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# Assessment 21: Best Practices in Assessment for 21<sup>st</sup> Century Learning



**Farmington High School**

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“...assessment is information. The more information we have about students, the clearer the picture we have about achievement or where gaps may occur.” (Garrison and Ehringhaus, “Formative and Summative Assessments in the Classroom”)

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“*Assessment* is the process of gathering data. More specifically, assessment is the *ways* instructors gather data about their teaching and their students’ learning.” (“Understanding Formative and Summative Assessments”)

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**Both summative and formative assessment are  
an integral part of information gathering**

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Summative assessment=Assessment *of*  
learning

Summative assessments are a means to  
*evaluate* what a student knows and can do  
relative to clearly defined standards

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Formative assessment=Assessment *for*  
learning

Formative assessments are part of the instructional process and provide information used by teachers to improve their teaching and by students to improve their learning

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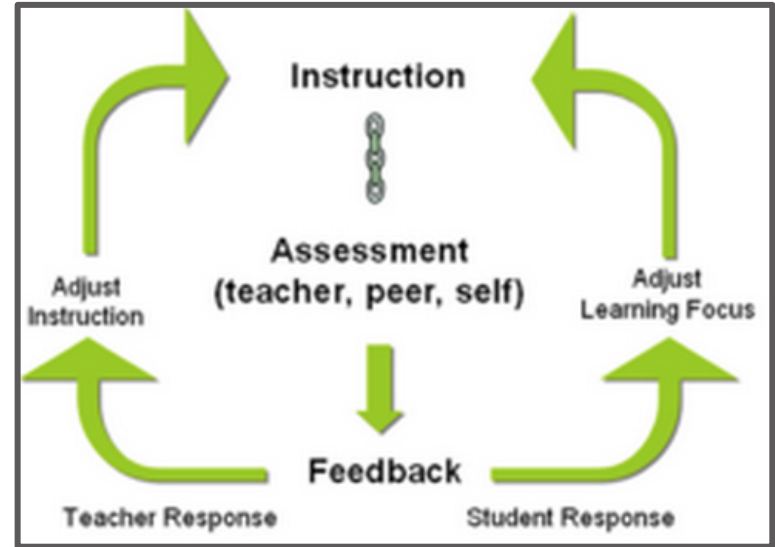
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# The Driver's License Test Analogy



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# Feedback



[http://etec.ctlt.ubc.ca/510wiki/Descriptive\\_Feedback](http://etec.ctlt.ubc.ca/510wiki/Descriptive_Feedback)  
**Descriptive Feedback (March 2014)**  
by Danielle Chrisman

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Promoting student growth and understanding

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# Learning Targets

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Daily “I can” statements that teachers and students use to determine level of understanding.

Geometry

Name: \_\_\_\_\_

Unit 3 – Triangles and Congruence

Points of Concurrency PC A

Date: \_\_\_\_\_ Period: \_\_\_\_\_

Learning Targets being Assessed:

*I can construct the points of concurrency of a triangle.*

*I can apply properties of the points of concurrency to solve problems.*

Complete the statements below with the correct term.

a. Incenter

b. Orthocenter

c. Median

d. Altitude

e. Circumcenter

f. Midsegment

1. The point of concurrency of the three angle bisectors. \_\_\_\_\_

2. The point of concurrency of the three perpendicular bisectors. \_\_\_\_\_

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# Learning Targets & Student Achievement

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When students use a learning target to aim for understanding in today's lesson, they engage in processes and employ strategies that promote meaningful learning.

## Learning Targets

by *Connie M. Moss and Susan M. Brookhart*

# Teacher Feedback on Formative Work

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## Possible Methods

- Detailed feedback written on student work
- Recorded in PowerSchool usually as E, M, N, or B (exceeds, meets, near, or below standard)

| Due Date   | Category  | Assignment                    | Codes | Score | % | Grd |
|------------|-----------|-------------------------------|-------|-------|---|-----|
| 12/16/2014 | Formative | Exit Slip: Pts of concurrency | ◆ ✖   | --    |   | N   |

Used by students to prepare for graded assessments that count towards their final average. On all graded assessments the feedback includes a numerical score (0-100).

