Getting Started with Instructional Strategies and Activities

A Sampler of Materials from Florida IPDAE

Trainers

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Included in this guide are sample materials from the Florida IPDAE website. For additional materials and resources, go to floridaipdae.org

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Mathematical Reasoning

Sample Activity from Mathematical Reasoning Workshop

In this number puzzle, each letter (q - z) represents a different digit from 0-9. Find the correspondence between the letters and the digits. Be prepared to explain where you started, and the order in which you solved the puzzle.

1. $u \bullet r = z$
2. $t + w = t$
3. $r + r + r + r = z$
4. $x + y = q$
5. $s \bullet v = s$
6. $x^2 = q$
7. $r + r = u$
8. $x + u = s$
9. $\frac{y}{z} = \frac{x}{u}$

Sample Handout from Algebra MOOC

Beginning Algebra ~ Lesson 22

Work the following examples as you listen to the recorded lecture.

Slope Rule for Linear Equations

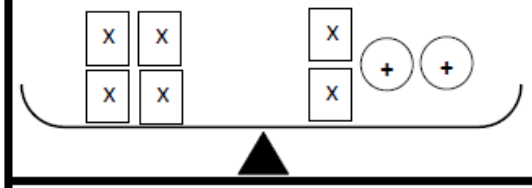
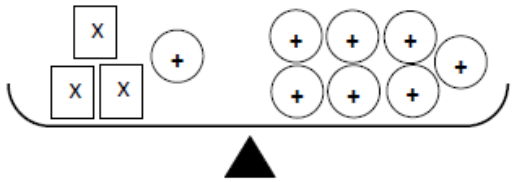
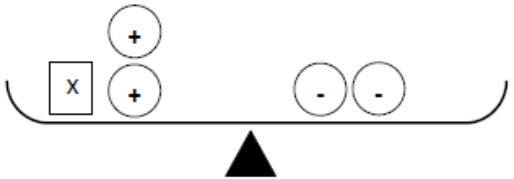
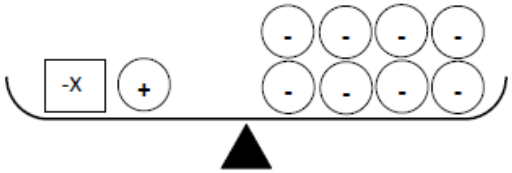
Slope of a linear equation is really the direction of the line. We also think of slope as the slant or steepness of a line, and it can be measured. As you have seen in earlier instruction, slope is equal to the vertical change in a line (called the rise) over the horizontal change (called the run). Therefore you may think of slope as the change in y over the change in x. Since we can define and measure slope in terms of changes in y and x, we can also calculate slope from two points on the same line. Take a close look at the following examples:

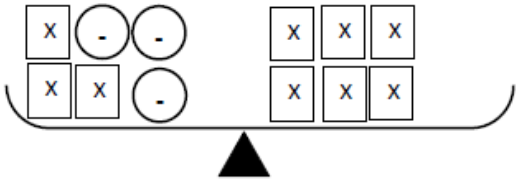
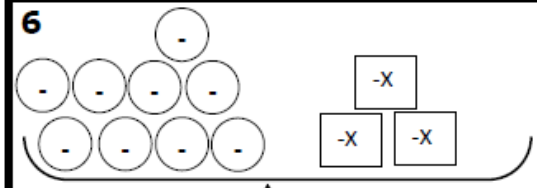
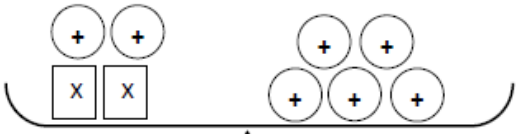
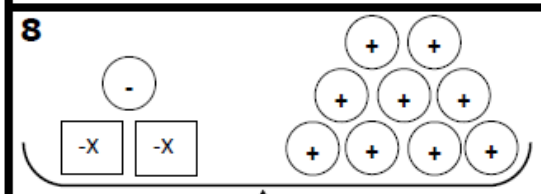
Two Points on a Line	Calculations for Slope
$(3,1)\ and\ (4,-2)$	$m = \frac{-2-1}{4-3} = \frac{-3}{1} = -3$
$(-2,0)\ and\ (1,5)$	$m = \frac{5-0}{1-(-2)} = \frac{5}{3}$
$(4,3)\ and\ (-1,-2)$	$m = \frac{-2-3}{-1-4} = \frac{-5}{-5} = 1$
$(0,6)\ and\ (4,-2)$	$m = \frac{-2-6}{4-0} = \frac{-8}{4} = -2$

