

Impacting Student Learning in a Professional Learning Community

Robert Eaker & Janel Keating

Uncontrollable Variables

- Kids can't pick their parents
- Kids can't pick where they live
- Kids can't pick the school they attend
- Kids can't pick their teacher
- Kids can't pick the high-stakes summative assessments

Controllable Variables

- A school culture in which collaborative teams develop:*
- A school and classroom culture of caring and encouragement
- A guaranteed, viable curriculum
- Effective, researched-based teaching strategies
- Frequent formative monitoring of student learning
- Additional time, support, and enrichment
- Frequent recognition and celebration of improvement

Four Critical Questions of a PLC

1. What do we want each student to learn?
2. How will we know if each student is learning it?
3. How will we respond when a student is experiencing difficulty with learning it?
4. How will we respond if the student already knows it?

White River's plan to address the Four Critical Questions

Question One: What do we want each student to learn?

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Question Two: How will we know if each student is learning it?

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Question Three: How will we respond when students experience difficulty?

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Question Four: How will we respond if the student already knows it?

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Do We Have Team Norms or “Nice to Knows”?

Posted on October 25, 2010, by Kenneth Williams

By Ken Williams, PLC at Work™ associate

Roadblock: Lack of Accountability Protocol

Some teams do a great job of developing norms. Members agree and commit to them, even posting them on chart paper to be prominently displayed at every meeting. Elementary school teams often add attractive artwork in the form of ladybugs and bumblebees, and they may even go as far as laminating the chart paper. They feel great about the process. They know they've made progress.

But here's what they *don't* realize: no matter how well-developed norms are, no matter how committed the teammates are, no matter how prominently the norms are displayed, someone is going to violate them. I know it's hard to fathom, but someone who agreed to the posted norms, who put their magic marker thumbprint on the poster and signed around it in a show of real commitment, who high-fived at the end of the norms creation session is going to violate one—or more—of them. And when that happens, the team finds itself at a crossroad. Teammates will begin to awkwardly look at one another, trying to figure out the next step and appropriate response. The questions of how to respond and who is going to respond will dominate their thoughts. Why? They did not establish an accountability protocol. In my work with hundreds of PLC teams, I find this step to be the one most commonly missed by teams that have established norms.

They don't have a process for answering the following question: *What is our process for holding each other accountable in a respectful and dignified manner?* Unanswered, this question is a definite team-dynamic derailer. Without this process in place, teams will end up with a list of “nice to knows,” rather than effective team norms.

Reason: “No One Will Violate the Norms”

Teams typically experience waves of positive feelings soon after establishing team norms and mistakenly believe that the mere establishment of behavioral commitments is the end of the process. The feeling of accomplishing the task of developing team norms sometimes blinds teams to the fact that they have to know how to respond when violations occur. The truth is, they don't believe that violations will occur.

In my experience, I don't see teams skipping this step intentionally. In fact, most of the literature regarding team norms does not adequately address this step. The harsh reality is that the time and energy invested in

developing team norms does not eliminate the need to have a protocol ready for when norms are violated. Without accountability protocols, one of three scenarios typically occur:

- The norm violation is not addressed, and as a result, unspoken tension and frustration grow within the collaborative team.
- The norm violation is addressed, but inappropriately. With no established protocol, reaction to the confrontation becomes defensive.
- Too early in the process, the team takes the issue to the principal for him or her to handle.

When teams establish a process for holding each other accountable when someone violates a norm, then unnecessary confrontations and unspoken tensions are avoided. It's a given that violations will occur, and collaborative teams that have a predefined process for dealing with them will be the ones that become highly effective. Teams that don't engage in this very important step will often end up with a list of "nice to knows" instead of effective team norms and commitments. Teams that do address the question, "What happens when?" create the kind of safety and predictability on their team that serves to accelerate the collaborative culture.