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# Student Generated Feedback

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Students are asked to reflect on learning targets through formative assessment, such as homework, on a regular basis.

Teacher provides daily homework survey

**What were today's learning targets and how confident are you with them? \***

1=I don't know what I'm doing, 2=I'm somewhat comfortable, 3=I'm confident

Each student responds so that the teacher can adapt future lessons

- I can use polynomial long division to determine if a linear expression is a factor of a polynomial function (3)
  - I can explain the connection between a factor, a zero, an x-intercept, a solution, a root, and the remainder when performing polynomial long division (1/2)
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# Informing Instruction & Interventions

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- After the teacher reviews student work and/or student self-reflections, they can modify lessons, differentiate to meet students needs, and ultimately coach students on setting goals to master content.
  - Students can seek extra help on very specific learning targets either from their teacher or a tutorial.
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# Teacher Response to Assessment Data

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If the majority of students respond that they are not confident with a learning target, the teacher has the opportunity to reteach:

Precalculus

Unit 4 Polynomial Functions

**Warm - Up: Remainder and Factor Theorems**

Learning Target: *I can explain the connection between a factor, a zero, an x-intercept, a solution, a root, and the remainder when performing polynomial long division*

Maria performed the following polynomial division correctly. What does she now know about the original function  $f(x) = x^3 + 5x^2 - 2x - 24$  and its graph?

$$\begin{array}{r} x^2 + x - 6 \\ x + 4 \overline{) x^3 + 5x^2 - 2x - 24} \\ \underline{-(x^3 + 4x^2)} \phantom{-2x - 24} \\ x^2 - 2x \phantom{- 24} \\ \underline{-(x^2 + 4x)} \phantom{- 24} \\ -6x - 24 \\ \underline{-(6x - 24)} \\ 0 \end{array}$$

# Teacher Response to Assessment Data

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**If a few students respond that they are not confident with a learning target, the teacher will work to create individual interventions so that those students can become confident and clear up any misconceptions they may have. These interventions might be:**

- Tutorials
  - Retakes or revisions of certain assessments
  - Extra help one-on-one with the teacher
  - Peer tutoring
  - Differentiated homework or classwork
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# Student Response to Feedback

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After receiving teacher feedback and self-reflecting on learning targets students are able to decide what they need to do in order to be successful.

AP Statistics

Learning Targets and Aligned Homework Problems

1. I can describe and apply the sampling distribution for a statistic, with relevant formulas.

ch 18: 1, 3, 5, 9, 13, 20, 25, 29

2. I can explain properties of an unbiased point estimator and the variability of that point estimator.

ch 18: 1, 3

3. I can calculate a confidence interval for a single-sample statistic, and for the difference of two statistics.

ch 19: 13, 22    ch 22: 1, 3, 6, 11, 21    Rev: 7, 10, 19, 24a,d, 31a

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# Assessment

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Formative and Summative

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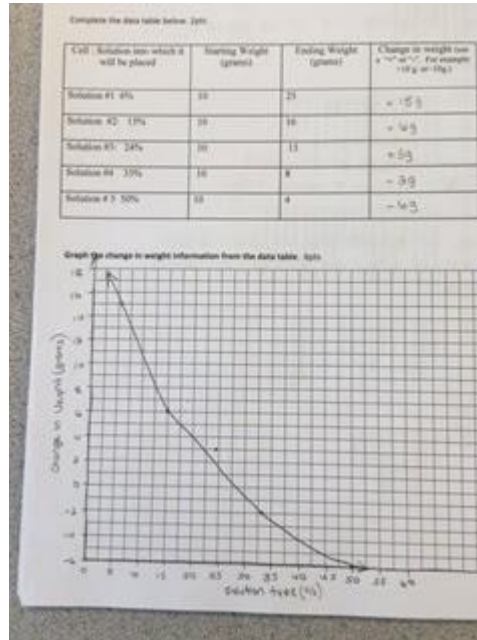
# Formative Assessment

**Goal:** gather information on student's ability to read and interpret scientific data found in tables and charts and draw conclusions from the data

**Formative Assessment:**  
"Check for Understanding"

## Results:

1. Additional lessons on graphing
2. Additional practice identifying variables



Questions to Answer:

What is the Independent variable?  
The type of solution the cell is placed in.