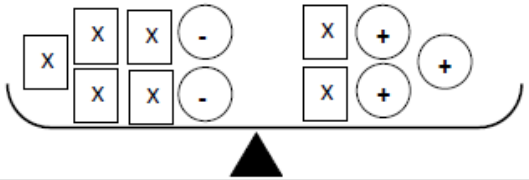
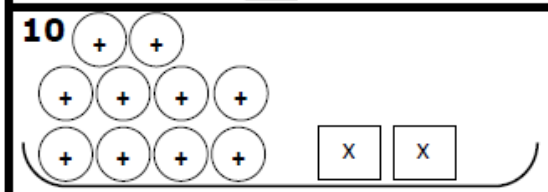
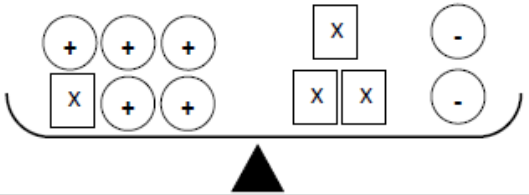
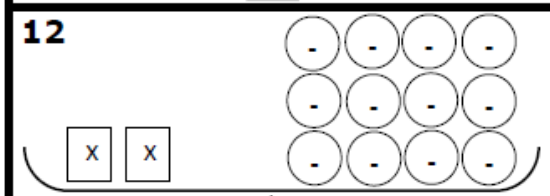
Use the Slope Rule to calculate the slope for the following lines.

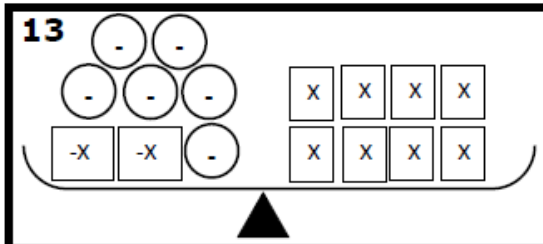
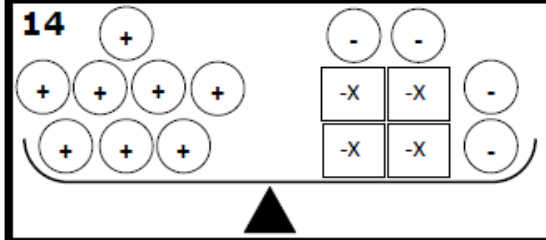
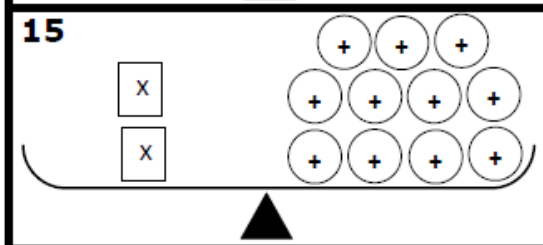
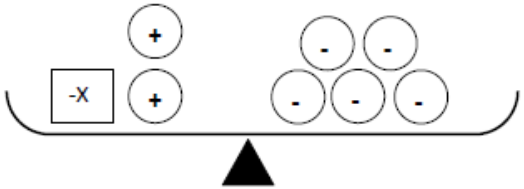
Two Points on a Line	Calculations for Slope
$(4,3)\ and\ (-1,-2)$	$m =$
$(0,6)\ and\ (4,-2)$	$m =$
$(2,-1)\ and\ (3,-6)$	$m =$
$(5,0)\ and\ (-4,2)$	$m =$