PROFESSIONAL LEARNING COMMUNITIES

2011-2012 Team Planning Guide

School: White River High School

Team:

Targeted Work:
 Standards/Power Standards
 Common Pacing Guide
 Common Assessments (Pre, Formative, Post)
 *TACA: Team Analysis of Common Assessments

Lesson Planning, Differentiated Instruction Planning
 Checks for understanding
 Student practice/homework
 Additional Time and Support/enrichment
 Redo/Repeat

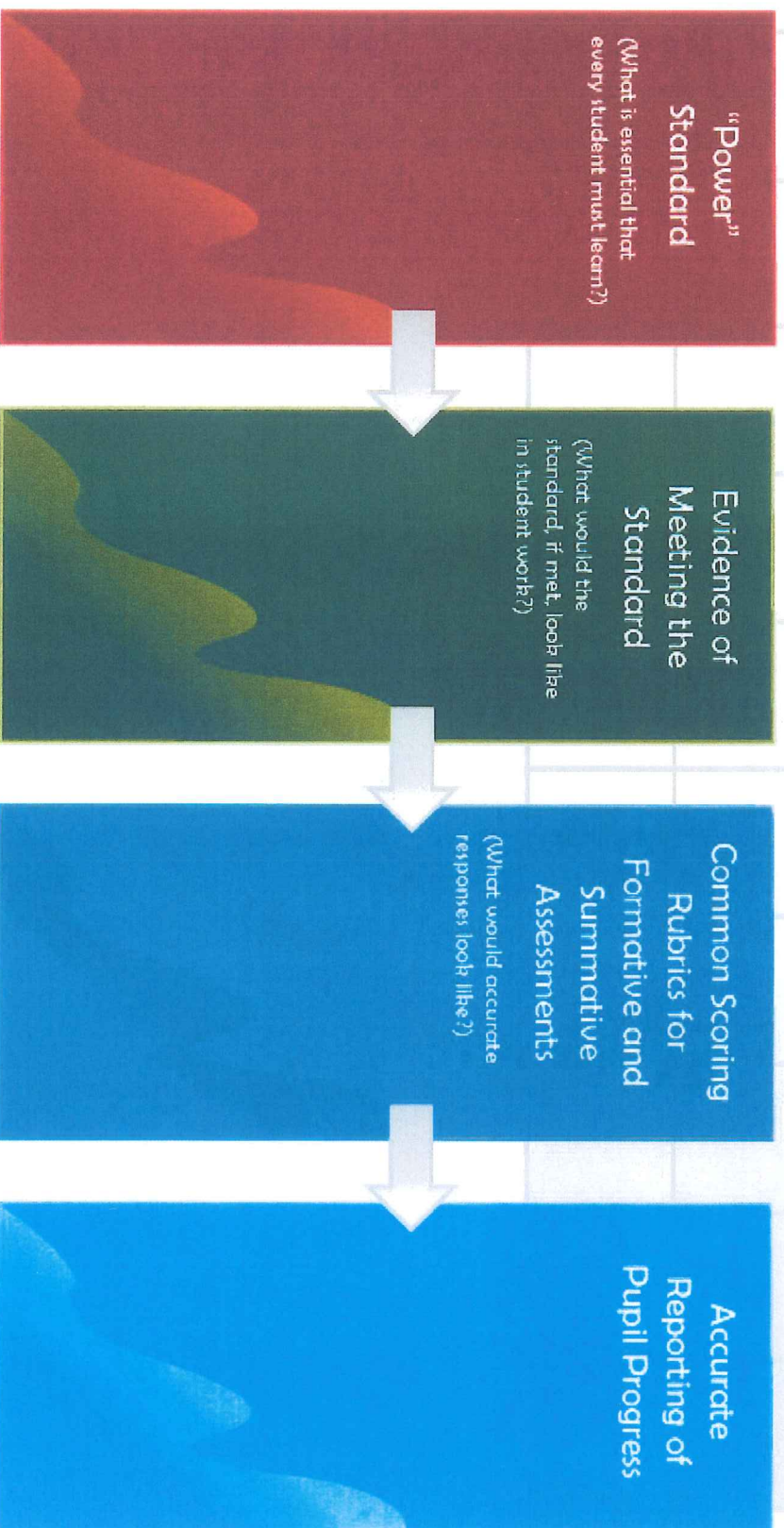
When

September	Date: 9/5
	No PLC – Labor Day
	Date: 9/12/11
	Date: 9/19/11
	Date: 9/26/11

What's upcoming in October?

Accurately Reporting Student Standard-Based Progress: Prerequisite Collaborative Planning

Robert Eaker and Jamel Keating



LINEAR EQUATIONS AND SYSTEMS (8.EE.C)

Over the next month, you'll be studying equations, graphs, problem solving, and real-world scenarios that involve 1-2 data sets. While our data will grow at a constant rate, in high school you'll study data that grows in other ways. For example, the population of a large city may grow exponentially.