What is the Dependent variable?  
change in weight (grams)

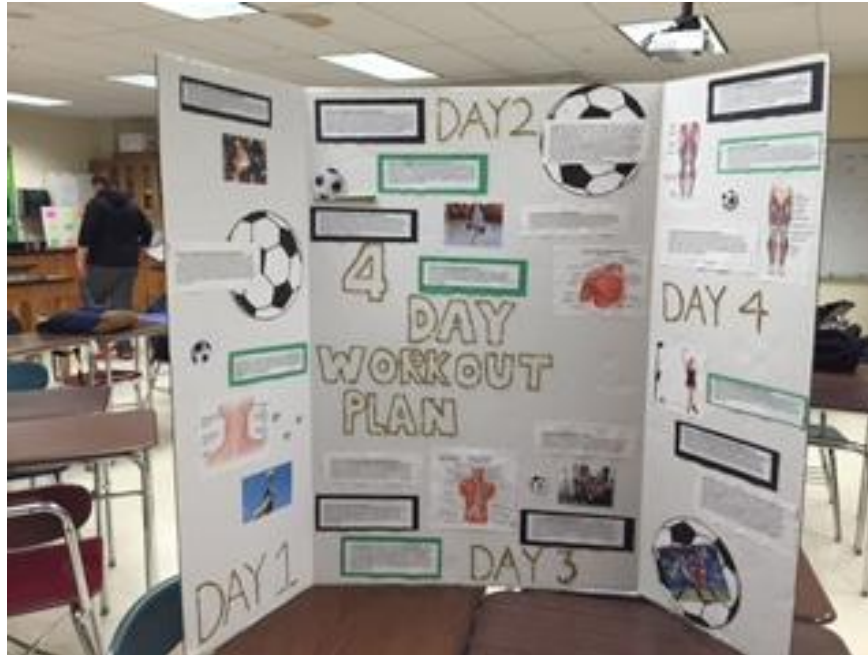
What is the expected change in cell weight for a 40% solution?  
The expected change in cell weight for a 40% solution is about -4g.

What question do you think these students were trying to answer?  
How does the solution that is under a cell is placed in affect the change in weight of a cell?

# Summative Assessment

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**Summative Assessment:** Design an exercise plan that is catered to a specific type of athlete.



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# **Content Knowledge & 21<sup>st</sup> Century Skills**

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Promoting rigor and student  
mastery

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# AP United States History:

## V.O.G. = Collaboration & Communication

## Content Standards = Historical Thinking Skills

### PURITAN NEW ENGLAND DBQ RESPONSE

PLEASE WRITE YOUR RESPONSE BELOW. PLEASE DO NOT CHANGE THE FORMATTING OF THE DOCUMENT.

In what ways did ideas and values held by the Puritans influence the political, economic, and social development of the New England colonies from 1630 through the 1660's?

The history of the United States has been filled with religion and its effect on the population. The Great Awakening, the rise of the Southern Baptist, and the communication of the messages of the Civil Rights movement have all used religion as a way to express their opinions, shape the minds of others, and organize communities to better benefit themselves and others. These movements, however, have far deeper roots than some would expect, starting before the United States had even been formed. The very first settlers of New England, the Puritans, were a group that had grown disillusioned with the religious "tolerance" of their native England, and set out to create in their eyes, "a city up upon a hill." In doing so, New England, unlike its counterpart colony in Virginia, was instead focused almost exclusively on the Puritan faith. This meant tight knit, closed, morally and religiously strict towns and cities that instead of simply based on expansion and the pursuit of profit, were instead devoted to the word of their God and the protection of their religion. The Puritan and New England religious faith heavily influenced New England socially, economically, and politically by weaving their religion into daily life and economics, augmenting towns to fit religious needs and political purposes, especially when dealing with natives and "enemies of the Church, and forcing conformity upon newcomers and arrivals in the New England area.