Sample Game from Math Workshop: Algebra Match

1 	**H** $4x = 2x + 2$	□ $x = 1$
2 	**P** $3x + 1 = 7$	**Ю** $x = 2$
3 	**M** $x + 2 = -2$	ǂ $x = -4$
4 	**C** $-x + 1 = -8$	* $x = 9$

5 	**G** $3x - 3 = 6x$	**!!** $x = -1$
6 	**D** $-9 = -3x$	**Δ** $x = 3$
7 	**L** $2x + 2 = 5$	**••** $x = 1.5$
8 	**I** $-2x - 1 = 9$	**#** $x = -5$

9 	**F** $5x - 2 = 2x + 3$	※ $x = 1\frac{2}{3}$
10 	**O** $10 = 2x$	↔ $x = 5$
11 	**K** $x + 5 = 3x - 2$	[+] $x = 3\frac{1}{2}$
12 	**N** $2x = -12$	§ $x = -6$

13 	**A** $-2x - 6 = 8x$	«« $x = -\frac{3}{5}$
14 	**J** $8 = -4x - 4$	% $x = -3$
15 	**B** $2x = 11$	÷ $x = 5.5$
16 	**E** $-x + 2 = -5$	♪ $x = 7$

Reasoning through Language Arts

Sample Lesson Plan for Reasoning through Language Arts

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

Reasoning through Language Arts 2014 GED® Assessment Targets
• 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: _____

_____

_____

_____

Excerpt from the Florida's Instructor Handbook for GED® Preparation

Overview of Effective Writing Strategies

Just like in reading instruction, no single approach to writing instruction will meet the needs of every student. Instead, it's important that multiple strategies be used in the GED® classroom. Research-supported strategies include the following areas:

- **Writing strategies:** Explicitly teach students strategies for planning, revising, and editing their written products. This may involve teaching general processes (e.g., brainstorming or editing) or more specific elements, such as steps for writing a constructed response. When teaching a strategy, first model the strategy multiple times, provide assistance as students practice using the strategy on their own, and allow for independent practice with the strategy once they have learned it. Self-efficacy is important for students as they make strategies their own.
- **Summarizing text:** Explicitly teach students procedures for summarizing what they read. Summarization allows students to practice concise, clear writing to convey an accurate message of the main ideas in a text. Teaching summary writing can involve explicit strategies for producing effective summaries or gradual fading of models of a good summary as students become more proficient with the skill.
- **Collaborative writing:** Allow students to work together to plan, write, edit, and revise their writing. Provide a structure for cooperative writing and explicit expectations for individual performance within their cooperative groups or partnerships. For example, if the class is working on using descriptive adjectives in their compositions, one student could be assigned to review another's writing. He or she could provide positive feedback, noting several instances of using descriptive vocabulary, and provide constructive feedback, identifying several sentences that could be enhanced with additional adjectives. After this, the students could switch roles and repeat the process.
- **Goals:** Set specific goals for the writing assignments that students are to complete. The goals can be established by the teacher or created by the class themselves, with reviews from the teacher to ensure they are appropriate and attainable. Goals can include (but are not limited to) adding more ideas to a paper or including specific elements of a writing genre (e.g., in an opinion essay include at least three reasons supporting your belief). Setting specific product goals can foster motivation, and teachers can continue to motivate students by providing reinforcement when they reach their goals.

- **Word processing:** Using a computer for completing written tasks not only assists students in learning how to use technology, but improves the writing process. With a computer, text can be added, deleted, and moved easily. Furthermore, students can access tools, such as spell check, to enhance their written compositions. As with any technology, teachers should provide guidance on proper use of the computer and any relevant software before students use the computer to compose independently.
- **Sentence combining:** Explicitly teach students to write more complex and sophisticated sentences. Sentence combining involves teacher modeling of how to combine two or more related sentences to create a more complex one. Students should be encouraged to apply the sentence construction skills as they write or revise.
- **Process writing:** Implement flexible, but practical classroom routines that provide students with extended opportunities for practicing the cycle of planning, writing, and reviewing their compositions. The process approach also involves: writing for authentic audiences, personal responsibility for written work, student-to-student interactions throughout the writing process, and self-evaluation of writing.
- **Inquiry:** Set writing assignments that require use of inquiry skills. Successful inquiry activities include establishing a clear goal for writing (e.g., write a story about conflict in the workplace), examination of concrete data using specific strategies (e.g., observation of an experiment and recording their reactions), and translation of what was learned into one or more compositions.
- **Prewriting:** Engage students in activities prior to writing that help them produce and organize their ideas. Prewriting can involve tasks that encourage students to access what they already know, do research about a topic they are not familiar with, or arrange their ideas visually (e.g., graphic organizer) before writing.
- **Models:** Provide students with good models of the type of writing they are expected to produce. Teachers should analyze the models with their class, encouraging students to imitate in their own writing the critical and effective elements shown in the models.