Essential Questions

* **Concept:** How can I interpret solutions to linear equations and systems?

* **Skill:** How can I solve linear equations and systems?

* **Application:** How can I solve real-world problems involving linear data?

Learning Targets

I can solve equations that have integers. This means I can write out precise steps such as the Distributive Property, combining like terms, or inverse operations. Also, I can interpret my solution contextually. (DOK 1,2)

I can solve equations with rational coefficients. This means I can extend my previous work to equations that have fractions or decimals. (DOK 1,2)

I can predict an equation's type or number of solutions. This means I can think strategically about an equation. Without solving it, I can determine whether the solution would be positive, negative, zero, or not exist. (DOK 3)

I can create equations that have infinitely many, one, or no solution(s). This means I can fill in missing numbers to make the two sides of an equation always, sometimes, or never equal. Also, if I solve an equation that ends up with two identical or equal sides, I can interpret the result. (DOK 2)

I can analyze graphs of systems. This means I can locate a point of intersection and explain what its coordinates mean. Moreover, I can make real-world decisions based on which line is higher on the graph. (DOK 2,3)

I can solve a system by graphing. This means I can use $y=mx+b$, or evaluate functions, to draw precise lines that intersect. Also, I can interpret my solution contextually. (DOK 1,2)

I can create graphs that have one, zero or infinitely many solutions. This means I can use geo-boards to build lines that are intersecting, parallel, or collinear. Then, I can describe my lines with equations. (DOK 3)

I can model real-world scenarios with mathematics. This means I can solve problems by drawing diagrams, collecting data in tables, analyzing graphs, or transforming given information into equations. (DOK 2,3)

Vocabulary to Master

coefficient	constant	distribute	infinitely-many	interpret
like terms	linear	point of intersection	precise	slope
Slope-Intercept Form	solution	Standard Form	system	y-intercept

Evaluating Functions Test

Name _____ Period _____

List of Skills	Minimal Understanding 1	Nearing Mastery 2	Demonstrated Mastery 3
I can determine whether the relation is a function. (#1)			
I can determine which points satisfy the equation. (#2, 3, 4, 5)			
I can choose the rules that represents the scenario (#6, 9)			
I can analyze data. (#7, 8)			
I can determine whether the relation is linear. (#10)			

GRADING RUBRIC

4.0	A+	15
3.75	A	13-14
3.5	B+	12
3.25	B-	11
3.0	C	10
2.75	D+	8-9
2.5	D-	7
2.0	F	0-6

Directions: On every problem, show supporting evidence for ALL of your answers.

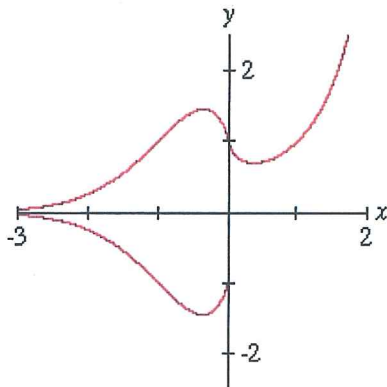
1. Circle the letter of **all** relations that are functions.

A. $y = \frac{1}{2}x + \frac{1}{3}$

B.

x	y
3	-9
0	-6
-1	-3
-1	0
4	3

C.



D. $\{(-2, 2), (-1, 1), (0, 0), (1, 1)\}$

2. Circle the letter of **all** ordered pairs that satisfy the function $y = -5x + 6$.

- A. $(-4, -14)$
- B. $(-1, 11)$
- C. $(3, -9)$
- D. $(5, -31)$

3. The volume of water, in gallons, in a water tower, depends on the time (t), in hours, and can be modeled by the function, $y = -50t + 3000$.

Circle the letter of **all** of the ordered pairs that satisfy the function.

- A. (2500, 10)
- B. (10, 2500)
- C. (0, 3000)
- D. (3000, 0)

4. Can the table of values be represented by the function, $y = 3x + 2$? Explain.

x	y
-4	-10
-3	-7
-2	-4
-1	-1
0	2

5. Michael wrote the table of values to represent the function, $y = x^2$. Find and fix **all** of his mistakes.

x	y
-10	100
-7	-14
-4	16
-2	-4
0	0

6. Andrea's health club has a \$75 enrollment fee. It also costs her \$27.50 per month to keep her membership active.

Select the equation that models the relationship between the amount of money (A), in dollars, that she spends after m months.