In most of New England, trade was considered at best a secondary endeavour, with one's primary concern being towards God and the well being of your other church goers. This showed that the religious preferences for the majority of New England heavily affected the economic aspect of New England towns and cities, with less of a focus for major profit endeavours and the farming of cash crops. For instance, John Higginson stated, "Trade, Let merchants and such as are increasing Cent per Cent remember this, . . . that worldly gain was not the end and designe of the people of New England, but Religion. (D. J) Here, Higginson was attempting to clarify the beliefs and thoughts of the "people of New England" to new arrivals, specifically that of merchants and merchantmen hoping to join the cash crop craze phenomenon that drove the Virginia colonies. However, as pointed out by Higginson, the Puritan faith would have no focus on the expansion of colonies for the sake of money. Speaking on behalf of his entire people, Higginson makes it clear that the Puritans and more importantly, the whole of his church, would have no interest in the vile expansion, and would instead commit most of their effort and time towards God, citing that the most important part of the life of a New Englander is in fact, God. This clearly shows that religion had a profound impact on the economic aspect of New England as unlike its counterpart to the South, who had most of its growth come from the procurement of large plots of land for agriculture, the growth of New England colonies were done almost entirely by faith. Furthermore, this severely hampered the efforts of economic growth in the region, as many merchants were either turned or forced away for their efforts to cultivate a business or farming rights simply for the sake of profit, and not for religious purposes. Another example of how religion severely impacted economic development in New England is stated by Robert Keayne, a wealthy

### Document Based Question (DBQ) Scoring Rubric

NAME \_\_\_\_\_

#### A. Thesis: 0 – 1 point(s)

States a thesis that directly addresses all parts of the question. The thesis must do more than restate the question.

1 point



#### B. Analysis of historical evidence and support of argument: 0 – 4 point(s)

##### Analysis of documents: 0 – 3 point(s)

|  |    |   |    |   |
|--|----|---|----|---|
| The response offers plausible analysis of the content of a majority of the documents, explicitly using this analysis to support the stated thesis or a relevant argument | OR | The response offers plausible analysis of BOTH the content of a majority of the documents, explicitly using this analysis to support the stated thesis or a relevant argument | OR | The response offers plausible analysis of BOTH the content of all or all but one of the documents, explicitly using this analysis to support the stated thesis or a relevant argument |
|  |    | AND   |    | AND   |
|  |    | At least one of the following for the majority of the documents.<br>•Intended audience<br>•Purpose<br>•Historical context<br>•The author's point of view                      |    | At least one of the following for all or all but one of the documents.<br>•Intended audience<br>•Purpose<br>•Historical context<br>•The author's point of view                        |
| <input type="checkbox"/> 1 point   |    | <input type="checkbox"/> 2 points   |    | <input type="checkbox"/> 3 points   |

Extend  
Analyze

- Doc. 1
- Doc. 2
- Doc. 3
- Doc. 4
- Doc. 5
- Doc. 6
- Doc. 7

##### AND/OR

##### Analysis of outside examples to support the thesis/argument: 0 – 1 point(s)

The response offers plausible analysis of historical examples beyond or outside the documents to support the stated thesis or a relevant argument.