References

- Gillespie, A. & Graham, S. Evidence-based practices for teaching writing. (2011). Retrieved from the World Wide Web at: http://education.jhu.edu/newhorizons/Better/articles/Winter2011.html
- Graham, S., & Perin, D. (2007). *Writing next: Effective strategies to improve writing of adolescent in middle and high schools – A report to Carnegie Corporation of New York.* Washington, DC: Alliance for Excellent Education.

Sample Graphic Organizer from RLA Lesson Plan

Constructed Response Organizer

<table>
<tr><td colspan="3">Prompt/Question:</td></tr>
<tr><td>Restatement of question in own words</td><td colspan="2"></td></tr>
<tr><td>Claim</td><td colspan="2"></td></tr>
<tr><td rowspan="2">Evidence
Detailed body of evidence or reasons that support answer – include enough details to answer the question. Make sure all details support the claim and are not off-topic.</td><td>Text 1</td><td>Text 2</td></tr>
<tr><td></td><td></td></tr>
<tr><td rowspan="2">Counterargument(s)</td><td>Claim</td><td>Rebuttal</td></tr>
<tr><td></td><td></td></tr>
<tr><td>Restated question
Concluding thoughts</td><td colspan="2"></td></tr>
</table>

Social Studies

Sample Graphic Organizer from Social Studies Workshop

Putting It All Together: Reading Nonfiction Text

Identify the main or central idea	
Summarize the main idea in your own words	
Provide supporting details	
How does this connect to previous learning?	
How is the text organized?	
How does this organization of the text help you understand it?	

What is the author's purpose?	
Is the author credible? How do you know?	
How does the author validate his/her claim?	
Is the evidence convincing? Why or why not?	
Try to challenge this information using facts and/or reliable sources.	

Sample Activity from Social Studies Lesson Plan

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

Science

Sample Materials from Science Workshop

Breaking It Down – Analyzing Science Text

Analyze the text. Which words or details support your conclusion?

1 Passage from the text	
Your analysis or conclusion	
Evidence and details that support or disprove your conclusion	
2 Passage from the text	
Your analysis or conclusion	
Evidence and details that support or disprove your conclusion	

Sample Science Experiment from Science Grab and Go

Distances in the Solar System

Even in our own "cosmic neighborhood," distances in space are so vast that they are difficult to imagine. In this activity, we will build a scale model of the solar system using a roll of toilet paper.

Materials

- Planetary distances table
- Roll of toilet paper
- Gel pen or felt tip pen to write on toilet paper

Doing the Activity

Take one sheet of toilet paper as a test sheet for the pens. Make sure the ink is not too wet, that the pens don't easily tear the paper. Make a dot on the seam between the first two sheets of toilet paper. This is the Sun. Write the word Sun beside the dot.

Use the table of numbers to mark off the distances to each of the planets. The number in the table is the number of sheets of toilet paper needed to reach the orbit of each planet. It is important to realize that the counts in the table are starting from the Sun, not from the previous planet. (Thus, after you get to Mercury, you need 1.7 more sheets to get to Venus.) Make a dot and write the appropriate planet name on the toilet paper at the distance indicated. Ceres, the largest asteroid, is used to represent the asteroid belt. Pluto, no longer a planet, is in the table to show students just how vast our solar system really is.

Note:

- Keep a running count as you work on this. Each distance is from your starting point, the Sun
- 200 sheets of toilet paper stretch out to nearly 84 feet. Make sure you have room for your model before you start.
- Use colored pens to mark the distance to the planet's orbit from the Sun and label the orbit with the planet's name on the toilet paper.

