should choose and how much money would be saved.
3. Have students research and compare plans offered by two or more different companies. Have them compare different factors, such as free evening and weekend minutes or cell phones offered by the company. Discuss how these variables would affect their choices.
4. Use scenarios to have students improve their understanding of solving systems of linear equations by graphing. Assign students scenarios, such as those in Handout 2: What's the Best Plan? Have each group decide which plan best suits the situation and graph the solution. Have students share their reasons for their solutions.

What Plan Will You Choose?

Your budget allows you $25 per month for a cell phone plan. To make the best decision, you've found the two plans below. Compare the cell phone plans and select the one that's right for you.

	Voice Minutes	Text Messages
Plan A	5¢/minute	15¢/message
Plan B	10¢/minute	5¢/message

1. If you choose to only send text messages, which plan will allow you to send the most? How many will you be able to send?

2. If you choose to only talk on the phone, which plan will allow you to talk the longest? How long will you be able to talk?

3. If you talk for a total of two hours in a month, how many texts will you be able to send under Plan A? under Plan B?

4. Create names for Plan A and Plan B that clearly communicate the benefits of each plan to potential customers.

5. Write an equation for each plan to represent the number of text messages (x) and the number of voice minutes (y) you will be able to use with the $25. You should have a separate equation for each plan.

6. Graph the two equations on the same coordinate grid.

7. Where do the graphs of the equations intersect? What does this point represent?

8. Which plan would you choose? Why? Use mathematical reasoning in explaining your choice.

What Plan Will You Choose? Answer Key

1. Plan A: 166 (the exact value is 166 2/3, but you can't send a fraction of a message); Plan B: 500 Plan B allows you to send the most text messages.

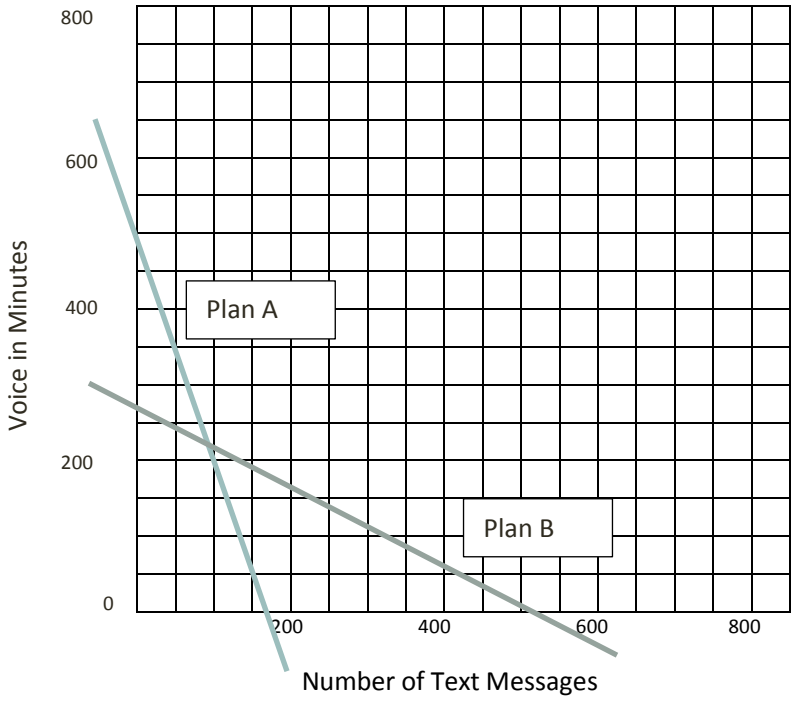
2. Plan A; 500; Plan B: 250. Plan A allows you to talk the longest.

3. Plan A: 126 (the exact value is 126 2/3, but you can't send a fraction of a message); Plan B: 260

4. Answers will vary.

5. Plan A: 25 = 0.15x + 0.05y and Plan B: 25 = 0.05x + 0.1y

6. Graph the two equations on the same coordinate grid.



7. The graphs intersect at (100,200). This represents the number of text messages and the number of minutes used when both plans are the same.

8. Use mathematical reasoning in explaining your choice. Answers will vary. However, possible answers may be Plan B because I text more than talk or Plan B because the prices are lower per minute or Plan A because I talk more than text.

What's the Best Plan?

Scenario #1

Dave talks on his cell phone approximately 750 minutes a month. Most of his friends are Cell Wireless subscribers. He also sends and receives about 200 texts a month. Which plan should Dave choose?

Scenario #2

Dave talks on his cell phone approximately 250 minutes a month. Most of his friends are Mobile Cell subscribers. He also sends and receives about 500 texts a month. Which plan should Dave choose?

Cell Wireless

Plan	Plan A	Plan B
Features	300 minutes/month Unlimited night & weekend minutes Unlimited calling to all Cell Wireless subscribers No long distance charges 250 Incoming/Outgoing texts with non-Cell Wireless subscribers Unlimited texts to Cell Wireless subscribers	500 minutes/month Unlimited night & weekend minutes Unlimited calling to all Cell Wireless subscribers No long distance charges 500 Incoming/Outgoing texts with non- Cell Wireless subscribers Unlimited texts to Cell Wireless subscribers
Monthly Charge	$29.99	$44.99
Additional Features	$10.00 –Unlimited Incoming/ Outgoing texts with non- Cell Wireless subscribers $0.10 – Each additional text over 250 $0.20 – Each additional minute over 300 minutes	$8.00 – Unlimited Incoming/ Outgoing texts with non- Cell Wireless subscribers $0.05 – Each additional text over 500 $0.15 – Each additional minute over 500 minutes

Mobile Cell

Plan	Plan A	Plan B
Features	450 minutes/month Unlimited night & weekend minutes Unlimited calling to all Mobile Cell subscribers No long distance charges 400 Incoming/Outgoing texts with non-Mobile Cell subscribers Unlimited texts to Mobile Cell subscribers	600 minutes/month Unlimited night & weekend minutes Unlimited calling to all Mobile Cell subscribers No long distance charges 800 Incoming/Outgoing texts with non- Mobile Cell subscribers Unlimited texts to Mobile Cell subscribers
Monthly Charge	$41.99	$55.99
Additional Features	$10.00 - Unlimited Incoming/Outgoing texts with non- Mobile Cell subscribers $0.10 – Each additional text over 400 $0.15 – Each additional minute over 450 minutes	$8.00 - Unlimited Incoming/Outgoing texts with non- Mobile Cell subscribers $0.05 – Each additional text over 800 $0.05 – Each additional minute over 600 minutes