- A. $A = 75m + 27.50$
- B. $A = -75m + 27.50$
- C. $A = 27.50m + 75$
- D. $A = -27.50m + 75$

7. Create a story that could completely represent the data table.

x	y
0	4
2	12
4	20
6	28

8. This table shows the relationship between the monthly cell phone cost from **Company A** and the number of minutes used within a month.

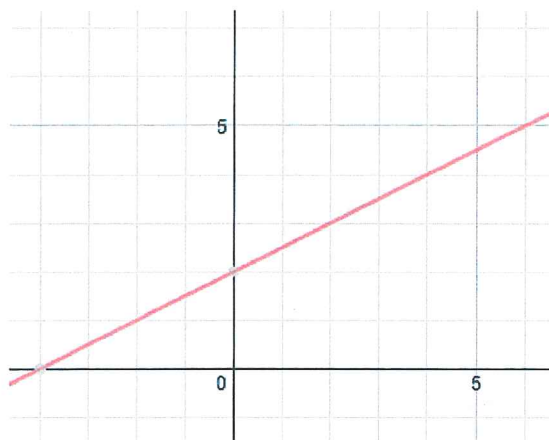
Time (min)	Cost (dollars)
0	50.00
2	50.20
4	50.40

The following equation shows the relationship between the monthly cell phone cost (c) for **Company B** and the number of minutes used within a month (m).

$$c = 39 + 0.05m$$

The flat fee is defined as the monthly cost for the phone when 0 minutes are used. What is the difference, in dollars, between the flat fee for **Plan B** and the flat rate for **Plan A**?

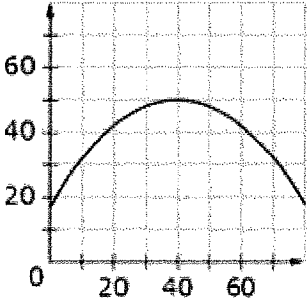
9. Manuela had \$2 dollars in her wallet and saved another dollar every two days. She modeled her data on a graph.



Select the equation represented by the graph.

- A. $y = \frac{1}{2}x + 2$ B. $y = -\frac{1}{2}x + 2$ C. $y = 2x + 2$ D. $y = -2x + 2$

10. Several relations are represented in the table. Determine whether each relation is linear or nonlinear.

Relation	Linear	Nonlinear												
$y = \frac{3}{4}x + 2$														
<table border="1" data-bbox="331 569 553 961"> <thead> <tr> <th>x</th> <th>y</th> </tr> </thead> <tbody> <tr> <td>-2</td> <td>2</td> </tr> <tr> <td>-1</td> <td>1</td> </tr> <tr> <td>0</td> <td>0</td> </tr> <tr> <td>1</td> <td>1</td> </tr> <tr> <td>2</td> <td>2</td> </tr> </tbody> </table>	x	y	-2	2	-1	1	0	0	1	1	2	2		
x	y													
-2	2													
-1	1													
0	0													
1	1													
2	2													
														
$\{(0, 0), (1, 1), (2, 4), (3, 9)\}$														

Name _____ Date: _____ Period: _____

Algebra Unit 1A Assessment

Directions: Solve each equation for the given variable. Show all work to receive full credit.

Beginning (BE)

1) $17 + x = 40$

2) $5 - x = 23$

3) $\frac{c}{3} = -5$

4) $-3x = -81$

Basic (BA)

5) $\frac{m}{7} + 3 = -8$

6) $-5x + 2 = 17$

7) $4x - 7 = 29 - 2x$

8) $12x + 9 - 4x = 3$

9) $3(x - 4) = 0$

Proficient (P)

10) $3(3x - 4) - 2 = 22$

11) $3 - 6x = -2 - 3x + 5$



12) If you tripled a number and added seven, the total would be 43. What is the original number? Write and solve an equation that represents this situation. Label your variable.

- 13) You went to the fair and it cost \$7 to get in. Each ride ticket you bought cost \$2 each. If you spent a total of \$30, how many tickets did you buy? Write and solve an equation that represents this situation. Label your variable.