Planet	Distance from the Sun (km)	Squares of Toilet Paper from the Sun
Mercury	57,910,000 km	2.0
Venus	108,200,000 km	3.7
Earth	149,600,000 km	5.1
Mars	227,940,000 km	7.7
Ceres	414,436,363 km	14.0
Jupiter	778,330,000 km	26.4
Saturn	1,429,400,000 km	48.4
Uranus	2,870,990,000 km	97.3
Neptune	4,504,000,000 km	152.5
Pluto	5,913,520,000 km	200

Resources from the World Wide Web

Mathematical Reasoning

Annenberg Learner. Courses of study in such areas as algebra, geometry, and real-world mathematics. The Annenberg Foundation provides numerous professional development activities or just the opportunity to review information in specific areas of study. http://www.learner.org/index.html

Common Core Conversation. Links to math sites for use with all levels of mathematical standards. http://www.commoncoreconversation.com/math-resources.html#sthash.Dznxgkbn.dpbs

Free Resources for Educational Excellence. Teaching and learning resources from a variety of federal agencies. This portal provides access to free resources. http://free.ed.gov/index.cfm

Get the Math. How algebra is used in real-world situations. http://www.thirteen.org/get-the-math/

Illuminations. Great lesson plans for all areas of mathematics at all levels from the National Council of Teachers of Mathematics (NCTM). http://illuminations.nctm.org

Inside Mathematics. A professional resource for educators, including classroom examples of innovative teaching methods and insights into student learning. http://insidemathematics.org/index.php/home

Key Elements to Algebra Success 46 lessons, homework assignments, and videos. http://ntnmath.keasmath.com/

Khan Academy. A library of over 2,600 videos covering everything from arithmetic to physics, finance, and history and 211 practice exercises. http://www.khanacademy.org/

The Math Dude. A full video curriculum for the basics of algebra. http://www.montgomeryschoolsmd.org/departments/itv/MathDude/MD_Downloads.shtm

Math in the News. Media4Math. This site provides you with information/articles of how math is used in the real world. http://www.media4math.com/MathInTheNews.asp

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Math Planet. Math Planet is a dedicated web site to the advancement of mathematics. http://library.thinkquest.org/16284/index_s.htm

Geometry Center. (University of Minnesota). This site is filled with information and activities for different levels of geometry. http://www.geom.uiuc.edu/

Online Resources for Teaching and Strengthening Fundamental, Quantitative, Mathematical, and Statistical Skills. NICHE. A wide array of resources for the different types of mathematical skills.
http://serc.carleton.edu/NICHE/teaching_materials_qr.html#partone

National Library of Virtual Manipulatives for Math - All types of virtual manipulatives or can be purchased as a dvd. This is a great site for students who need to see the "why" of math. http://nlvm.usu.edu/en/nav/index.html

PBS Teacher Source. Lesson plans and lots of activities are included in the teacher section of PBS. http://www.pbs.org/teachers

Real-World Math. Ideas for how math is used in today's world.
http://www.realworldmath.org/

Teacher Guide for the TI-30XS MultiView™ Calculator – A guide to assist you in using the new calculator, along with a variety of lesson plans for the classroom.
http://education.ti.com/en/us/guidebook/details/en/62522EB25D284112819FDB8A46F90740/30x_mv_tg

http://education.ti.com/calculators/downloads/US/Activities/Search/Subject?s=5022&d=1009

TES. With more than 2.3 million registered online users in over 270 countries and territories, TES provides a wealth of free resources in all academic areas.
http://www.tes.co.uk/

Working with Algebra Tiles. An online workshop that provides the basics of using algebra tiles in the classroom.
http://mathbits.com/MathBits/AlgebraTiles/AlgebraTiles.htm

Reasoning through Language Arts

Aspen Institute. Materials for teaching close reading skills that are tied to standards. This site also provides leadership materials. http://www.aspendrl.org/portal/Home

Free Resources for Educational Excellence. Teaching and learning resources from a variety of federal agencies. This portal provides access to free resources. http://free.ed.gov/index.cfm