1 point



#### C. Contextualization: 0 – 1 point(s)

The response accurately and explicitly connects historical phenomena relevant to the argument to broader historical events and/or processes (Simply put, the response puts the topic into the bigger picture)

1 point



#### D. Synthesis: 0 – 1 point(s)

The response synthesizes the argument, evidence, and context into a coherent and persuasive essay by accomplishing one or more of the following as relevant to the question.

|  |    |   |    |  |
|--|----|---|----|--|
| Provides a conclusion that appropriately extends or modifies the stated thesis or argument | OR | Recognizes and uses disparate and sometimes contradictory evidence from primary and/or secondary sources to craft a coherent argument | OR | Appropriately connects the topic of the question to other historical periods, geographic areas, contexts, or circumstances |
| <input type="checkbox"/> 1 point   |    | <input type="checkbox"/> 1 point  |    | <input type="checkbox"/> 1 point   |

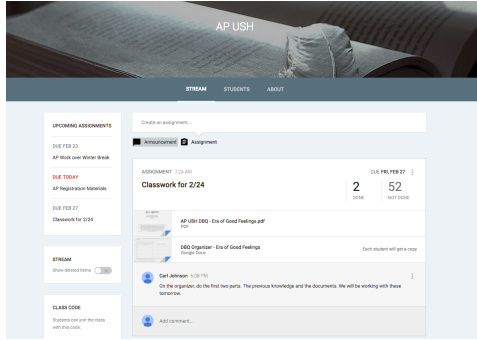


TOTAL POINTS EARNED (out of 7) \_\_\_\_\_

# AP United States History:

## V.O.G. = Collaboration & Communication

## Content Standards = Historical Thinking Skills



### UNITED STATES HISTORY SECTION II Part A (Suggested writing time—45 minutes) Percent of Section II score—45

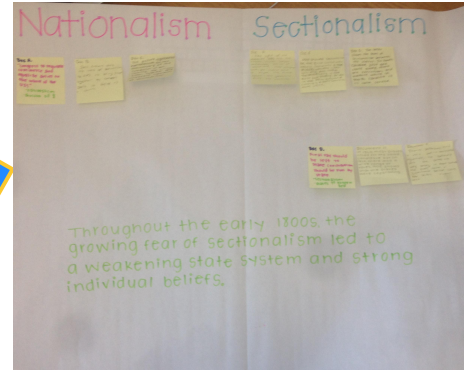
**Directions:** The following question requires you to construct a coherent essay that integrates your interpretation of Documents A–J and your knowledge of the period referred to in the question. High scores will be earned only by essays that both cite key pieces of evidence from the documents and draw on outside knowledge of the period.

1. In what ways did ideas and values held by Puritans influence the political, economic, and social development of the New England colonies from 1630 through the 1660s?

#### Document A

Source: John Winthrop, "A Modell of Christian Charity," 1630.

... we must be knitt together, in this worke, as one man. We must entertaine each other in brotherly affection. We must be willing to abridge ourselves of our superfluities, for the supply of others' necessities. We must uphold a familiar commerce together in all kindness, gentleness, patience and liberality. We must delight in each other; make every man's conditions our owne; rejoice together, mourne together, labour and suffer together, always haveing before our eyes our commission and community in the worke, as members of the same body. . . . The eies [eyes] of all people are upon us. Soe that if wee shall deale falsely with our God in this worke wee have undertaken, and soe cause him to withdrawe his present help from us, wee shall be made a story and a by-word through the world.



# Assessing Content Standards and VoG Skills in Wellness 11

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# Wellness Content Standard

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- **GOAL SETTING and PLANNING**

*Students need to be able to implement realistic plans that demonstrate self management and an understanding of concepts that support life-long wellness*