Mastery (M)

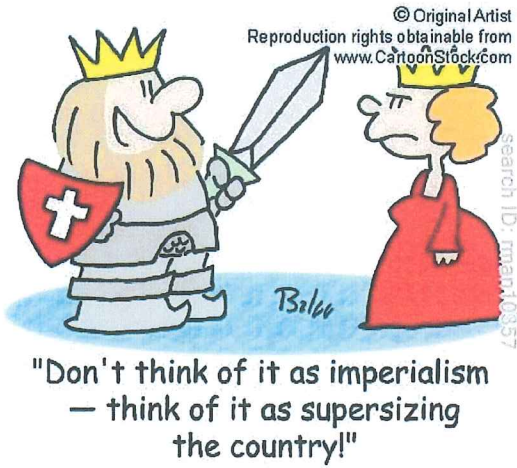
- 14) Look at the equation below. Is $x = -4$ the solution? Why or why not? Explain/Justify your answer.
 $40 - 5x = -5 + 5(1 - 3x)$

- 15) The fine for speeding on the highways of most states is a function of the speed of the car. The speeding fine can be determined by a linear equation; where F represents the fine in dollars and m represents the number of miles the car is EXCEEDING the 70 mph speed limit.

In Washington, the speed limit on federal interstates is 70 miles per hour (mph). The fine for speeding on the Washington interstates is \$10 per mile above the legal limit plus an additional \$40. What would your speeding fine be if you were traveling 78 mph? Write the rule/equation used to determine the amount of a fine for speeding in Washington State. Show all work or explain in words how you arrived at your answer.

1. Identify and explain two positives and two negatives of the Industrial Revolution for the British.
2. Using the below cartoons regarding the conquest of Africa, perform the following:
 - a. Identify the artists' point of view in each cartoon
 - b. Explain two reasons as to why you agree with one of the two cartoons

Cartoon A



Cartoon B



3. Edward Morel wrote, *The Black Man's Burden* in 1903. It was a harsh criticism of European imperialism in Africa. Using the essay below, perform the following:
 - a. Identify the central reason Morel believes Europeans were interested in Africa.
 - b. Using direct quotes from his essay, explain two consequences of European expansion.

It is [the Africans] who carry the 'Black man's burden'. They have not withered away before the white man's occupation. Indeed ... Africa has ultimately absorbed within itself every Caucasian and, for that matter, every Semitic invader, too. In hewing out for himself a fixed abode in Africa, the white man has massacred the African in heaps. The African has survived, and it is well for the white settlers that he has....

What the partial occupation of his soil by the white man has failed to do; what the mapping out of European political 'spheres of influence' has failed to do; what the Maxim and the rifle, the slave gang, labour in the bowels of the earth and the lash, have failed to do; what imported measles, smallpox and syphilis have failed to do; whatever the overseas slave trade failed to do, the power of modern capitalistic exploitation, assisted by modern engines of destruction, may yet succeed in accomplishing.

For from the evils of the latter, scientifically applied and enforced, there is no escape for the African. Its destructive effects are not spasmodic: they are permanent. In its permanence resides its fatal consequences. It kills not the body merely, but the soul. It breaks the spirit. It attacks the African at every turn, from every point of vantage. It wrecks his polity, uproots him from the land, invades his family life, destroys his natural pursuits and occupations, claims his whole time, enslaves him in his own home....

... In Africa, especially in tropical Africa, which a capitalistic imperialism threatens and has, in part, already devastated, man is incapable of reacting against unnatural conditions. In those regions man is engaged in a perpetual struggle against disease and an exhausting climate, which tells heavily upon childbearing; and there is no scientific machinery for salving the weaker members of the community. The African of the tropics is capable of tremendous physical labours. But he cannot accommodate himself to the European system of monotonous, uninterrupted labour, with its long and regular hours, involving, moreover, as it frequently does, severance from natural surroundings and nostalgia, the condition of melancholy resulting from separation from home, a malady to which the African is specially prone. Climatic conditions forbid it. When the system is forced upon him, the tropical African droops and dies.

Nor is violent physical opposition to abuse and injustice henceforth possible for the African in any part of Africa. His chances of effective resistance have been steadily dwindling with the increasing perfectibility in the killing power of modern armament....

Thus the African is really helpless against the material gods of the white man, as embodied in the trinity of imperialism, capitalistic exploitation, and militarism....

To reduce all the varied and picturesque and stimulating episodes in savage life to a dull routine of endless toil for uncomprehended ends, to dislocate social ties and disrupt social institutions; to stifle nascent desires and crush mental development; to graft upon primitive passions the annihilating evils of scientific slavery, and the bestial imaginings of civilized man, unrestrained by convention or law; in fine, to kill the soul in a people-this is a crime which transcends physical murder.