National Council for Teachers of English. This site provides lessons and strategies for teaching nonfiction text. http://www.ncte.org/kits/nonfictionlessons

Newsela. A site with nonfiction articles available in 4-5 different Lexile Levels with many of them providing a quiz that is aligned to a specific anchor standard. It is necessary to sign up for the free account to see the different level of articles. https://newsela.com/

PBS Teacher Source. Lesson plans and lots of activities are included in the teacher section of PBS. http://www.pbs.org/teachers

ProCon.org. A website that provides both sides of the argument. Useful for use in teaching argumentative writing. http://www.procon.org/

Purdue University's OWL. One of the most extensive collections of advice about writing found on the web. http://owl.english.purdue.edu/

RAFTS Northern Nevada Writing Project. The project includes print materials that may be purchased, as well as access to RAFTS prompts that can be generated electronically. http://www.unr.edu/educ/nnwp/index.html

ReadWriteThink. From the International Reading Association and the National Council of Teachers of English, this site has classroom resources and professional development activities in the area of integrated reading, writing, and thinking skills. http://www.readwritethink.org/

Teach 4 Results. A list of resources for teaching the writing process. http://iteach4results.wikispaces.com/*Writing

Teaching That Makes Sense. A K-12 site with lots of free resources and graphic organizers from Steve Peha. http://ttms.org/

The Writing Studio – Colorado State University. A step-by-step guide for argumentative writing. http://writing.colostate.edu/guides/guide.cfm?guideid=58

Tools for Teachers: Engaging in Academic Writing. Resources from the Aspen Institute on implementing more rigorous reading and writing skills. http://www.aspendrl.org/portal/browse/CategoryList?categoryId=281

Writer's Web. Materials from the University of Richmond's Writing Center. http://writing2.richmond.edu/writing/wweb.html

Social Studies

Annenberg Interactives. Access lessons and activities for all areas of learning. http://www.learner.org/interactives

An Outline of American History. An overview of history and government developed as part of *The American Revolution—an HTML Project.* *h*ttp://www.let.rug.nl/usa/

Consumer Index Calculator - The Federal Reserve Bank of Minneapolis Find out the cost of items from different points in time. http://www.minneapolisfed.org/index.cfm

Daryl Cagle's Professional Cartoonists Index! This site includes cartoons from over sixty cartoonists on a variety of topics, plus a teacher's guide, games, and activities. The site stays current. http://www.cagle.com

Digital History. An interactive, multimedia history of the United States from the Revolution to the present. http://www.digitalhistory.uh.edu/

DocsTeach – This site includes links to primary sources, lesson plans, activity ideas, and template to build your own lessons. http://docsteach.org/

Four Reads: Learning to Read Primary Documents. Take a step-by-step process for learning how to read primary documents. http://teachinghistory.org/teaching-materials/teaching-guides/25690

History World This is a massive site with histories, timelines, quizzes, and more, an excellent resource. http://www.historyworld.net/

- Brain Teasers - http://www.historyworld.net/chronology/teaser1.asp
- Places in History - http://www.historyworld.net/about/googlemaps.asp?gtrack=more

Lessons for Economics. Developed through the National Foundation for Teachers of Economics, this site provides a variety of lessons for use in the classroom. http://www.fte.org/

National Archives and Records Administration. The website of the National Archives. All types of educational units and copies of national documents are available from this governmental site. http://www.archives.gov

National Geographic. This section of the National Geographic website has political, physical, cultural, and weather maps to download for use in the classroom. http://maps.nationalgeographic.com/maps

National Public Radio (NPR) Podcast Directory. All types of podcasts from National Public Radio to assist students in staying informed. http://www.npr.org/rss/podcast/podcast_directory.php

Teaching History – National History Clearinghouse. This site has a lot of materials to assist in the teaching of history. http://teachinghistory.org

The Dirksen Center – CongressLink – Lesson plans and resources to help students understand Congress and government. http://www.congresslink.org/print_lp_simulatecongaction.htm

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

The History Channel. The History Channel provides both historic and current topics, readings, audio and video recordings, and lessons for the classroom. http://www.history.com/

The Library of Congress. The Library of Congress has historic documents, as well as timelines and articles that can be downloaded for classroom use. http://www.loc.gov/teachers/

- Teaching with the Library of Congress - Blog http://blogs.loc.gov/teachers/

- Classroom Materials – Primary Source Sets from the Library of Congress http://www.loc.gov/teachers/classroommaterials/

The Road to Citizenship Quiz Game. The History Channel website. 2013. Available at: http://www.history.com/interactives/the-road-to-citizenship-quiz-game.