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# VoG Standard

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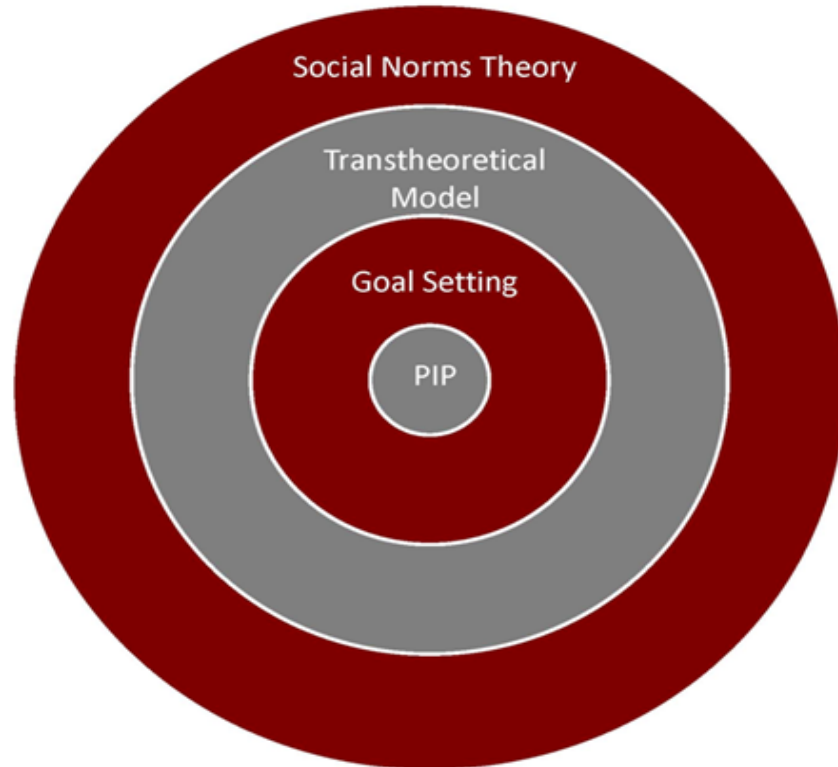
- **Self-direction and Resourcefulness**

*Students explore interests, take initiative, set goals, demonstrate persistent effort, adapt to change with resiliency, and exhibit ethical leadership and responsible citizenship.*

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# Personal Improvement Project

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# SMART Goal Setting

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## STAGES OF CHANGE

- Precontemplation
- Contemplation
- Preparation
- Action
- Maintenance



Moving beyond denying or being unaware that a problem exists and making a conscious choice to make a change by preparing a specific plan of action in hopes of creating a lifestyle change.



# Make Your Goal “SMART”

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- S - Specific
  - M - Measurable
  - A – Action Oriented
  - R – Rigorous & Realistic
  - T - Timeline
-

# GOAL STATEMENT

## The "WHAT" of a Goal

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- **SPECIFIC BEHAVIOR-** Explain in a few words exactly what behavior you want to change, improve, or develop.
  - **MEASURABLE START-** Quantify or qualify where you are now with that behavior.
  - **MEASURABLE FINISH-** Quantify or qualify where you would like to be with that behavior.
  - **END DATE-** By what date would you like to accomplish this change in behavior?
-

# ACTION PLAN

## The "HOW" of a goal

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### What is Action?

Specifying the behavior or constellation of behaviors that would characterize the action stage of change

Doing a task analysis that would indicate frequency, intensity, difficulty, and skills needed to perform the behavior

Define partial goals and associated behaviors that indicate positive activity but fall short of the actual target behavior change



From The  
Transtheoretical  
Model of  
Behavior  
Change

Identify 5-10 tips from 2-3 sources that can help you reach your goal. Include your sources.

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# SELF-EFFICACY

## The "WHY" of a Goal

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### 3: Self Efficacy

- **DEFINITION:** the measure of one's own ability to complete tasks and reach goals



From The  
Transtheoretical  
Model of  
Behavior  
Change

Describe why you believe your goal is rigorous and realistic. In other words, why is your goal a challenge, but not impossible to accomplish. Your response should be based on your measurable start, your measurable finish, and your timeline.

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# Assessment Deliverables

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- Comprehensive SMART Goal
- 6 Week Action Plan
- Data Collection Tool
- Check Point Reflections
- Final Reflection
- PIP Presentation