4. Read the primary source carefully, and then answer the multiple-choice questions below.

"Miss ___ has been for several years in the dress-making business...The common hours of business are from 8 a.m. til 11 P.M in the winters; in the summer from 6 or half-past 6 A.M. til 12 at night. During the fashionable season, that is from April til the latter end of July, it frequently happens that the ordinary hours are greatly exceeded; if there is a drawing-room or grand fete, or mourning to be made, it often happens that the work goes on for 20 hours out of the 24, occasionally all night....The general result of the long hours and sedentary occupation is to impair seriously and very frequently to destroy the health of the young women. The digestion especially suffers, and also the lungs: pain to the side is very common, and the hands and feet die away from want of circulation and exercise, "never seeing the outside of the door from Sunday to Sunday." [One cause] is the short time which is allowed by ladies to have their dresses made.

Miss is sure that there are some thousands of young women employed in the business in London and in the country. If one vacancy were to occur now there would be 20 applicants for it. The wages generally are very low...Thinks that no men could endure the work enforced from the dress-makers."

From the Children's Employment Commission, February 1841

Multiple Choice Questions:

1. What point does the author emphasize by including details about the length of the workday for seamstresses in nineteenth century England?
 - a. The work hours for seamstresses are normal.
 - b. The seamstresses need more sleep.
 - c. Seamstresses are heroines for working long hours.
 - d. The length of the workday for seamstresses causes health problems. (Or, the seamstress' workday should be shortened.)
2. Which of the terms best describes the author's overall message?
 - a. transformative
 - b. peaceful
 - c. violent
 - d. economic
3. Based on the text, what conclusion can be drawn about the freedom of women seamstresses in nineteenth century England?
 - a. Women seamstresses could get a new job easily with good pay.
 - b. Seamstresses were forced to work.
 - c. Women seamstresses were pressured to work by outside factors.
 - d. Women became seamstresses because they wanted to be.

4. Which of the following sentence best supports your answer.
- a. "If one vacancy were to occur there would be twenty applicants for it."
 - b. "Miss is sure that there are some thousands of young women employed in the business in London and in the country."
 - c. "During the fashionable season, that is from April til the latter end of July, it frequently happens that the ordinary hours are greatly-exceeded..."
 - d. "The general result of the long hours and sedentary occupation is to impair seriously and very frequently to destroy the health of the young women."

<p>Question 1</p> <p>Identify and explain two positives and two negatives of the Industrial Revolution for the British. (4pts)</p>	<p>Positives</p> <ul style="list-style-type: none"> • 1pt for identifying and 1pt for explaining a positive that came from the Industrial Revolution for the British. • 1pt for identifying and 1pt for explaining a negative that came from the Industrial Revolution for the British. <p>Possible Negatives May Include:</p> <ul style="list-style-type: none"> ○ Population Growth ○ Poverty ○ Crime ○ Increased trade route security <p>Possible Positives May Include:</p> <ul style="list-style-type: none"> ○ Huge wealth created ○ Better health care from medicine advancements ○ Mechanized ways of solving problems (coal, steam) ○ Modernized society
<p>Question 2A</p> <p>Identify the artists' point of view in each cartoon. (2pts)</p>	<p>Cartoon A – 1pt for identifying a supportive opinion of the British empirical expansion into Africa.</p> <p>Cartoon B – 1pt for identifying a menacing or greedy opinion of the British empirical expansion into Africa.</p>
<p>Question 2B</p> <p>Explain two reasons as to why you agree with one of the two cartoons (4pts)</p>	<p>2pts for identifying two specific topical reasons for support of either cartoon</p> <p>2pts for explaining two different concrete examples detailing support of either cartoon. Reasoning must go beyond simple identification to be awarded points.</p>
<p>Question 3A</p> <p>Identify the central reason Morel believes Europeans were interested in Africa. (1pt)</p>	<p>1pt for identifying one of the follow as the central reason for European expansion:</p> <ul style="list-style-type: none"> ○ Capitalism ○ Economic interest