U. S. Department of State. Basic Readings in U.S. Democracy. From the Mayflower Compact to excerpts from presidential debates, this site from the U. S. Department of State has a variety of resources for use in the classroom. http://usinfo.org/enus/government/overview/demo.html

Science

ABC Science. News, video clips, games, and lots of activities for the science classroom from the American Broadcasting Company. http://www.abc.net.au/science/

Annenberg: The Habitable Planet. The Habitable Planet is a multimedia course for high school teachers and adult learners interested in studying environmental science. The Web site provides access to course content and activities developed by leading scientists and researchers in the field. http://www.learner.org/channel/courses/envsci/index.html

Annenberg Science in Focus: Force and Motion. Explore science concepts in force and motion and come away with a deeper understanding that will help you engage your students in their own explorations. With science and education experts as your guides, learn more about gravity, friction, air resistance, magnetism, and tension through activities, discussions, and demonstrations. http://www.learner.org/channel/workshops/force/

BBC Science. From space to the human body to, this interactive site allows learners to discover many different facets of science. http://www.bbc.co.uk/sn/

Cells Alive. This site can be used by teachers and students. Lots of great interactivity and resources on the basics of cells. http://www.cellsalive.com/toc.htm

Discovery Channel. The website has lots more information than even the channel. Lots of interactivity with excellent videos, interactivity, and high-level games. http://www.discovery.com/

Edheads. An organization that provides engaging web simulations and activities. Current activities focus on simulated surgical procedures, cell phone design (with market research), simple and compound machines, and weather prediction. http://edheads.org/

Exploratorium Online. Since 1993, the Exploratorium was one of the first science museums to build a site on the World Wide Web. The site contains over 15,000 articles and displays including interactivity regarding science. http://www.exploratorium.edu/

Franklin Institute. Excellent collection of online resources and activities designed to create curiosity and promote science in everyday life. http://www.fi.edu/explore.html

How Stuff Works. Ever wondered why a cd works? How about the ten myths about the brain? How about what would happen if you put sugar in your gas tank? An interesting science site filled with real-world information. http://www.howstuffworks.com/

Interactive Websites for Teaching Science. Just click on one of the topics and explore the myriad of resources on the World Wide Web. http://interactivesites.weebly.com/science.html

Live Science. Articles from the headlines in all of the various areas of science. Great non-fiction materials. http://www.livescience.com/

National Science Teachers Association. Don't forget the professional organization for science teachers. This site has lots of ideas, lessons, and scientific updates.
http://www.nsta.org/

NEWSELA. This website is an innovative way to build reading comprehension with nonfiction through daily news articles..https://newsela.com/

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/

Nye Labs.com This is indeed "Bill Nye, the science guy" with lots of activities and applications for science. http://www.billnye.com

PBS: Science & Nature. Highlights and background information on every Science-based PBS program on the air; check out the Science for the Classroom link. http://www.pbs.org/science/

Steve Spangler. This site has lots of free experiments and videos for use in the classroom. http://www.stevespanglerscience.com/lab

The Why Files. University of Wisconsin, Board of Regents. Real world articles to support all areas of science. Click on the "Why Files in Education." http://whyfiles.org/teach/

Understanding Science. The Understanding Science website is a fun, free resource that aims to accurately communicate what science is and how it really works. It provides "an inside look at the general principles, methods, and motivations that underlie all of science." http://undsci.berkeley.edu/

Weather Classroom. The Weather Classroom presents all kinds of online interactive resources for students and teachers; worth investigating. http://www.weatherclassroom.com/index.php