<p>Question 3B</p> <p>Using direct quotes from his essay, explain two consequences of European expansion. (4pts)</p>	<p>2pts for each consequence of European expansion explained. Each consequence must be fully supported from the text including student interpretation/commentary to receive both points. A consequence from the text without interpretation receives only 1pt.</p> <p>Possible consequence from the text include:</p> <ul style="list-style-type: none"> o "massacred the African in heaps" o "It kills not the body merely, but the soul. It breaks the spirit." o "It wrecks his polity, uproots him from the land, invades his family life, destroys his natural pursuits and occupations, claims his whole time, enslaves him in his own home" o "struggle against disease"
<p>Question 4 – Multiple Choice</p> <p>One pt for each correct multiple choice answer</p>	<ol style="list-style-type: none"> 1. What point does the author emphasize by including details about the length of the workday for seamstresses in nineteenth century England? <ol style="list-style-type: none"> a. The work hours for seamstresses are normal. b. The seamstresses need more sleep. c. Seamstresses are heroines for working long hours. d. The length of the workday for seamstresses causes health problems. (Or, the seamstress' workday should be shortened.) 2. Which of the terms best describes the author's overall message? <ol style="list-style-type: none"> a. transformative b. peaceful c. violent d. economic 3. Based on the text, what conclusion can be drawn about the freedom of women seamstresses in nineteenth century England? <ol style="list-style-type: none"> a. Women seamstresses could get a new job easily with good pay. b. Seamstresses were forced to work. c. Women seamstresses were pressured to work by outside factors. d. Women became seamstresses because they wanted to be.

4. Which of the following sentence best supports your answer.
- a. **"If one vacancy were to occur there would be twenty applicants for it."**
 - b. "Miss is sure that there are some thousands of young women employed in the business in London and in the country."
 - c. "During the fashionable season, that is from April til the latter end of July, it frequently happens that the ordinary hours are greatly exceeded..."
 - d. "The general result of the long hours and sedentary occupation is to impair seriously and very frequently to destroy the health of the young women."

REPRODUCIBLE

Critical Issues for Team Consideration

Team Name: _____

Team Members: _____

Use the scale below to indicate the extent to which each of the following statements is true of your team

1	2	3	4	5	6	7	8	9	10		
Not True of Our Team				Our Team is Addressing						True of Our Team	

- | | |
|---|---|
| <p>1. ___ We have identified team norms and protocols to guide us in working together.</p> <p>2. ___ We have analyzed student achievement data and have established SMART goals that we are working interdependently to achieve.</p> <p>3. ___ Each member of our team is clear on the essential learning of our course in general as well as the essential learnings of each unit.</p> <p>4. ___ We have aligned the essential learnings with state and district standards and the high-stakes exams required of our students.</p> <p>5. ___ We have identified course content and/or topics that can be eliminated so we can devote more time to essential curriculum.</p> <p>6. ___ We have agreed on how to best sequence the content of the course and have established pacing guides to help students achieve the intended essential learnings.</p> <p>7. ___ We have identified the prerequisite knowledge and skills students need in order to master the essential learnings of our course and each unit in this course.</p> <p>8. ___ We have identified strategies and created instruments to assess whether students have the prerequisite knowledge and skills.</p> <p>9. ___ We have developed strategies and systems to assist students in acquiring prerequisite knowledge and skills when they are lacking in those areas.</p> | <p>10. ___ We have developed frequent common formative assessments that help us to determine each student's mastery of essential learnings.</p> <p>11. ___ We have established the proficiency standard we want each student to achieve on each skill and concept examined with our common assessments.</p> <p>12. ___ We have developed common summative assessments that help us assess the strengths and weaknesses of our program.</p> <p>13. ___ We have established the proficiency standard we want each student to achieve on each skill and concept examined with our summative assessments.</p> <p>14. ___ We have agreed on the criteria we will use in judging the quality of student work related to the essential learnings of our course, and we practice applying those criteria to ensure consistency.</p> <p>15. ___ We have taught students the criteria we will use in judging the quality of their work and have provided them with examples.</p> <p>16. ___ We evaluate our adherence to and the effectiveness of our team norms at least twice each year.</p> <p>17. ___ We use the results of our common assessments to assist each other in building on strengths and addressing weaknesses as part of a process of continuous improvement designed to help students achieve at higher levels.</p> <p>18. ___ We use the results of our common assessments to identify students who need additional time and</p> |
|---|---|

Unit Planning: A Conceptual Framework for Teams

Relationship Between Power Standards, Common Formative Assessments, Checks for Understanding, Additional Time and Support, and Common Summative Assessments

Robert Eaker and Janel Keating



Multiple checks for understanding during the unit

Performance • Product/Rubric Scoring • Paper/Pencil • Observation

Adapted from: Common Formative Assessments, Ainsworth and Viegut

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